

# KUMAVISION Help

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*KUMAVISION AG*

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# 1. Docs

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## 1.1 Welcome to KUMAVISION Help

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With our online help we hope to provide you with the best possible guidance. If something should be unclear, please do not hesitate to contact our [support](#).

### Note

The content of the KUMAVISION Help reflects the latest versions of the KUMAVISION industry solutions and apps. If you are using a different version, some features and processes may not yet be available for the version you are using.

### 1.1.1 Verticals

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- [base \(BOOSTER\)](#)
- [project365](#)
- [project365 Real Estate](#)
- [project365 Architects](#)
- [trade365](#)
- [healthcare365](#)
- [factory365](#)
- [medtec365](#)

### 1.1.2 Apps

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- [Applications Overview](#)

## 1.2 Verticals

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### 1.2.1 base (BOOSTER)

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#### KUMAVISION base (BOOSTER)

KUMAVISION base (BOOSTER) provides the base functionality for all KUMAVISION industry solutions. For more information, see the following topics.

##### Topics

- [General Setup](#)
- [Basics](#)
- [Finance](#)
- [Sales and Marketing](#)
- [Purchasing](#)
- [Warehouse and Inventory](#)
- [Manufacturing](#)
- [Service](#)
- [Purchase Request](#)
- [Dispatch](#)
- [Compliance](#)
- [Warranty Claims, Complaints, and FMEA](#)
- [Unique Device Identification](#)
- [Package Labels](#)

[Get KUMAVISION BOOSTER from Microsoft AppSource](#)

## General Setup

### Standardize documents

Master reports use a standardized format for document creation in Microsoft Dynamics 365 Business Central. Covering all relevant areas, they can simplify the editing process, as changes that are made to the layout of one document will be copied to all others of the same type. The following master reports are available for this purpose:

### Purchasing

- Purchase – Quote
- Purchase – Order
- Purchase – Receipt
- Purchase – Invoice
- Purchase – Credit Memo
- Purchase – Return Shipment
- Blanket Purchase Order
- Purchase Return Order
- Archived Purchase Quote
- Archived Purchase Order
- Archived Purchase Return Order

### Sales

- Sales – Quote
- Sales – Shipment
- Sales – Corrective Invoice
- Sales – Credit Memo
- Sales – Return Receipt
- Blanket Sales Order
- Sales Return Order
- Archived Sales Quote
- Archived Sales Order Conformation
- Archived Sales Return Order
- Sales Pro Forma Invoice

### Service

- Service – Order
- Service – Quote
- Service – Invoice
- Service – Corrective Invoice
- Service – Shipment
- Service – Credit Memo
- Service – Contract Quote
- Service – Contract
- Service Item Worksheet

**Reminders**

- Purch. Order Cnfrmn. Reminder
- Issued Purch. Order Cnfrmn. Reminder
- Finance Charge Memo

**Transfers**

- Transfer Order
- Transfer Shipment
- Transfer Receipt

**Note**

Before you can work with a master report, it must be added to the relevant report selection.

**Note**

Do not enter the plus-minus sign ( $\pm$ ) on any page available in the system, for example, to indicate tolerances in a drawing. If you do, you might no longer be able to use the Print action on the document linked to the entry.

To configure the VAT Amount Specification section on these documents, you can use the VAT Code, a standard Microsoft Dynamics 365 Business Central field that originates with VAT Posting Setup.

**Add document details**

A tab has been added to the Company Information page. The tab provides you with an array of options for customizing documents in the system.

1. Choose the Search icon, enter Company Information, and then choose the related link.
2. Go to the Documents FastTab and fill in the fields as described in the following table.

Field	Description
Preprinted Address	Enter the company address as it should appear within an envelope window.
Text Length (Header)	These fields are only used for the plain text editor. This editor is adjusted in size to the specified values. However, on newer documents, text was printed across the document unless a line break had been added manually.
Text Length (Lines)	These fields are only used for the plain text editor. This editor is adjusted in size to the specified values. However, on newer documents, text was printed across the document unless a line break had been added manually.
Text Length (Lines)	With the introduction of the HTML editor, the fields became obsolete. The text length remains the same at start-up but can be changed by the user if required. Moreover, line breaks are inserted automatically.
	The text is saved in HTML format. On printouts, the system again uses the entire width of the document but considers all manual line breaks.
Line Indentation (Pts.)	Specify by how much you want to indent a line so as to form a bundle or begin-total block.
Print on Next Page	Specify if you want to print an available subtotal on the next page of a document. You can select if you want subtotals to appear only at the bottom or at the bottom and top of a page.
Print Company Letterhead	Turn on this toggle if you want the company address printed in the form of a letterhead.
Default Font	Specify a default font and size for new master documents. The default setting for all is Segoe UI at a size of 9.
Default Size	<p>A change in either field affects the entire document (<i>that is, both the header and the lines</i>).</p> <p>For an explanation of how to change fonts on lines only, see <a href="#">.Format Lines.</a></p>
Default Footer Font Size	Specify the size of the font chosen for the footer. The default size is 7.
Default Heading Line Border Style	Specify a border style for document information shown to the right of or below the address.
Default Heading Right Border Style	
Heading Style	Specify where to show contact information, that is the seller's contact details, on a document.



Field	Description
	You can display the data in block format on the upper right of a document or as a five-column section below the address.
Separator	Specify if you want more space or a divider added between document lines to serve as a visual aid.
Print External Lot No.	<p>Turn on this toggle to include on printouts the external lot numbers entered for a standardized document.</p> <p>When you print the document, the numbers will be shown on both the relevant lines and available attachments.</p>
Print Expiration Date	<p>Turn on this toggle to include on printouts the expiration dates entered for a standardized document.</p> <p>When you print the document, the dates will be shown on both the relevant lines and available attachments.</p>
Print Production Date	<p>Turn on this toggle to include on printouts the production dates entered for a standardized document.</p> <p>When you print the document, the dates will be shown on both the relevant lines and available attachments.</p>

#### Format lines

You can also select a different format for each kind of document line, such as a heading or an alternative line, although you don't have to. If none is selected, the system will use the default format specified by the designer of the original document.

If you want a different style overall (such as a different font), you can set up a line and enter a report ID of 0. You only need to enter a specific ID if you want a certain type of document formatted in a certain way.

The Default option plays a key role in this. If you want all lines to have the same format, you don't need to set up more than a line of the Default type.

The font style can also be changed for a document line before printing. In this case, choosing the Default option means that the style will be the same as on a standard line. The system retrieves the format for printouts according to the following sequence:

1. Font style on current sales line.
2. Report ID of document to print and line type to be printed.
3. Report ID of document to print and line type Default.
4. Report ID = 0 and line type to be printed.
5. Report ID = 0 and line type Default.
6. Format according to document design.

Besides the font style, you can specify page breaks on document lines. If you don't, breaks will be inserted automatically.

**Set up a format**

To format document lines:

1. Open the Search icon, enter Company Information, and then choose the related link.
2. Choose Document Line Format on the ribbon.
3. Fill in (or change) the fields as described in the following table.

Field	Description
Report ID	Select the report you want to use the format for. If you leave this field blank, the settings you make in other fields are used for all documents.
Report Description	Shows the description of the report.  This field is filled in automatically based on the Report ID field.
Line Type	Choose the line type for which you want to specify a format.  The following options are available: <ul style="list-style-type: none"> <li>• Default</li> <li>• Beginning Text (Header) – shown as DocHeaderLine</li> <li>• Ending Text (Header) – shown as DocFooterLine</li> <li>• Beginning Text (Line) – shown as PosHeaderLine</li> <li>• Ending Text (Line) – shown as PosFooterLine</li> <li>• Line Dimension</li> <li>• Standard Line</li> <li>• Line (Not Billable) – shown as NullPositionLine</li> <li>• Alternative Line</li> <li>• Shipping Information Line – shown as ShipmentLine</li> <li>• Comment Line</li> <li>• Heading (Line) – shown as HeaderLine</li> <li>• Begin-Subtotal – shown as SubtotalHeader</li> <li>• Bundle – shown as BundleHeader</li> <li>• End-Subtotal/Bundle – shown as SubtotalBundleFooter</li> <li>• Attribute – shown as ItemAttributeLine</li> <li>• Assembly Line</li> <li>• Reminder Line</li> <li>• Item Tracking Heading</li> <li>• Item Tracking Line</li> <li>• Payment Terms/Shipment Methods – shown as PaymentShipmentTerms</li> <li>• Item (Charge) Lines – shown as ItemChargeAssignmentLine</li> <li>• Formatted Text</li> <li>• Amount Line</li> </ul>
Font	Select the font that you want to use on all documents created from this report.
Font Size	Select the font size that you want to use.
Font Color	Select the font color that you want to use.
Font Style	Choose the font style that you want to use: <ul style="list-style-type: none"> <li>• Default</li> <li>• Normal</li> <li>• Bold</li> <li>• Italic</li> <li>• Bold Italic</li> </ul>

Field	Description
	Choose a text decoration if necessary. Options are:
Text	• Default
	• None
Decoration	• Underline
	• Overline
	• Strikethrough

#### Note

The settings you make here only apply to KUMAVISION reports (ID5XXXXXX) that have been included in the relevant report selections.

If, after you have completed the general setup for all line types, you want to use a different format on a certain type of document, you can copy that line format there and change only what you need. To copy the format:

1. Open the Document Line Formats page.
2. Select a line format.
3. Choose Copy Format on the ribbon.
4. Enter the source and target report ID. Choose OK.

#### Translate footers

You can set up footer texts for documents in different languages. To set up a translation:

1. Open the Search icon, enter Company Information, and then choose the related link.
2. Choose Document Text Translation on the ribbon.
3. Choose New and fill in the fields as necessary.

The information given at the bottom of document pages is then printed in the language you stored for the relevant vendor or customer.

#### Note

You don't need a language code if you set up a footer in the language that you used to install the app. Instead, you can select the Default Language field on the line.

#### Mandatory fields

You can use the mandatory field check to see whether a certain field has been filled in when you add or change base data, such as on a customer order.

**Application areas**

You can set requirements for field completion across a variety of application areas.

	<b>Setup</b>	<b>Field</b>
Item	Inventory Setup	Item Field Check
Warehouse receipt (header and lines)	Inventory Setup	Inventory Field Check
Warehouse shipment (header and lines)		
Customers	Sales & Receivables Setup	Customer Field Check
Sales document (header and lines)	Sales & Receivables Setup	Sales Field Check
Vendor	Purchase & Payables Setup	Vendor Field Check
Purchase document (header and lines)	Purchase & Payables Setup	Purchasing Field Check
Service document (header and lines)	Service Mgt. Setup	Service Field Check
Dispatch header and lines	Dispatch Carrier Setup	Check Mandatory Fields
Actions	Action Setup	Action Data Check
Resources	Resources Setup	Check Mandatory Fields

**Make a field mandatory**

To make filling in a field mandatory:

1. Choose the Search icon, enter Mandatory Field Setup, and then choose the related link.
2. The list shows on each line what fields will be checked for completion in a certain table. Choose New or Edit List on the ribbon to either add a checking routine or change one already available.
3. Fill in or select (or change) the Table No. field; the name and number of mandatory fields present in the table are filled in automatically.
4. After you have filled in or selected a table, choose Mandatory Fields on the ribbon. Fill in the fields as described in the following table.

<b>Field</b>	<b>Description</b>
Field No.	Enter the number of the field that you want users to fill in.
Field Caption	Shows the name of the field that you want users to fill in.
Field No. (Condition)	If completion of a field is only required under certain conditions, for example, when the document type is set to Order and the customer's posting group to Global, enter here the number of the field on which the requirement is based. You can then specify the exact requirement in the Condition field.
Field Caption (Condition)	Shows the name of the field based on which another is mandatory.
Condition	Specifies the condition based on the Condition Field No.
	Choose what happens if the field is not filled in. The following options are available:
Action	<b>Cancel</b> The relevant process cannot be cancelled until the field is filled in.
	<b>Notify</b> The system shows a notification if the field remains empty. Users, however, can still process or release a document.

#### Note

Conditions set on Boolean fields should be 'True' or 'False' in all cases. Date fields cannot be used as conditions.

Mandatory field checks are run when you use End Update or Release actions, such as the End Item Update function on an item card or the Release function on a shipping document. Alternatively, you can choose the Check Mandatory Field action on the ribbon for selected lines. Data records that can be released will be released. The others remain blocked.

After you have run the End Item Update function, the relevant item record can no longer be changed (although related records, such as comments, can). At the same time, the Update field on the header is set to Completed. To change the record again, you need to choose Edit Item on the header.

#### Note

The mandatory field check integrated into KUMAVISION factory365 differs from the check described here; for more information, see [factory365](#). For a description of how to validate item attributes, see [Item Attributes](#).

#### Block base data

You can block the posting of an item based on what it is used for.

1. Choose the Search icon, enter Items, and then choose the relevant link.
2. Open the card of the item for which you want to limit usage.
3. Turn on one (or more) of the toggles described in the following.

#### Sales Blocked

With the toggle turned on, the item cannot be entered or posted in sales. On sales documents, the check for blocked items is only performed on lines for which there is a quantity available.

Selected on sales header	Lines checked if
Ship and Invoice = Yes	Qty. to Ship <> 0 or Qty. to Invoice <> 0
Ship = Yes but Invoice = No	Qty. to Ship <> 0
Ship = No but Invoice = Yes	Qty. to Invoice <> 0

If a line contains an item that is blocked, an error message appears.

#### Purchasing Blocked

With the toggle turned on, the item cannot be entered or posted in purchase. On purchase documents, the check for blocked items is only carried out on lines for which there is a quantity available:

Selected on purchase header	Lines checked if
Receipt and Invoice = Yes	Qty. to Receive <> 0 or Qty. to Invoice <> 0
Receipt = Yes but Invoice = No	Qty. to Receive <> 0
Receipt = No but Invoice = Yes	Qty. to Invoice <> 0

If a line contains an item that is blocked, an error message appears.

The system also treats requisition and planning worksheets this way if you set the replenishment system for either of them to Purchase.

#### Manufacturing Blocked

With the toggle turned on, the item cannot be added or posted to manufacturing.

**Prod. Consumption Blocked**

With the toggle turned on, the item cannot be added or posted as consumption to manufacturing.

**Service Blocked**

With the toggle turned on, the item cannot be added or posted to service.

If a line contains an item blocked in these ways, an error message appears.

**Physical Inventory**

Independent of the toggles, the system will check fields such as Location and Bin to determine whether the relevant item is part of a physical inventory order or physical inventory recording, and a message stating as much will appear if an attempt is made to post the item.

**Note**

The toggles are used to block items, not variants; this means checks are performed for items only. When you post an item entry of type Positive or Negative Adjustment to an item journal, the system also checks only for item use in stocktaking, ignoring the limits you set.

**Assigned User ID**

The Assigned User ID field that can be found on sales and purchase documents is a standard Microsoft Dynamics 365 Business Central field used to identify who set up a sales or purchase document or to filter documents for specific IDs.

The KUMAVISION base industry solution fills in this field automatically with the ID of the user who is currently logged in to the system.



## Basics

### Contact management

As an addition to standard marketing functionality, the contact management feature provides salespeople and purchasers alike with the option of creating cockpit views that include every relevant piece of information stored about a contact.

Each view can be customized to meet a specific user's requirements. You can also directly add certain actions to a view.

#### Setup

To specify what information and functions should be part of the cockpit:

1. Choose the Search icon, enter User Setup, and then choose the related link.
2. Select a user and choose Edit on the ribbon.
3. On the Cockpit View FastTab, specify what you want to display, such as marketing functions and sales documents if you're a salesperson.
4. On the Cockpit Actions FastTab, select what actions are required in the view, depending on whether the cockpit is used in sales or purchasing.

#### Contact card

Each contact card now shows the information and actions that you specified.

1. Choose the Search icon, enter Contacts, and then choose the related link.
2. This opens a list on which organization contacts are shown in bold. The people associated with the relevant organization are shown underneath, in standard font. Double-click an organization.
3. Go to the FastTab called Contacts (which was added to the card) to see the people linked to the company contact.

## Contacts

Field	Description
No.	Specifies the number of the contact person. Clicking this field opens the card related to the contact.
Name	Specifies the contact person's name.
Phone No.	Specifies the contact's phone number. If a connection to a TAPI interface has been established, the number entered in this field can be dialed immediately.
Comment	A Yes indicates that remarks have been stored for this contact. Clicking the field will show them to you.
Email	Specifies the contact's email address. If you select the address entered in this field, you can send an email to the contact via your email provider.

## Ribbon actions

On the ribbon, you'll find the functions that you specified in User Setup on the Cockpit Actions FastTab.

### Note

You can hide and unhide functions and FactBoxes on the contact card in the same way you would in the standard system. The default values specified in User Setup will then be overridden.

## Contact Statistics

Found on the right-hand side of the card, this FactBox displays the marketing activities and sales documents linked to the contact. You can click a value to open the data records associated with each of the fields.

## Forecast

Also on the right-hand side, you can see the current sales opportunities linked to the contact and the sales quotes related to those opportunities.

### Translate resources and work types

As companies are increasingly branching out into markets around the world, texts for resources and work types must be translated as well. They can be found both on the Translations page and on purchase and sales documents.

## Setup

You can store translations of resources and work types as base data. To set up a translation:

1. Choose the Search icon, enter Resources or Work Types, and then choose the related link.
2. Open a resource or work type card.
3. Choose Translations on the ribbon and enter a language code in the Description field.
4. Fill in the remaining fields as necessary.

## Use a translation

When you enter a resource on sales documents, the system checks whether a translation has been specified for the resource in the language entered on the sales header.

If a translation is found, it is entered in the Description and Description 2 fields on the sales lines. If none is available for a language code, the standard text is used. The same is true for work types when you enter a type on a purchase or sales document.

## Edit text

In the standard system, long paragraphs are broken up into smaller segments and distributed onto multiple lines. Because of this, you can't simply copy and paste larger bodies of text, which might make adding notes to documents a tedious and cumbersome task.

The solution to this has been to develop an easy-to-use text editor for copying and pasting extended and document texts without line breaks. As an example, to create an extended text (see also [Extended Text](#)), you can do the following:

1. Write a note, for example, in Microsoft Word.
2. Open the Extended Text page.
3. Choose Manage > Formatting Editor on the ribbon.
4. Use the copy-and-paste function to copy the note from Word.

## Note

Even if you format text in a certain way, some of your stylistic choices—such as having text printed in bold, italic, or underlined—might not appear on documents printed from Microsoft Dynamics 365 Business Central.

You can also enter a beginning or ending text on a document line.

1. Open a document.
2. Go to the Lines FastTab.
3. Select the line for which you want to enter text.
4. Choose Related Information > Document Texts > Beginning or Ending Text on the ribbon.
5. On the Document Text card, choose Formatting Editor.
6. Enter a text manually or copy and paste one that you wrote earlier.

To have the text printed on certain documents, select the relevant Print fields on the line that you entered the text on.

Extended text

Besides using standard functionality to add item descriptions to a document, you can now also specify text that you want shown on headers and footers or before and after a line on a document.

Document texts that you want to enter at the line level, that is, as beginning or ending texts, can be specified as early as setting up items, resources, or G/L accounts. At the header level, you can store these texts as early as setting up a customer or vendor.

Create an extended text

To create an extended text:

- 1. Open the card of an item, resource, G/L account, vendor, or customer.
- 2. Choose Extended Text on the ribbon.
- 3. Enter a text on a line.
- 4. Fill in the Starting Date and Ending Date fields if you want to make the text available only during a certain period. You can also select the All Languages checkbox if you want it shown regardless of the language code stored for a customer’s or vendor’s documents.
- 5. You can then select other checkboxes on the line to specify on which kind of purchase or sales document you want the text to be shown.

Afterward, you can choose between three options in the Use as Document Text field as described in the following table.

Option	Description
Yes	The text can be opened by choosing Line > Document Texts > Beginning or Ending Text.
No	The text is used as a document line.
Automatic	The text is inserted automatically.

In the Position field, you can choose whether the extended text should appear as a beginning text at the top of documents or above a description of an item, a resource, or a G/L account—or as an ending text at the bottom or below any of these descriptions. To put an extended text on a document:

- 1. Open a document.
- 2. Go to the Lines FastTab.
- 3. Choose Functions, and then choose Insert Ext. Texts.

Advertising groups

Besides adding extended texts to vendor, customer, and other documents, you can assign them to advertising groups.

Advertising groups are used to store extended texts for multiple or all vendors or customers, for example, to inform about company holidays, physical stock-taking periods, and trade shows. To set up a group:

1. Choose the Search icon, enter Advertising Groups, and then choose the related link.
2. Choose New on the ribbon to create a new advertising group or choose Edit to change an existing group.  
You can also choose Delete if you want to remove a group from the list.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a meaningful description for the advertising group.
Description	Enter a more detailed description of the group and the extended texts stored for it.
All Customers	Select this checkbox if you want the advertising group used for all customers.
No. of Customers	<p>Instead of selecting All Contacts, you can specify in this field a certain number of contacts for whom the group should be used.</p> <p>Selecting the lookup in the field will take you to the Advertising Group Members page, where you can add specific customers.</p>
All Vendors	Select this checkbox if you want the advertising group used for all vendors.
No. of Vendors	<p>Instead of selecting All Vendors, you can specify in this field a certain number of vendors for whom the group should be used.</p> <p>Selecting the lookup in the field will take you to the Advertising Group Members page, where you can add specific vendors.</p>
All Contacts	Select this checkbox if you want the advertising group used for all contacts.
No. of Contacts	<p>Instead of selecting All Contacts, you can specify in this field a certain number of contacts for whom the group should be used.</p> <p>Selecting the lookup in the field will take you to the Advertising Group Members page, where you can add specific contacts.</p>
No. of Extended Texts	Shows the number of extended texts stored for the group.

To assign an extended text to an advertising group:

1. Select a group.
2. On the ribbon, choose Extended Text.
3. Choose New and enter a text.

For more information on how to create a text module, see [Extended Text](#).

## Position numbers

You can also assign position numbers to lines to structure a document.

You can enter numbers manually in the Position No. fields on document lines. Alternatively, you can run the Assign Position Nos. function from the ribbon to have numbers assigned automatically.

How position numbers are assigned can be specified in Purchases & Payables Setup or Sales & Receivables Setup as described in the following table.

Field	Description
	<b>(blank)</b> No impact.
Check Pos. Nos. on Purch./Sales Lines	<b>Check</b> Checks for position numbers when a document is released. Shows an error message if the numbers are missing.
	<b>Auto Assign</b> Checks for numbers and assigns them automatically when a document is released.
	<b>(blank)</b> No impact.
Auto Pos. Nos. (Type)	<b>Single</b> Assigns sequential numbers. How big the steps between numbers are is set in the Auto Position Nos. (Step) field.
	<b>Multilevel</b> The Position No. field contains an outline (1 / 1.1...).  This can be helpful especially when it comes to subtotals and bundles, as position numbers then point to their level within the structure.
Auto Pos. Nos. (Step)	Specifies how big the steps between position numbers are ( <i>10, 100, or 1000</i> ).

## Print Line

To cut down on paper usage, lines without price information can be removed from printouts. To hide a line, open a document, go to the Lines FastTab, and select the relevant line. Afterward, clear its Print Line checkbox.

## Print Line Break

For layout purposes, a page break can be added to printouts by selecting Print Line Break on a document line.

## Structure documents

You can now structure purchase or sales documents more easily by grouping subtotals or bundles (not displaying individual prices) on document lines. You can also assign a position number to each line.

Subtotals can be edited to reflect price reductions and surcharges. The price difference is then distributed evenly among all sales lines. Prices for bundles are shown on printouts as totals, without line prices, discounts, and amounts.

To structure a document, you need to fill in the Type field on the relevant lines. The options of the field are described in the following table.

Field	Description
Headline	Shows text entered in the Description field in bold.
Subtotal	Shows text entered in the Description field in bold and marks the starting point for a certain number of items, resources, or G/L account lines you want included in a subtotal.
Bundle	Shows text entered in the Description field in bold and marks the starting point for a certain number of items, resources, or G/L account lines you want included in a bundle.
End-Subtotal/ Bundle	Shows text entered in the Description field in bold and marks the end point for a certain number of items, resources, or G/L account lines you want included in a subtotal or bundle.

## Manufacturing date / subcontracted lot

Besides using standard item tracking functionality, you can now store the manufacturing date and the external lot number for an item.

### Setup

You can store the date when an item was manufactured or the lot number that a supplier used for it together with the standard item tracking code.

1. Choose the Search icon, enter Item Tracking Codes, and then choose the related link.
2. Choose New on the ribbon or select a code and choose Edit.
3. Fill in the fields as necessary. On the Misc. FastTab, turn on the Manual Prod. Date Required or the Manual External Lot Required toggle, or both, to specify that the field(s) must be filled in for tracking codes.

### Assign a tracking code

To assign a tracking code to an item:

1. Choose the Search icon, enter Items, and then choose the related link.
2. Choose New on the ribbon or select an item and choose Edit.
3. Go to the Item Tracking FastTab and fill in the Item Tracking Code field.

You can assign a code to any outgoing or incoming document. For a posted entry, a posted tracking code is stored retroactively. See the standard online help for more information: [Trace Item-Tracked Items](#).

## Variants

### Require a variant

Variants are created for items that differ in only a few attributes, such as size and color. These attributes are nevertheless vital to production so that leaving the variant code fields on document lines blank isn't an option. As an example, to make footwear, you need to know what shoe sizes are in demand.

Although you can enter variants in Microsoft Dynamics 365 Business Central, standard functionality mainly uses them for sorting purposes. As a result, the system doesn't check if a certain variant even exists.

The variant requirement feature that is part of KUMAVISION base (BOOSTER) makes specifying certain variants a must when you enter an item on a journal or a document line. To make a variant mandatory:

- Open the item for which a variant should be required.
- On the Inventory FastTab, turn on the Variant Required toggle.

The toggle can be used in purchasing, sales, and wherever else you can enter items. The system then checks if you must choose a variant when you fill in a quantity for an item on a journal or document line.

Checks are also performed when you post in sales or purchasing or from an item journal.

### Block an item or a variant

Sometimes, business decisions might lead you to block items from use within sales and purchasing (but not in service, for example). To block an item in a specific area:

- Open an item card.
- On the Item FastTab, turn on the Blocked toggle that corresponds to the area where you don't want the item to be used.

(For more information, see [Block Base Data](#).) You can also block a variant of an item partly or entirely.

- On the item card, choose Related > Item > Variants.
- Select a line with a variant and select the Blocked fields that correspond to the areas where you don't want the variant to be used.

Variants can be blocked in the following areas:

- Sales
- Purchasing
- Service
- Manufacturing
- Item journals
- Transfer orders
- Jobs
- Assemblies



In purchasing, the system checks for blocked variants in the following order of priority:

1. Blocked toggle on the item card
2. Purchasing Blocked toggle on the same card
3. Purchase Variant Blocked toggle on the variant card

#### Item attributes

Item attributes are used to group and find items according to certain criteria. You can assign attributes to every item that is stored in the system, either by assigning them to an individual item or to a category of items.

#### Setup

Before you can use this feature, you need to set up the required attributes and their attribute values.

1. Choose the Search icon, enter Item Attributes, and then choose the related link.
2. Choose New on the ribbon.
3. Fill in the fields as described in the following table.

Field	Description
Name	Specify the description of the attribute.  You can enter a maximum of 250 characters in this field.
Type	Specify the type of data referenced on this line. Any value that you specify for the attribute must match this type.  You can choose between Option, Text, Integer, Decimal, and Date.
Values	Used to specify values for attributes of type Option.  <b>Note</b> This field is only shown if you chose Option in the Type field.
Blocked	With the toggle turned on, the attribute can no longer be used.
Required	Turn on this toggle if you want to require users to fill in this attribute for item masters.
Printing Sequence No.	Specify the order in which you want attributes printed if more than one attribute is included on a document.

#### Printing

On this FastTab, you can specify whether to print an item attribute on a certain sales or purchase document.

1. Select an attribute.
2. Use the Assist Button next to the Sales or Purchasing field to open the print selection.
3. Select the checkboxes for the sales or purchase documents on which you want to print the attribute.

## Note

For some item attributes, checkboxes might be selected by default, which will happen should you select these checkboxes when you set up attributes or assign attributes to item categories. However, you can overwrite the default values here if necessary.

## Unit of measure translations

For attributes that come with a unit of measure, you can choose Translations on the ribbon to store—and later print on documents—a translation of the unit in another language.

### Assign an attribute

## Items

To assign an attribute to an item:

1. Open an item card.
2. Choose Item > Attributes on the ribbon.
3. Fill in the fields as necessary.

You can then see the assigned attributes in the Item Attributes FactBox on the card.

## Note

If the Required checkbox is selected for an attribute and the Item Field Check toggle was turned on in Inventory Setup, a mandatory field check is performed when you're about to complete item maintenance. An error message will be shown if you haven't entered a value for an attribute specified as Required or if a category with a required but (so far) unspecified attribute was assigned to the item.

## Printing

You can also specify on the Item Attribute Values page whether to print an item attribute on a certain sales or purchase document.

1. Select an item attribute.
2. Use the Assist Button next to the Sales or Purchasing field to open the print selection.
3. Select the checkboxes for the sales or purchase documents on which you want to print the attribute.

## Note

For some item attributes, checkboxes might be selected by default, which will happen should you select these checkboxes when you set up attributes or assign attributes to item categories. However, you can overwrite the default values here if necessary.

## Item categories

To assign an attribute to an entire category of items:

1. Choose the Search icon, enter Item Categories, and then choose the related link.
2. Select a category to open it.
3. Fill in the fields on the Attributes FastTab.

You can then see the attributes you assigned to categories in the Attributes FactBox on the right-hand side of the Item Categories page. When you later assign an item to a category, attributes stored for the category will be copied to the item automatically. Should you change attributes of a category, the items assigned to it will be updated as well.

#### Note

Attributes specified for parent categories are inherited to subcategories but can't be changed there. Instead, you need to adjust these attributes for each item using them.

### Printing

On the Item Categories page, you can again specify whether to print an item attribute on a certain sales or purchase document.

1. Select an item attribute.
2. Use the Assist Button next to the Sales or Purchasing field to open the print selection.
3. Select the checkboxes for the sales or purchase documents on which you want to print the attribute.

#### Note

For some item attributes, checkboxes might be selected by default, which will happen should you select these checkboxes when you set up attributes or assign attributes to item categories. However, you can overwrite the default values here if necessary.

### Specify attribute values

On the Item Attribute card, you can use a lookup in the Values field to select a predefined value for an attribute. If no value has been entered, you can create a new one according to the format given in the Type field on the card.

#### Note

You can't release an item for which a required attribute hasn't been specified.

### Search by attributes

You can use the attribute search feature to look for item attributes in sales or purchasing.

The standard way of searching for items is to filter the item list for a specific attribute. Keeping this in mind, the search feature has been extended so that you can set filters on document entries as well.

To run the extended search:

1. Open a sales or purchase document.
2. On the Lines FastTab, select a line and choose Manage > Search by Attributes.
3. Enter an item category to see the first related attribute. You can extend this list to include other attributes, up to a maximum of 20.
4. Specify an attribute value in the second field. The line needs to be of the Item type.
5. After you've specified the search criteria, choose Filter by Attributes on the ribbon.
6. Choose OK to copy the relevant line to the document.

## Note

If you're using KUMAVISION factory365, click [here](#) for more details about attribute searches.

### Application tracing

For easier traceability or checks of application sequences for incoming and outgoing items, use the Application Tracing feature.

To run the feature, choose Related > Application Tracing on the Items page.

The page that opens shows the complete application sequence. If an item is incoming (*Receipt, Purchase, Output*), the page shows each movement of the entry, along with its quantity and value, up until the last outbound transaction (Shipment, Sale, Consumption), including all transfers.

If an item is outgoing, the page shows each movement, as well as its quantity and value, up to the first incoming transaction, again including all transfers.

### Special notes

Comments you enter for customers, vendors, and items can be marked as special notes so that they're included in the info pane on the right-hand side of a sales or purchase document.

### Setup

#### Comment Line Codes

First, you need to set up a code for each special note:

1. Choose the Search icon, enter Comment Line Codes, and then choose the related link.
2. Fill in the Code and Description fields per line.

#### Purchases & Payables Setup

To assign a code to purchase documents:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the General FastTab, in the Special Notes Code field, specify a code that will be used to distinguish special remarks from other comments. Because you can specify different codes for purchase and sales documents, certain notes might only be shown in one of these areas.

You can then fill in the special notes code in the Code field on comment lines entered for a vendor or an item.

#### Sales & Receivables Setup

To assign a code to sales documents:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the General FastTab, in the Special Notes Code field, specify a code that will be used to distinguish special remarks from other comments. Because you can specify different codes for purchase and sales documents, certain notes might only be shown in one of these areas.

You can then fill in the special notes code in the Code field on comment lines entered for a vendor or an item.

## Note

If you're using KUMAVISION healthcare365, you can also enter special notes with regard to route planning and delivery or billing schedules. For more information, click [here](#).

### Usage

Special notes can be displayed on the following documents:

- Purchase Quotes
- Purchase Orders
- Purchase Invoices
- Sales Quotes
- Sales Orders
- Sales Invoices

They're shown automatically on the info pane on the right-hand side when you choose a customer or vendor for whom special notes have been stored or when you switch between documents on which this type of customer or vendor has been entered.

For items, they're displayed on the info pane to the right of the document lines when you choose an item that special notes have been stored for or when you switch from one line assigned to this kind of item to another.

## Finance

### Check VAT statement for completion

VAT declarations come in many forms. To ensure that the entries posted and the product and business posting groups specified for value-added taxes are shown on statements on a consistent and constant basis, accounting staff can use a report to create and reconcile these documents. To open the report:

1. Choose the Search icon, enter Check VAT Statement for Completion, and then choose the link.
2. Fill in the fields as necessary.

### Limit G/L account use

You can specify on a G/L account card whether you want to limit the use of a certain account to the purchasing, sales, or service area.

1. Choose the Search icon, enter Chart of Accounts, and then choose the link.
2. Select an account and open it.
3. On the General FastTab, turn the Direct Sale, Direct Purchase, or Direct Service toggle on or off.

Turning on one of these toggles will make the account available in the chosen area; attempts to include a G/L account on a document that was created in an area for which the toggle wasn't turned on will prompt an error message.

## Sales and Marketing

### Create hierarchies

Hierarchies are used to link (*any number of*) customers, vendors, or contacts to each other. Hierarchical relationships can be shown progressing from top to bottom or bottom to top.

#### Type Setup

When you're trying to add a customer to a hierarchy, you might see the following:

"Specify at least one hierarchy type."

This means that no hierarchy has been set up yet. To create a hierarchy:

1. Choose the Search icon, enter Hierarchy Types, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Comment
Code	Specify a code for the type of hierarchy.
Description	Enter a text that describes the type of hierarchy.
Default	Specify if this type of hierarchy should be used as the default type when you create new hierarchies.
Source Table Caption	Specify if you want to link the hierarchy type to customers, vendors, or contacts.

#### Assign customers

To specify hierarchical relationships between customers:

1. Choose the Search icon, enter Customers, and then choose the related link.
2. Open a customer card.
  - To set up a top-down structure**
    - a. On the ribbon, choose Related > Customers > Hierarchy - Relates to Customers.
  - To set up a bottom-up structure**
    - b. On the ribbon, choose Related > Customers > Hierarchy - Related to Customers.
3. Check if the correct type filter is set.
4. Specify a customer number in the Value field.
5. Choose another line and repeat the steps.

**View a hierarchy**

To see a hierarchy:

1. Open a customer card.
2. On the ribbon, choose Related > Customers > Hierarchy - Where-Used.
3. Select a method for display:
  - Related records (top-down approach)
  - Relates to records (bottom-up approach)
4. Choose Calculate.

**Sales order types**

Keeping track of large numbers of unposted documents in the system can be a difficult task: some might have been created to fulfill standard orders, some might have been set up for rush jobs, and some might be the basis for repairs or consignment. A quick solution to this problem is to organize documents by type so that they can be filtered later.

**Note**

If you're using KUMAVISION trade365, you can also add payment terms to sales order types. For more information, click [here](#).

**Setup**

To set up an order category:

1. Choose the search icon, enter Sales Order Types, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the type of order. The code must be unique.
Description	Specify a description for the order type.
Minimum Profit %	Specify a minimum profit in percent. For more information, see <a href="#">Line-Level</a>
and <a href="#">Document-Level</a> Profit Check.	
Default	Specify if this type will be used as the default type for new sales orders.
Duplicate Orders	Select this field to see a message if an order of the same type and with the same customer and item already exists.



**Assign dimensions**

You can then assign dimensions to an order type for analytical purposes. To assign a dimension:

1. Choose the Search icon, enter Sales Order Types, and then choose the related link.
2. Choose Related > Sales Order Type > Dimensions > Dimensions-Single to assign the current record or choose Dimensions-Multiple to assign more than one data record.
3. Choose OK to open the Dimensions page.
4. Fill in the fields as described in the following table.

Field	Description
Dimension Code	Select the code of the dimension that will be used.
Dimension Value Code	Select the value that will be used.
Value Posting	Specify the requirements that need to be met should you want to use the dimension and dimension value. <ul style="list-style-type: none"> <li>• Code Required</li> <li>• Shared Code</li> <li>• No Code</li> </ul>
Allowed Values Filter	Description to follow.

**Select reports by type**

You can also use order types to specify what sales reports to print.

1. Choose the Search icon, enter Report Selection – Sales, and then choose the related link.
2. In the Usage field, specify the type of document that you want printed.
3. Fill in the Report ID field on a line or choose Order Types on the ribbon to store a report based on a specific type.

Like on the standard report selection page, you can specify a sequence if you want to enter more than one report here.

**Assign an order type**

To assign a type to an order:

- Create or open a sales order.
- On the General FastTab, in the Sales Order Type field, select a type.

**Order backlog**

Large and midsize organizations often use their order backlog as an indicator of how business is going.

Backlog, as understood in this context, means the value of all incoming orders and of all unposted invoices not created from orders minus the value of return orders and of unposted credit memos, as revenues are typically generated at a much later date.

The backlog value might change with every edit made to a sales document. It can therefore be a daunting, if not impossible, task to determine that value for a specific point in time from the documents posted in the system. This is also true when trying to add together the amounts that remain on invoices not yet posted. However, both figures play a key role in management decisions.

#### Setup

You need to set up the feature before you can use it.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the General FastTab, turn on the Create Order Backlog toggle.
3. In the Backlog Creation Date field and Backlog Modification Date fields, select if you want to base the creation and change of backlog entries on an order date or the work date.

#### Workflow

To track the value of orders placed with your organization, the system will add backlog entries to the following documents:

- Sales orders
- Sales return orders
- Sales invoices (not created from an order)
- Sales credit memos

For an order or return order, entries are created when the status of the sales document is set from Open to Released or from Released to Open (the latter applies only if you activated the backlog feature after releasing the order).

The same is true when you invoice or reverse the document. Entries change, on the other hand, when you reopen a released order for editing purposes, for example, and invoice, edit, or delete some of the lines.

For an invoice or a credit memo, entries are created once—during the posting process—unless the lines of the document have been assigned to an order or a return order.

#### Note

Backlog entries can be created for ongoing sales transactions but not for documents that have already been archived.

Each backlog entry contains all the information from the sales or return order line for which it was set up. This means an unbilled line is mapped to an entry with the terms and conditions, as well as dimensions, specified on it, whereas a line that has been invoiced is mapped with the values and dimensions taken from the related invoice.

When the status on a document header is reset from Released to Open, order backlog will include—broken down by dimension—only amounts already billed. Amounts on lines that have yet to be billed, on the other hand, will be negative to offset the positive value entries created during release.

## Item reference numbers

Many orders include numbers that a customer uses for items. These numbers can be filled in on an order provided they're specified in the item or customer master.

To facilitate data maintenance, item references can now also be created and changed directly on sales lines after filling in, for example, the following fields:

- Type = Item
- No. = [item number]
- Reference No. = [number that the customer assigned to the item]
- Unit of Measure Code = [standard unit used for the item]
- Variant Code = [blank]

## Note

If a certain combination already exists, you're asked if you want to replace the old item reference with the new number.

## Unit cost and line profit %

In contrast to standard functionality, you can no longer change the value in the Unit Cost (LCY) field on sales document lines. Instead, the value will be copied from an item card or, if available, from inventory.

The reverse is true for Profit %, a field related to the unit cost. The value in this field will no longer be copied from an item card, as in the standard app, but the percentage will be determined based on the values in the Unit Cost (LCY), Unit Price, and Discount fields. This way, you can see the actual profit on the lines.

## Line-level profit check

A lower profit limit can be specified for each item and item category stored in the system. This way, you'll be notified immediately when the money that you would make from a transaction will not earn you enough profit. You'll also see the price required to achieve the lowest possible profit target.

Only specially authorized users can then continue with the transaction without having to adjust item prices. The system will check for profit minimums in the following order of priority:

1. Item
2. Item Category

## Setup

### User setup

On this page, you can specify the users who can continue with transactions even if those transactions generate less than the minimum profit.

1. Choose the Search icon, enter User Setup, and then choose the relevant link.
2. Select the user whom you want to authorize for the procedure.
3. On the line, select the Deactivate Profit Minimum field.
4. Alternatively, open the card linked to the user. On the KUMAVISION FastTab, turn on the Deactivate Profit Minimum toggle.

An authorized user then sees a brief note when a certain profit threshold isn't met but will be allowed to continue. If the field is cleared (or the toggle turned off), the user will see an error message instead.

### Maintain minimum profits

To have lines checked for minimum profits, you need to specify them on item cards or for item categories first.

#### On Item Cards

To set a minimum profit on an item card:

- Open a card.
- On the Prices & Sales FastTab, in the Minimum Profit % field, enter the profit that should at least be achieved with each transaction.

#### On Item Categories

An item category can be used to group profit targets so that each item in the category is set up with the same minimum profit. To set up a minimum for a group:

- Open an item group card.
- On the relevant line, in the Minimum Profit % field, enter the profit that should at least be achieved with each transaction.

### Document-level profit check

You can also set profit requirements on documents. However, like with line-level checks, an authorized user can continue with a transaction even if the minimum profit isn't achieved.

For this purpose, the Deactivate Minimum Profit field can be selected in User Setup. Separate authorizations for releasing documents and their lines aren't available. The system will check for document-wide profit minimums in the following order of priority:

1. Customer
2. Sales Order Type
3. Sales & Receivables Setup

### Setup

#### Sales & Receivables Setup

To set up a lower profit limit for use throughout the system:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the relevant link.
2. On the KUMAVISION FastTab, in the Minimum Profit % field, enter the profit that should at least be achieved on sales documents.

#### Sales order types

For a sales order type, you set the limit by filling in the Minimum Profit % field on the relevant line.

#### Customers

On a customer card, you specify the minimum profit on the Invoice FastTab.

**Workflow**

When a document is assigned to a customer for whom a minimum profit has been specified, you receive a message if the profit isn't achieved with a sales transaction. The message also shows you the price required for achieving the lowest possible profit target.

Only authorized users can then continue with a transaction without having to change prices in the system. To authorize a user:

1. Choose the Search icon, enter User Setup, and then choose the relevant link.
2. Select the user whom you want to authorize for the procedure.
3. On the line, select the Deactivate Minimum Profit field.
4. Alternatively, open the card linked to the user. On the KUMAVISION FastTab, turn on the Deactivate Minimum Profit toggle.

Typically, profit checks are performed when you release documents—unless release is automatic, for example, after creating an advance invoice.

**Archive**

To see how often a profit minimum hasn't been met:

- Open a sales document.
- On the ribbon, choose Navigate or Releases.

You can now track in detail who released orders that fell short of the minimum profit and when this occurred, information which you can also find in the [Sales Document Information FactBox](#). This box will additionally tell you how high the profit should have been (at least) and where the lower profit limit comes from.

**Note**

If a minimum profit isn't achieved at either line or document level, the system will log only the shortfall at document level, whereas line shortfalls will be released.

**FactBoxes**

The new FactBoxes and FactBox-related functions included with KUMAVISION base (Booster) can provide you with even more details on sales documents and their lines.

**Sales Line Profit Details**

Provides the contents of the following fields filled in for an item or a customer on a sales document line:

- No. (=item number)
- Line Amount (LCY)
- Line Amount (LCY) Excl. VAT
- Unit Cost (LCY)
- Cost (LCY)
- Profit (LCY)
- Profit %
- Minimum Profit %
- Min. Profit Source
- Low Profit Released By

**Sales Document Information**

Provides the contents of the following fields filled in for a customer on a sales document:

- Beginning Text
- Ending Text
- Sell-to Customer (Comment)
- Bill-to Customer (Comment)
- Profit (LCY)
- Profit %
- Minimum Profit %
- Min. Profit Source
- Low Profit Released By

**Sell-to Customer Sales History**

As with standard functionality, provides the number of documents created for a customer in the sales area.

In contrast to standard functionality, however, the extended FactBox now also includes tiles for archived quotes, orders, blanket orders, and return orders. You can click a tile to view individual documents.

You can also set a date filter to limit how many of them will be shown. To set up the filter period:

1. Choose the Search icon, enter Sales & Receivables Setup.
2. On the Archiving FastTab, in the Sales History Date Formula field, specify a formula, such as -1Y.

**Note**

The formula used will limit the period based on the work date.

**Add transaction data**

You can use the Add Transaction Data function to correct posting information on orders that have been shipped but not invoiced.

You make the corrections before choosing this action on the ribbon. When you run the action, the contents of the following fields will be copied from the lines that have been shipped but not billed to a posted shipment and the associated item, G/L, and value entries:

- Gen. Bus. Posting Group
- VAT Bus. Posting Group
- Gen. Prod. Posting Group
- VAT Prod. Posting Group
- Dimension Set ID
- Global Dimension 1 Code
- Global Dimension 2 Code

#### **Print released documents**

The system performs multiple checks when a sales document is released. This includes checking if mandatory fields are filled in and whether prices and costs have been calculated.

For this reason, KUMAVISION base (BOOSTER) limits printouts to documents that have been released, the only exception being quotes (print previews will not be restricted either).

#### **Send quotes to contacts**

You can use a customer template to send quotes to potential suppliers, that is, to contacts to whom no customer has been assigned.

Customer templates are set up in Finance. You can then run the Create Sales Quote action from the ribbon of a customer card to fill in a new quote with the required contact details and choose in the Customer Template Code field the template that you want to use.

You can also create a quote without having to create a customer. In this case, a customer must be set up only when you convert the quote to an order.

#### **Blanket order extension**

When you create a sales order from a standard blanket agreement, the prices set by the agreement are copied alongside other data to the new order.

However, when you change the quantity on the order, the prices specified on it will most likely change as well. This is because standard functionality updates all prices regardless of origin. See also [Price Origin](#).

The new pricing feature, on the other hand, will update only lines on which the Blanket Order field has not been selected.

#### **Create a sales order from a blanket order**

When you fill in a quote or an order line, you might see a message saying that the item and customer given on the line have both been assigned to a blanket sales agreement.

After the number of the blanket order is entered in the Blanket Order No. field, you're asked whether you want to copy the contents of the Unit Price and Line Discount % to the line. You can choose Yes to replace current values or No to keep the price and discount stored on the quote or order line.

For trackability purposes, you can now also see in the Qty. on Order and Rem. Qty. on Blanket Order fields on a blanket agreement the quantities entered on related sales orders and the quantity that remains for release.

The field additions were required because standard functionality doesn't show the quantity delivered with an order until you post a sales shipment for it.

An error message appears if you attempt to retrieve more from an agreement than is available after the order quantity is subtracted from the quantity that is still outstanding.

#### Framework agreements

Framework agreements are an addition to (customer-specific) blanket orders. In contrast to blanket orders, framework agreements can be used by multiple customers linked to each other in a hierarchy. The agreement therefore binds both the main customer and the customers on a lower hierarchical level.

Framework agreements aren't assigned to requisition or planning worksheets. As a result, you need to use a variety of settings or sales plans to manage the items that will be used on sales orders created from this type of agreement.

#### Setup

You need to set up the feature before you can use it.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the Number Series FastTab, in the Framework Agreement Nos. field, select the series that will be used for framework agreements.
3. You can also specify the hierarchy type that should be used by filling in the Framework Hierarchy Type Code field on the KUMAVISION FastTab

#### Note

Only customers who are linked to this type of hierarchy can later be assigned to a framework agreement.

#### Create a framework agreement

To set up an individual agreement:

1. Choose the Search icon, enter Open Framework Agreements, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.



## General

Field	Description
No.	Exit the field to have the system automatically assign a new number from the series set up for this purpose.
Customer No.	Specify the customer to whom the agreement should be linked. For an agreement to be used by multiple customers, you must fill in the main customer in this field. Other customers are then linked to the main customer through the hierarchy type code.
Name	Shows the name of the customer entered in the Customer No. field.
Description Description 2	Here you can specify an internal description for the agreement.
Valid From Valid To	Fill in these fields to specify the period in which the agreement should be valid.

## Lines

On the framework lines, you can store for each item the total quantity that can be purchased by all customers during the period entered in the Valid From and Valid To fields.

Instead of an item, you can also enter an item price group; the specific item is then retrieved from the group when you create an order from the agreement.

Prices and discounts can be specified here too. All values are shown without VAT, as the framework agreement feature is only used for B2B transactions.

When you've finished filling in the fields, you can choose Release and Confirm on the ribbon to release and print the agreement, respectively.

**Create an order from an agreement**

When you fill in a standard quote or order, you'll see a message if a framework agreement exists for an item and customer entered on a document line.

When the number of the agreement is then filled in on the line, the system will copy the price and discount specified for the agreement to the quote or order.

On the agreement, on the Lines FastTab, you can choose Line and the relevant document line function if you want to see the quantities that have been copied to (*archived*) sales documents.

After an agreement is no longer valid, you can archive it by choosing Actions > End to move it to the Completed Framework Agreements page.

This decision cannot be undone. However, you can use the Copy Framework Agreement function (*as you can use the Copy Document function*) to copy a completed agreement to a new one. You can choose on the options dialog if you want to transfer all data from the old header and lines or just transfer the header or the lines.

## Manage sales commissions

You can use the commission feature to determine the compensation that your sales representatives should receive for their performance. Each payment will be calculated with the help of an invoice or a credit memo posted in Microsoft Dynamics 365 Business Central.

Only revenues generated as part of standard workflows count toward payouts. This excludes, for example, sales recorded and posted manually in the form of invoices to G/L accounts in Finance.

To fill in the Salesperson Code and Salesperson 2 Code fields when you set up commissions, you can have salespeople copied from the customer master. As an alternative, you can specify them on a sales invoice or credit memo prior to posting.

The commission feature is used only on a field that is filled in. If you specify a salesperson in both fields, a commission will be calculated for each. However, neither field influences the other when payments are calculated.

As salesperson codes apply to a document as a whole, the codes aren't found on unposted lines.

A commission can be calculated for a certain customer or product, a group of customers or products, or a responsibility center. The amount that a sales rep receives can be based on net or gross revenues or on profits.

### Note

Only with the Salesperson Code field and, if necessary, the Salesperson 2 Code field filled in on a posted sales document will a commission be calculated. You can clear both fields manually if an order doesn't involve commission payments.

## Setup

### Salespeople

Each salesperson whom you want to pay a commission to must be set up on the Salespeople/Purchasers page and be assigned on the relevant customer card in the Salesperson Code or Salesperson 2 Code field (*on the Commission FastTab*).

### Commission groups

Commission groups are used if the same commission rate applies to multiple customers or items. They're copied to posted documents automatically.

### Customer Commission Groups

On this page, you can set up codes and descriptions for groups of customers. A code can then be selected on the Commission FastTab on a customer card.

### Product commission groups

Here you can group items in the same way as you did customers. The groups can then be selected on item cards on the Prices & Sales FastTab.

To achieve standardization, you can assign product commission group codes to each G/L account, item, resource, fixed asset, and item charge stored in the system.

**Commission rates**

Commission rates regulate how much commission a salesperson can receive. You can specify a variety of factors that will be used to determine payments in each case. To search for a rate:

1. Choose the Search icon, enter Commission Rates, and then choose the related link.
2. On the header, fill in the fields as described in the following table.

Field	Description
Salespers. Commission Type Filter	Specify if you want to see only a certain type of commission.
Starting Date Filter	Specify if you want to see only rates starting from a certain date.
Salesperson Filter	Specify if you want to see only rates stored for a certain salesperson.

To set up or change a rate, select a line and fill in the fields as described in the following table.

<b>Field</b>	<b>Description</b>
Salesperson Commission Type	Specify if the rate should be valid for the person shown in the Salesperson Code or the Salesperson 2 Code field—or for all salespeople.
Salesperson Code	Fill in this field according to the option that you selected in the Salesperson Commission Type field.
Customer Commission Type	Specify if the rate should be used for all customers, a group of customers, or a specific customer.
Customer Code	Fill in this field based on the option that you selected in the Customer Commission Type field.
Product Commission Type	Specify if the rate should be used for items, G/L accounts, resources, fixed assets, item charges, product commission groups, or all products.
Product Code	Fill in this field based on the option that you selected in the Product Commission Type field.
Responsibility Center	Specify a responsibility center if you want to make the commission calculation dependent on one.
Starting Date Ending Date	Fill in these fields if you want to further restrict the period in which the rate should be valid.
Commission Base	<p>Select the posted document line value based on which the rate should be calculated:</p> <ul style="list-style-type: none"> <li>• Amount Excl. VAT</li> <li>• Profit</li> <li>• Adj. Profit</li> <li>• Amount Incl. VAT</li> </ul>
Commission %	Specify the commission amount in percent.
Description	If necessary, add an internal note explaining the rate.
Blocked	Select this field if you want to block the rate from being used.

## Calculate a commission

Payouts are calculated based on the commission rate that is valid at the time. If more than one is valid within the period specified on a sales document, the rate is retrieved according to the following order of priority:

- Individual rates are preferred over general rates. A rate linked to a single customer will therefore be prioritized over entries assigned to customer commission groups. These, in turn, have a higher priority than rates that have been assigned to all customers.
- A valid rate for an individual product will be selected before a rate linked to a customer is. Customer-specific rates, in turn, will be prioritized over those assigned to salespeople.

In combination with a responsibility center, a rate will be retrieved as follows:

- If no rate can be found for a certain salesperson and responsibility center, the system will use the rate assigned to the All Salespeople option in combination with the responsibility center.
- If a rate for the salesperson and responsibility center is found, the rate will be used.
- If no responsibility center has been specified for a salesperson, the system will use the rate set up for this salesperson in combination with a blank Responsibility Center field.

## Workflow

### Commission journal Post a commission

On the commission journal, you can have commission payments suggested based on posted document lines.

1. Choose the Search icon, enter Commission Journal, and then choose the related link.
2. On the ribbon, choose Set Up Commission to fill in the journal lines. You can choose on the Options tab what filters to set. For example, you can set a filter on document dates or posting dates, customer ledger entries, salespeople, or invoice headers.

The function then uses the posted lines that include salespeople for whom no commissions have been posted to calculate valid commission rates. The business logic as described here lends itself to the creation of a variety of agreements with multiple levels of granularity. As a result, more than one rate might be applicable in a given situation.

The number of currently valid commission rates can be found in the lower part of the journal. Rates aren't totaled; to see them, select the highlighted number in the No. of Valid Commission Rates field. All journal lines can also be edited manually.

Commission entries are created by using the Post function. When you run this action, the invoice line field Commission Posted (Salesperson) or Commission Posted (Salesperson 2) is automatically selected for the salesperson linked to the entry (to prevent a commission from being paid twice).

## Note

The journal lines represent only suggestions and can be deleted or corrected. If a line is deleted, it will be inserted again when you rerun the Post function.

### Cancel a commission

Commission entries can be cancelled.

1. Choose the Search icon, enter Commission Entries, and then choose the related link. You can also open a posted invoice and choose Related > Invoice > Commission Entries on the ribbon.
2. Select a line.
3. On the ribbon, choose Reverse Entries.

Cancellation results in the Commission Posted (Salesperson) or Commission Posted (Salesperson 2) field being cleared on the relevant document line. This way, you can retrieve a commission statement again for editing.

### Commission register

Commission entries can also be analyzed through reports. Printouts of these reports provide the basis for commission statements (commission data isn't copied to payroll or purchase documents anymore).

You can print one of the following reports:

- Commission Register
- Commission Statement (By Group)
- Commission Statement (By Doc.)

A register shows all posted commission entries, whereas a statement shows the payout per salesperson (if necessary, broken down by commission group). You can set filters, for example, on posting dates and salespeople, before you print a report.

### Alternate quote lines

You can specify alternative lines on sales quotes by choosing Alternate on a line on which you entered an item.

Prices on these lines are then no longer included in the total price and can be shown differently on printouts.

### Validity period on quotes

To limit the period in which an offer is valid, you can fill in the Quote Expiration Date field on the General FastTab of a quote document or have the system fill in the date by specifying a formula in the Quote Validity Formula field in Sales & Receivables Setup.

Afterward, users will be notified of validity issues when quotes are converted to orders but can ignore the warning if necessary.

### Quote status

A status code was added to sales quotes so that when you create or convert a quote, you can enter this code (for example, NEW or ORDER) in the Quote Status Code field on the document or have it filled in automatically. To set up a status:

1. Choose the Search icon, enter Quote Status, and then choose the related link.
2. On the ribbon, choose New.
3. In the Code and Description fields, specify the code and description that will be used for the status.

Afterward, select one of the other fields on the line if you want the code filled in automatically under the specified circumstances.

**Non-billable lines**

Standard functionality typically prevents users from invoicing sales orders on which one or more line amount fields are empty.

However, as some of these lines might still need to be shown on invoices, for example, because of a goodwill policy or warranty claim, the Not Billable field has been added to all invoice lines. Choosing an option in this field will allow an invoice to go through and display the option value on printouts.

When you choose an option on a line, you can also decide whether to have the line amount field cleared or keep the amount and have a line discount of 100% entered automatically.

You can specify in setup when the system should check for blank line amount fields.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the FastTab, turn on the Check Not Billable on Release field to have the system check for non-billable lines when a document is released. If the toggle is turned off, lines will only be checked after the document is posted.

**Proforma invoice on order**

Some businesses, especially those exporting goods, need to provide shipping agents or customers with a proforma invoice prior to delivery. The invoice can be printed from every order available in the system.

Basically, a proforma invoice looks like a confirmation receipt, the difference being that the extended texts printed on invoices are also printed on proforma documents.

**Setup****Sales & Receivables Setup**

Proforma invoices typically require an invoice number. To set up a number series for them:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the Proforma Invoice FastTab, turn on the Get Invoice No. toggle.

**Report Selection – Sales**

You also need to set up the proforma invoice report on the Report Selection – Sales page.

**Printing**

To print a proforma invoice:

1. Open an order.
2. On the ribbon, choose Actions > Posting > Proforma Invoice.

The system then uses the series set up for invoices to assign a number to the proforma invoice, adding a P upfront. Despite the added P, the number can no longer be used for posting a standard invoice later.

**Print shipment or delivery date on order confirmation**

With this feature, you can specify if you want the Planned Shipment Date or the Planned Delivery Date printed on confirmation receipts.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the KUMAVISION FastTab, in the Print Planned Shipment or Delivery Date field, select the date that you want printed in this context.

**Duplicate orders**

Besides telling you about existing quotes and blanket orders, the system can also notify you of possible duplicates when you fill in a sales order.

**Setup****Sales & Receivables Setup**

You need to set up the feature before you can use it.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the General FastTab, in the Duplicate Orders Period field, enter how far back the system should go to search for the same item having been added to an order for the same customer. All periods are entered with a minus sign.

**Sales order types**

A notification is only shown if you're also using sales order types. As a result, you must select the Duplicate Orders field for types that you want to show the notification for.

**Check for duplicates**

After the feature has been set up and assigned to an order type, you can enter an order for a customer. You are notified if another order of this type contains a line on which the item has been entered within a certain period.

To identify the correct search period, the system will use the formula entered in setup and, as a starting point, the date shown in the Created On field on the new order.

**Drop shipment and special order extension**

As an addition to standard functionality, you can now create purchase orders for drop shipments and special deliveries directly in the sales area.

**Drop shipments**

You use drop shipments to have goods shipped by one of your suppliers to a customer without the items being delivered to you first. To make a drop shipment in sales:

1. Create a sales order and enter the items you want to sell on the lines.
2. Select the Drop Shipment field on lines that you want delivered to the customer without your direct involvement.
3. On the ribbon, choose Order > Drop Shipment > Purchase Order.



## Note

Instead of selecting the Drop Shipment field, you can also fill in the Purchasing Code field to choose a line for drop shipment. When you fill in this field, the Drop Shipment field is selected automatically.

Like in the standard app, the selected lines are then copied when you choose OK on the vendor selection page (on which the default vendor is filled in).

### Special orders

You can use special orders, for example, to receive customized items from a supplier for inspection by your quality management staff. To create a special order in sales:

1. Create a sales order and enter the items you want to sell on the lines.
2. Select the Special Order field for lines that you want delivered for inspection.
3. On the ribbon, choose Order > Special Order > Purchase Order.

## Note

Instead of selecting the Special Order field, you can also fill in the Purchasing Code field to choose a line for a special order. When you fill in this field, the Special Order field is selected automatically.

Like in the standard app, the selected lines are then copied when you choose OK on the vendor selection page (on which the default vendor is filled in).

### Process IDs

A shared document number, known as a document process ID in the system, can be helpful, for example, for tracking a sale from quote entry to (potential) return receipt.

This is especially true if the documents used during a transaction need to be connected across departments, such as when orders returned by customers must be linked to orders that will be returned to vendors.

### Setup

Before you can use document tracking, you need to set up a number series for process IDs.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the Number Series FastTab, in the Document Process ID Nos. field, select the number series that you want to use for this purpose.

### Workflow

A process ID is always copied from the header of the initial document to each header and line created from the document on quotes, orders, shipments, and invoices, as well as return orders (provided the Get Posted Document Lines to Reverse action was used to set up the order lines) and their archived versions.

For example, a process ID entered on a sales order is transferred to an invoice or shipment that you created from it when you post the order.

On the order, on the Line FastTab, you can then choose Line > Navigate Doc. Process ID on the ribbon to see the documents linked to the ID. You can also view individual documents by selecting the value in the No. of Entries field, or you can use the standard Navigate action to look for them.

When you copy a document or run the Get Posted Document Lines to Reverse function to create lines from a return order, the system will transfer the ID that is specified on the source document to all new lines. Afterward, you can find a line only by searching for the source document ID.

If you don't want this to occur, you must turn off the Copy Document Process ID toggle on the options dialog before you fill in document lines with the Copy Document function. As for return order lines, the ID is always copied from the original sales order.

#### **Salutation on documents**

In addition to formal and informal ways of addressing contacts with the help of standard functions, you can choose in the Sell-to Contact field a salutation for assignment to documents.

This feature was introduced because some contacts might not have their first names stored in the system, which means that only their last names without a salutation would be printed in the standard app.

#### **Setup**

Document-based salutations should be set up for all available salutation codes.

1. Choose the Search icon, enter Salutations, and then choose the related link.
2. Select the line for which you want to set up a salutation formula.
3. On the ribbon, choose Formulas.
4. For each language code, fill in the fields as necessary.

#### **Show salespeople on printouts**

In KUMAVISION base (BOOSTER), you can specify two salesperson codes on each customer card and sales document.

One or the other code might later show up on documents sent to customers. For example, the Salesperson Code field might contain the code of the sales rep whom you pay commissions to, whereas the Salesperson 2 Code might refer to the person whom the customer will be talking to.

In this context, the customer should see only the contact details of the second person. To specify the correct code on a document, you need to fill in the Print Salesperson field on the Commission FastTab there. Alternatively, as a global setting, you can fill in the Print Salesperson field on the KUMAVISION FastTab in Sales & Receivables Setup.

#### **Communication types (data privacy)**

On September 1, 2012, an amendment to Germany's data privacy act BDSG took effect, in many ways changing the way customer data is being handled.

The revisions, especially to section 28 of the act, mainly covered the use and processing of personal data for advertising purposes. Tailoring ad content to specific audiences therefore became an even more difficult challenge, as the success of any campaign now hinges entirely on the consent of those whom the ads are supposed to reach.

Additionally, the revisions might apply retroactively to data already collected. Even though non-personalized ads, such as ad papers that land in mailboxes, aren't affected by the new rules, many customers most likely have had to opt in to their data being processed.

What's more, consent given over the phone must be confirmed in writing. The people targeted by personalized ads must also be informed each time another company begins storing their information.

For the CRM functionality, this means:

Contacts need to consent to the use of personal data prior to their inclusion in marketing segments used for ad campaigns. This primarily affects campaigns that are distributed over email. Personalized ads in the mail are allowed if they haven't been objected to. Organizations, by contrast, can always be contacted through any method.

#### Communication types in contact management

On contact cards, you can set up the following types of communication on the Communication FastTab:

- Fax
- Email
- Phone
- Letter

You can select Yes or No in each field. Initially, all of them are blank. However, the fields must be filled in before you can assign contacts to a segment.

To see if or when (and by whom) the fields have been edited, choose Related > Related Information > Communication Log Entries on the ribbon.

When you fill in or change a communication type field, you'll see a text window where you need to enter a comment (such as "consent given during our phone conversation on") to ensure that changes aren't made by mistake and that you can quickly respond to inquiries about the permitted means of communicating with a contact.

To set all types to No for contacts stored in the system (as blank fields cannot be used anywhere), you can run the Initialize Communication Allowance batch job.

None of the settings you make, however, will prevent you from sending emails to contacts via the email symbol or create individual interactions. The system will only check if certain communication types are permitted when you set up interactions on the Logged Segments page.

#### Add contacts to a segment

After creating a segment, you must add a communication type before adding contacts. This ensures that only those contacts who have agreed to a certain means of communication will be part of the segment.

Before the segment is logged, the system will recheck if the specified types of communication haven't been objected to in the meantime.

You can specify a type by selecting an interaction template on the header of a segment. We recommend that you set up one interaction template per type of communication.

When you run the Add Contacts function on the ribbon, the system will check if a person who matches the search criteria can be contacted in the way that has been described in the segment. Only contacts for whom the entered type is allowed will be added.

#### Note

A subsequent change in communication types on the segment header doesn't affect the contacts who have already been added.

If you want to change a type completely, you must do so on the interaction template and pull that template onto the segment header to have the system perform another check.

#### Auto ship added sales lines

Besides specifying items that require warehouse handling, you often need to enter associated expenses, such as freight costs, on document lines. Service items are also being used in this context with increasing frequency.

Typically, with the release of an order, the sales department's job is done (as delivery of the order is handled in the warehouse and inventory area with the help of a one-stage or two-stage picking process and invoices are sent by the billing department on a periodic basis).

However, any item not posted through the standard warehouse and inventory functionality will not be shipped or billed in this scenario. Although sales staff could go ahead and post these items manually, that would mean spending an inordinate amount of time and effort on posting the related invoices as well.

For this reason, KUMAVISION base (Booster) provides you with the Auto Ship Added Sales Lines function. This feature automatically invoices all items on a sales order when you post warehouse and inventory documents for the order.

#### Setup

##### KUMAVISION Setup

You need to turn on the function before you can use it.

1. Choose the Search icon, enter KUMAVISION Setup, and then choose the related link.
2. On the Settings FastTab, turn on the Auto Ship Added Sales Lines toggle.

#### Note

You must activate this toggle to see the setup options available for additional line shipments.

**Add sales lines**

To set up a sales line:

1. Choose the Search icon, enter Added Sales Line Shipment Setup, and then choose the related link.
2. On the lines, fill in the fields as described in the following table.

Field	Description
Type	Specify the service item, resource, or G/L account that will be shipped with sales orders.
No.	Depending on what option you selected in the Type field, specify the number of an item, a resource, or a G/L account—unless you want the line to be valid for all items, resources, or G/L accounts, in which case you leave this field blank.
Description	Shows the description of the data record entered in the No. field.
Print Line	Select this field if the line should be printed on shipping notes, if applicable.
Shipping Time	Specify if the shipment of the line should be posted with the first or last delivery associated with the order.

**Workflow**

The auto ship feature is only used when you post a warehouse or an inventory document on a sales order. For drop shipments, for example, quantities must still be entered manually. If an order contains lines with and without warehouse and inventory items, the feature is run each time you post a warehouse or an inventory document. Non-warehouse items that have been shipped earlier can be posted manually.

Before a shipment is posted, the system checks if the document that you're working on contains a line stored in Added Sales Line Shipment Setup, such as a G/L account used for freight costs. If so, the Qty. to Ship field is filled in automatically.

This doesn't create a second shipping note, however; everything is still shown on the same note.

**Note**

For the items mentioned, except for items of type Service, no entries will be created when you ship them.

**Print alternative line totals**

With this feature, you can print separate totals on sales quotes.

Separate means that one total line will show the sum of all lines related to a bundle or subtotal, whereas a second number put in parentheses will display the total value of all lines marked as alternate lines.

To set up the feature:

1. Choose the Search icon, enter Company Information, and then choose the related link.
2. Turn on the Print Alternative Line Totals toggle. With the toggle turned off, the bundle or subtotal lines specified as alternative totals will not be printed when you print the quote document.

## Undo posted shipments

Sometimes, you might want to remove only a partial quantity from a shipment. To activate this feature:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the KUMAVISION FastTab, set the Warehouse Undo Type field from Default to Extended Undo.

To reverse a partial quantity on a document:

1. Choose the Search icon, enter Sales Shipments, and then choose the related link.
2. Open the relevant shipment and select the line you want to cancel.
3. On the ribbon, choose Change Cancellation Qty.
4. Fill in a quantity.
5. Choose Post to post the reversal document.

### Note

Only unbilled shipments can be reversed in this way.

### Note

If you're using KUMAVISION medtec365, transaction codes for cancellation lines will be determined when you run the Post function. For more information, click [here](#).

## Prices

### Quoting prices to customers

For retailers that sell products over the phone or online, providing quick price estimates is an indispensable part of doing business. With a new feature, you can now tell customers immediately whether certain items are in stock and at what price they can be shipped.

You can also save newly agreed-on prices and discounts in the system, show price histories, and log the quotes provided to a customer. To create a quote for an item:

1. Open a contact card.
2. On the ribbon, choose Related > New Price Quote (Customer).
3. Fill in the fields as described in the following table.

## Note

Price quotes are available for contacts assigned to the customer master. If a contact hasn't been turned into a customer, you need to take the standard route by creating a sales quote first. You'll be notified when you're trying to quote prices to contacts who aren't customers yet.

Field	Description
No.	Specify the number of the item for which a price should be quoted.
Variant Code	If the item has variants, specify the requested variant in this field.
Quantity	Enter for what item quantity the customer wants a price quoted.
Unit of Measure Code	Shows the item's base unit. You can enter another unit manually if necessary.
Date	Shows when the price was quoted. You can enter another date manually if necessary.
Currency Code	Shows the currency that is used by the customer. You can enter another currency manually if necessary.
Price Unit	Shows the item's price unit. You can enter another unit manually if necessary.
Responsibility Center Code	Shows the responsibility center assigned to the customer.
Sales Order Type	Here you can assign a sales order type to the price quote if a type is available.
Description Description 2	Shows the relevant descriptions from the item master.
Base Unit of Measure Code	Shows the base unit from the item master.
Unit Cost (LCY)	Shows the unit cost from the item master.
Minimum Profit %	Shows the minimum profit stored in the item master.
Location Code	Shows the location code assigned to the customer. You can change the location manually if necessary.
Unit Price	Shows the unit price for the item. You can enter another price manually if necessary.
Line Discount %	Shows the line discount granted for the item. You can enter another discount manually if necessary.



From the copied or manually entered price and discount data, the system then calculates a line amount (without VAT) that can be quoted to the customer.

Besides the Line Amount (LCY) Excl. VAT, you can also see the Cost (LCY), the Profit (LCY), and the Profit % on a price quote line. None of these fields can be edited, however.

The Comment, Minimum Quantity, Starting Date and Ending Date, on the other hand, can be changed. They're used when you copy prices and discounts from the price quote to the Sales Prices and Sales Discounts pages.

You can store a price or discount by choosing Save Sales Price or Discount on the ribbon. You can also have price data saved automatically when leaving the page by turning on the Auto Save on Exit toggle.

#### Price source

The Price Source field indicates where the Unit Price Excl. VAT or Unit Price (Price Unit) Excl. VAT value on a document line comes from:

Field	Description
Item Sales Price	The value was copied from an item card or the sales price master.
Blanket Order	The value was retrieved from a blanket sales order.
Manual	The value was entered manually.

#### Note

When copied to a sales order from a blanket agreement or entered manually, the unit price will—contrary to standard processes—not be updated when you enter a new quantity on the order.

For line discounts, the equivalent to this field is the Line Discount Source field.

#### Save prices or discounts

Often, the sheer number of item variations sold in the retail sector means that prices aren't maintained in advance but depend on quotes or orders.

The Save Price/Discount feature provides a convenient way for you to save for reuse the item prices that you agreed to on quotes or orders the next time that the items are needed. To save prices from a quote or an order:

1. Create a sales quote or order that contains the requested items.
2. Change the values in the Unit Price and Line Discount % line fields to what has been agreed on.
3. Select a line that you want to save a price or discount for.
4. On the Lines FastTab, on the ribbon, choose Line > Related Information > Price/Discount Calculation > Save Price/Discount.
5. Fill in the fields as described in the following tables.

## Note

You can select multiple lines before running this function; only lines of type Item will be saved. If none are among those selected, you will see a message and the process will be canceled.

For sales prices:

Field	Description
Save Price	<p>Select this field to save the unit price entered on the line.</p> <p>You need to turn on this toggle before you can fill in the other fields.</p>
Customer No.	Specify for what customer the price should be saved.
Starting Date	<p>Specify the date starting on which the price should apply.</p> <p>This field is filled in with the work date by default but can be changed manually.</p>
Ending Date	Specify when the price should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be considered the minimum quantity for applying the price to the item.
Copy Variant Code	<p>Turn on this toggle if you want the variants specified on the line to be sold at this sales amount per unit.</p> <p>With the toggle turned off, the unit price will be valid for all variants.</p>
Show New Price	Turn on this toggle if you want to see the new unit price on the Sales Prices page so that you can review and (potentially) revise the sales price for the item.

For line discounts:

Field	Description
Save Line Discount	Select this field to save the discount entered on the line. You need to turn on this toggle before you can fill in the other fields.
Customer No.	Specify for what customer the discount should be saved.
Starting Date	Specify the date starting on which the discount should apply. This field is filled in with the work date by default but can be changed manually.
Ending Date	Specify when the discount should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be considered the minimum quantity for applying the discount to the item.
Copy Variant Code	Turn on this toggle if you want the variants specified on the line to be bought at this discount per unit. With the toggle turned off, the line discount will be valid for all variants.
Show New Line Discount	Turn on this toggle if you want to see the new discount on the Sales Line Discounts page so that you can review and (potentially) revise the line discount for the item.

#### Sales conditions

Sales conditions provide another way for you to calculate a wide variety of prices or discounts on documents. For this purpose, a condition is linked to calculation lines on which you can enter the price or discount formulas that should be used within the system.

You can already specify calculation lines when you set up base data in the app and can later copy these lines along with a condition to one or more price or discount records.

#### Create a condition

To create a sales condition:

1. Choose the Search icon, enter Sales Condition List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following tables.

## General

Field	Description
No.	Exit the field to have the system assign a number from the series set up for this purpose or enter a number manually. The number must be unique.
Description	Specify a description for the condition.
Calculation Base	Specify what the condition is used for.
Currency Code	Specify the currency code that will be used for the condition.  You must fill in this field, as a sales condition is always used in combination with one and the same currency code.

## Lines

On the lines, you can specify how a price or a reduction in price will be calculated when the condition applies.

## Note

Prices and discounts will later be determined based on the order in which you fill in these lines.

Field	Description
Description	Specify a description for the condition line.
Operators	Specify the operator that will be used for the price or discount.  + adds the entered percentage or amount  - subtracts the entered percentage or amount
Value	Specify the percentage or amount that you want to add or subtract (depending on what operator you're using).
Calculation Method	Specify the type of price calculation that will be performed.  <b>Previous Result</b> Calculates a percentage based on the result of the previous condition line.  <b>Net Percentage</b> Determines a percentage by using the total direct unit cost or line discount.  <b>Currency Amount</b> Adds or subtracts the entered amount in the specified currency.

As an example, a condition might have been specified as follows:

Description	Operator	Value	Calculation Method
Trade show discount	-	10	Previous result
General markup	+	5	Previous result

In this example, a 10% discount needs to be deducted from the cost amount—which is EUR 3,040—before 5% is added to the resulting EUR 2,736 (EUR 3,040 - EUR 304) because the product has a markup.

By applying the condition, the item is then sold at EUR 2872.80. As another example, consider the following net percentage conditions:

Description	Operator	Value	Calculation Method
Trade show discount	-	10	Net percentage
General markup	+	5	Net percentage

In this example, a 10% discount needs to be deducted from the cost amount—which is EUR 3,040—before 5% is added to the resulting EUR 2,736 (EUR 3,040 - EUR 304) because the product has a markup.

Additionally, you can choose Translations on the Lines FastTab to have steps in the calculation translated and copied automatically to documents on which the specified language code is used.

Field	Description
Target Language	Choose a language for translation.
Value	Enter the translated description of the calculation step.

#### Note

Although sales conditions aren't typically printed on documents in KUMAVISION, the translations can be retrieved if required for a specific implementation project.

#### Link a condition to a price or line discount

You must fill in the Sales Condition No. field if you want to link a condition to a price or line discount. The currency that you've specified for the condition must match the currency entered for the price or discount.

For prices or discounts linked to conditions, the Unit Price or Discount % field will always be blank in the item master. The values in these fields will be filled in only when you enter a condition-based price or discount on a document line.

#### Use a condition to find the best price or line discount

When trying to determine the best prices or reductions in prices, the system uses condition-based prices or line discounts in the same way as standard functionality; a condition isn't a factor in deciding whether a certain

price or line discount can be entered on a sales document. The only difference to standard functions is that sales prices or line discounts linked to conditions are calculated in real time.

#### Note

The standard business logic for calculating sales prices or line discounts hasn't changed.

#### Get Sales Price

The standard Get Sales Price action can be used to copy the sales prices that are available for a document to selected document lines. With this action, you can bypass the pricing function that is run when you enter an item number or a quantity on a line.

The same is true for the Get Line Disc. action. However, this function now also calculates for each line that is assigned to a sales condition the discount based on price entries that include the condition (instead of retrieving a value of 0 from the item master).

Sometimes, the currency and unit of measure specified for the document line and price record might differ when you're trying to calculate the best price for an item. The following fields were therefore added to the Sales Prices page:

- Unit of Measure (Calc.)
- Currency Code (Calc.)
- Unit Price (Calc.)

The first two fields contain the values that were entered on the document line from which the calculation was run. The third field shows the price in the unit and currency specified on the line—unlike the standard Unit Price field, which shows prices in the currency and unit stored in the sales price master. You can select the Assist button next to the Sales Condition No. field to see in what way a condition has been used to determine sales prices or discounts.

#### Copy a condition to a calculation line

When you specify a price or discount on a sales line, the condition lines that might be linked to either will be copied to a sales line subpage. To see the subpage:

- Open a sales order.
- Go to the Lines FastTab and select a line.
- On the ribbon, choose Line > Price/Discount Calculation > Price or Line Discount.

You can change, delete, or insert lines here if necessary. Alternatively, you can set up a blank calculation sheet and use a ribbon function to copy values from condition lines.

Edits are made on this buffer page so that you can simulate their impact first and discard them if necessary; only changes that are accepted by you will be copied to the relevant sales line (and saved for when you want to reopen the page to make revisions).

When you exit the page, the Price Calculation or Discount Calculation field will be selected on the associated sales line depending on which kind of calculation has been changed.

## Note

Both checkboxes are hidden by default.

### Copy calculation lines

When you post or archive a sales order, all calculation lines that have been filled in for a condition-based price or discount on the order are copied alongside other data to the posted or archived document. However, you can still open the lines from there (albeit in read-only format).

## Note

Exceptions are shipment and return receipt lines, as neither contain sales price fields.

### Price units

The following formula is used in the standard app to determine the price on a document line:

**Line Amount Excl. VAT = Quantity \* Unit Price \* [(100 - Line Discount %) / 100]**

But there are other formulas. One of them provides a method for calculating a multiple of an amount by using a price unit. Typically, this method is preferred when dealing with items that are large in number but low in price (like screws).

### Example 1

You enter Piece as the base unit on an item card and a document line.

You can then state a price on the line in multiples of 1000, that is, the price unit (or price per unit) equals the sales price for 1000 pieces.

### Example 2

You enter Piece as the base unit of measure on an item card and Package on a purchase line. A package equals 50 pieces, as specified on the Item Units of Measure page.

You can then state a price on the line in multiples of 50, that is, the price unit (or price per unit) represents the sales price for 50 packages.

You can already specify price units that you and your customers agreed on when you set up basic app data.

## Note

Price units aren't used to convert one unit of measure into another. This is because fixed conversion rates cannot be entered for item units of measure.

For example, you might want to use the unit Piece and enter an item on a document line in pieces. However, the price for the line is determined based on weight (weight-dependent document pricing). To calculate this price, you will need another method that requires a separate explanation (outside the scope of this article).

### Item price groups

For items of the same type, you can specify a price per category. For example, a group of paperbacks might cost the same because of the size and material used (regardless of who authored each book).

You can set up prices for item groups in the same way as for individual items. The feature supports entering agreements:

- For sales types
- For campaigns
- In customer hierarchies
- For sales conditions
- According to quantity, delivery date, and currency
- Based on units of measure, in the following way:

You can store the price (for a group) in a certain unit of measure on a document line provided the unit has been assigned to the relevant group beforehand.

#### Note

Item price groups cannot be used to store prices for variants. If variants are available for an item assigned to a price group, the group price will apply to all variants.

To set up a price group for an item:

1. Choose the Search icon, enter Item Price Groups, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a meaningful abbreviation for the group.
Description	Specify a description for the group.
Sales	Turn on this toggle if the group should be used in sales.
Purchases	Turn on this toggle if the group should be used in purchasing.

After creating a group, you can choose Related > Item Price Group > Sales Prices on the ribbon to enter prices for the group. This process is the same as for prices maintained per customer or customer group in the standard app.

#### Block prices

What values are shown in the Unit Price and Line Discount % fields on document lines depends on the agreements you have in place with customers.

You can specify a wide variety of sales price and discount agreements in the system, including agreements made with an individual customer, a group of customers, or all customers, as well as agreements covering single products or an entire group of items.

When you add an item to a document, the system will compare the value that you enter in the Quantity field on a line against the minimum quantities set for the associated customer in the item master to calculate the best sales price and discount available.



In short, the standard app calculates prices and discounts separately on each line of a document. Sometimes, however, you might need to enter one and the same item on multiple lines, for example, because products must be delivered in batches on different dates.

For this reason, standard functionality has been extended so that prices and discounts can now be determined based on the total quantity entered for an item on all lines of a document. For a line to be included in the total, however, the values in the following fields must also match those on the other lines:

- Type and No.
- Variant Code
- Unit of Measure Code and Qty. per Unit
- Allow Line Disc. and Allow Invoice Disc.

Lines on which the following fields aren't blank will not be included under any circumstances:

- Shipment No. or Return Receipt No. (concerns invoice or credit memo lines created from a blanket sales order)
- Blanket Order No. (concerns order lines that refer to a blanket order line)
- Alternate

To calculate block prices:

1. Open a sales document.
2. On the ribbon, choose Update Block Pricing. Block prices are then calculated when you release the document.

If you manually change the Unit Price or Line Discount % field on a document line, the system will not update the value in either field when you run the function, and the line will not become part of the quantity for calculation.

The same will happen with document lines that are related to blanket order or framework lines, with alternate lines, and when you invoice posted shipments or returns.

You can also deactivate the block pricing feature on individual documents by turning off the Price/Disc. Min. Qty. per Line toggle on the relevant document header. This might be necessary if you want to show a customer how a block price or discount is calculated on a quote.

#### Note

For this feature to work, you need to have selected Extended Pricing in the Pricing Method field in Sales & Receivables Setup and turned off the Price/Disc. Min. Qty. per Line toggle there.

#### Pricing by order type

In certain situations, you might need differing (price and discount) conditions considering the purpose of an item, such as when it is sold to a new customer versus when it is required for repairs.

For this reason, you can now assign a sales order type to sales prices and line discounts on item cards. Either is then used by the pricing functionality only if you enter the relevant order type on the header of a sales document.

**Customer resource prices**

As another option, you can now assign customer-specific prices to resources on customer or resource cards.

Resource prices can be created for a specific customer, a customer group, or all customers. They can also be linked to an individual resource or a resource group and, like item prices, can be given a starting and an ending date.

The business logic that undergirds best price and price sequence calculations is also used to determine resource prices.

**Note**

Prices for resource work aren't incorporated into hierarchy-based pricing.

**Save prices or discounts**

Often, the sheer number of item variations sold in the retail sector means that prices aren't maintained in advance but depend on quotes or orders.

The Save Price/Discount feature provides a convenient way for you to save for reuse the item prices that you agreed to on quotes or orders the next time that the items are needed. To save prices from a quote or an order:

1. Create a sales quote or order that contains the requested items.
2. Change the values in the Unit Price and Line Discount % line fields to what has been agreed on.
3. Select a line that you want to save a price or discount for.
4. On the Lines FastTab, on the ribbon, choose Line > Related Information > Price/Discount Calculation > Save Price/Discount.
5. Fill in the fields as described in the following tables.

**Note**

You can select multiple lines before running this function; only lines of type Item will be saved. If none are among those selected, you will see a message and the process will be canceled.

For sales prices:

Field	Description
Save Price	<p>Select this field to save the unit price entered on the line.</p> <p>You need to turn on this toggle before you can fill in the other fields.</p>
Customer No.	Specify for what customer the price should be saved.
Starting Date	<p>Specify the date starting on which the price should apply.</p> <p>This field is filled in with the work date by default but can be changed manually.</p>
Ending Date	Specify when the price should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be considered the minimum quantity for applying the price to the item.
Copy Variant Code	<p>Turn on this toggle if you want the variants specified on the line to be sold at this sales amount per unit.</p> <p>With the toggle turned off, the unit price will be valid for all variants.</p>
Show New Price	Turn on this toggle if you want to see the new unit price on the Sales Prices page so that you can review and (potentially) revise the sales price for the item.

For line discounts:

Field	Description
Save Line Discount	Select this field to save the discount entered on the line. You need to turn on this toggle before you can fill in the other fields.
Customer No.	Specify for what customer the discount should be saved.
Starting Date	Specify the date starting on which the discount should apply. This field is filled in with the work date by default but can be changed manually.
Ending Date	Specify when the discount should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be considered the minimum quantity for applying the discount to the item.
Copy Variant Code	Turn on this toggle if you want the variants specified on the line to be bought at this discount per unit. With the toggle turned off, the line discount will be valid for all variants.
Show New Line Discount	Turn on this toggle if you want to see the new discount on the Sales Line Discounts page so that you can review and (potentially) revise the line discount for the item.

Afterward, choose OK to exit the page.

#### Best price calculations

Microsoft Dynamics 365 Business Central will always calculate the best price on sales documents. In this context, the best price is the lowest unit price with the highest line discount allowed on a given date. Sometimes, this means that a higher unit price with a line discount might beat out a lower price that comes with no discount.

Certain customers, however, are typically charged prices slightly above those calculated by the system. For this reason, you can now turn off the best price option for everyone or only certain customers.

Turning off the feature corresponds to hierarchical pricing.

#### General setup

To change the pricing rules:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the General FastTab, in the Best Price Calculation field, select if and to what extent the best price option should be used.

Option	Description
Always	The system should always calculate the best possible price.
Never	Best price calculation should not take place at all.
See Customer	Whether the best price for an item is calculated will depend on the Best Price setting on the relevant customer card.

#### Customer-specific setup

If you selected See Customer in Sales & Receivables Setup, the No Best Price toggle must be turned off for each customer for whom you want to calculate the best possible sales price.

With the No Best Price toggle for a customer turned on, the system will always use a price that is specific to the customer, even if that price is higher than the standard price. The toggle then also turns on automatically on each document created for this customer.

You can still change the setting on a sales document if you selected Always or See Customer in the Best Price Calculation field in setup (if you set it to Never, the field will be grayed out). This way, you can offer the lowest prices also to a customer typically not included in best price calculations, for example.

#### Pricing behavior

To account for a variety of item quantities, customers, and customer groups, you can enter different (but equally valid) prices for an item. If the best price calculation is used, the system then retrieves these price records to find the lowest possible price at which the item can be sold.

#### Pricing date

The date used to calculate prices on quotes, orders, and return orders is the order date. On credit memos and invoices, it's the posting date.

#### Price sequences

With the Best Price toggle turned off, the system will retrieve a price based on the following field values, each listed in order of priority:

**1. Hierarchy Level**

Lowest to highest. The value in this field, however, is only used if you're working with hierarchies in the system, for example, when selling to members of an association.

**2. Sales Type**

Campaign, Customer, Customer Price Group, All Customers

**3. Sales Order Type**

[filled in], [not filled in]

**4. Type**

Item, Item Price Group

**5. Variant Code**

[code specified], [no variant]. The value in this field, however, is only relevant if you're working with variant codes in the system.

**6. Unit of Measure Code**

[filled in], [not filled in]

**7. Currency Code**

[code], [no code]. The value in this field, however, is only relevant if the customer uses a foreign currency.

**8. Responsibility Center Code**

[filled in], [not filled in]

**9. Minimum Quantity**

**10. Starting Date**

[newest], [older], [not filled in]

When you enter a campaign created for a customer on a sales document, the customer's other (active) campaigns will be disregarded. The prices specified for this campaign have a higher priority than all other types of prices.

If no campaign is specified, every campaign linked to the customer or contact will be included in the price calculation (when a hierarchy is available: if it was created for the main customer in a hierarchy).

Initially, the best price is determined only for the customer whom you entered on the document. If the customer is linked to another customer in a hierarchy, the latter will be ignored by the system for the time being.

However, if no valid price is found for the customer, the system will search the next level of the hierarchy. You'll see an error message if the customer has been linked to multiple other customers on the same level.

The number of hierarchy levels can be unlimited. If no valid price can be found for the customer on any level, the system will go through the available customer price groups based on the same logic. Within a group, a price for an item variant has a higher priority than a general price for an item—provided the sales and item type match.

The same check is later repeated for currencies. In this context, a price with a currency is prioritized over prices for which no currency has been set up.

As for the minimum quantity, the highest quantity threshold within the validity period will be used to retrieve the price.

Lastly, the system will check the starting date, with a more recent price given a higher priority than older entries. Essentially, only prices available on the order date can be retrieved.

## Discount calculations

Discounts are determined in the exact same way as prices.

### Pricing by responsibility center

In addition to standard functionality, you can now also assign prices and line discounts to different responsibility centers.

To be able to use this feature, you only need to fill in the Responsibility Center field for a unit price or line discount record.

### Pricing by hierarchy

Another new feature will include the prices and discounts stored at a higher level of a customer hierarchy (see Create Hierarchies) to determine the lowest price with the highest discount for an item that you want to sell to a customer. However, before you can use this feature, you must set it up first:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. In the Hierarchy Type Code Pricing field, select the type of hierarchy that you want to use for extended pricing.

Customers linked to this hierarchy are then included in calculating the best price and discount on a document line based on multiple price-related factors, such as the validity period, minimum quantity, unit of measure, currency, and responsibility center.

At which level of a customer hierarchy a value is determined isn't relevant in this situation, as prices or discounts might be calculated, for example, for customers and item price groups at multiple levels at the same time.

### Price worksheets

## Price worksheet extension

The Extended Sales Price Worksheet page includes the following fields for when you want to calculate or save prices:

- Price Unit
- Current Unit Price (Price Unit)
- New Unit Price (Price Unit)
- Responsibility Center
- Sales Order Type

**Prices (Version 20.0 or higher)****New pricing experience**

The new pricing features must first be turned on.

1. Choose the Search icon, enter Feature Management, and then choose the related link.
2. Go to the line that says Feature Update: New Sales Pricing Experience and set the Enabled For field to All Users.

**Note**

If you're using the older pricing functionality, do not turn on this feature. Once turned on, the new feature cannot be turned off again.

**Quoting prices to customers**

For retailers that sell products over the phone or online, providing quick price estimates is an indispensable part of doing business. With a new feature, you can now tell customers immediately whether certain items are in stock and at what price they can be shipped.

You can also save newly agreed-on prices and discounts in the system, show price histories, and log the quotes provided to a customer. To create a quote for an item:

1. Open a contact card.
2. On the ribbon, choose Related > New Price Quote (Customer).
3. Fill in the fields as described in the following table.



## Note

Price quotes are available for contacts assigned to the customer master. If a contact hasn't been turned into a customer, you need to take the standard route by creating a sales quote first. You'll be notified when you're trying to quote prices to contacts who aren't customers yet.

<b>Field</b>	<b>Description</b>
No.	Specify the number of the item for which a price should be quoted.
Variant Code	If the item has variants, specify the requested variant in this field.
Quantity	Enter for what item quantity the customer wants a price quoted.
Unit of Measure Code	Shows the item's base unit. You can enter another unit manually if necessary.
Date	Shows when the price was quoted. You can enter another date manually if necessary.
Currency Code	Shows the currency that is used by the customer. You can enter another currency manually if necessary.
Price Unit	Shows the item's price unit. You can enter another unit manually if necessary.
Responsibility Center Code	Shows the responsibility center assigned to the customer.
Sales Order Type	Here you can assign a sales order type to the price quote if a type is available.
Description Description 2	Shows the relevant descriptions from the item master.
Base Unit of Measure Code	Shows the base unit from the item master.
Unit Cost (LCY)	Shows the unit cost from the item master.
Minimum Profit %	Shows the minimum profit stored in the item master.
Location Code	Shows the location code assigned to the customer. You can change the location manually if necessary.
Unit Price	Shows the unit price for the item. You can enter another price manually if necessary.
Line Discount %	Shows the line discount granted for the item. You can enter another discount manually if necessary.
Line Discount Amount	Shows the discount amount calculated based on the Line Discount % field.

Field	Description
Line Amount Excl. VAT	Shows the net amount of the sales line.
Minimum Quantity	Specify the minimum quantity to be sold.  You need this field if the prices that you quote to the customer should be saved in a price list.
Starting Date Ending Date	Specify in what period the price should apply (as agreed on with the customer).  You need these fields if the prices that you quote should be saved in a price list.
Allow Line Disc.	Turn on this toggle if you want to use an available line discount on the item line.
Allow Invoice Disc.	Turn on this toggle if you want to use an available invoice discount on the item line.
Pricing Method	Specify the pricing method that should be used.  <b>Lowest price</b> Standard sales pricing  <b>KUMAVISION base Lowest price</b> Best price calculation  <b>KUMAVISION base Price Sequences</b> No best price calculation
Price List Code	Select a price list.  You must fill in this field if you want to save sales prices.
Discount Price List Code	Specify a discount price list.  You must fill in this field if you want to save sales prices.
Comments	Indicates whether comments have been entered for this line.
Auto Save on Exit	With the toggle turned on, prices are saved automatically.

From the copied or manually entered price and discount data, the system then calculates a line amount (without VAT) that can be quoted to the customer.

Besides the Line Amount (LCY) Excl. VAT, you can also see the Cost (LCY), the Profit (LCY), and the Profit % on a price quote line. None of these fields can be edited, however.

The Comment, Minimum Quantity, Starting Date and Ending Date, on the other hand, can be changed. They're used when you copy prices and discounts from the price quote to the Sales Price Lists page.

You can store a price or discount by choosing Save Sales Price or Discount on the ribbon. You can also have price data saved automatically when leaving the page by turning on the Auto Save on Exit toggle.

When you run either function, the system will also check for duplicate records. If a combination of customer, item, and variant already exists in a certain price list, you'll be notified so that you can remove the lines from that list.

Price source

The Price Source field indicates where the Unit Price Excl. VAT or Unit Price (Price Unit) Excl. VAT value on a document line comes from:

Field	Description
Item Sales Price	The value was copied from an item card or the sales price master.
Blanket Order	The value was retrieved from a blanket sales order.
Manual	The value was entered manually.

Note

When copied to a sales order from a blanket agreement or entered manually, the unit price will—contrary to standard processes—not be updated when you enter a new quantity on the order.

For line discounts, the equivalent to this field is the Line Discount Source field.

Sales conditions

Sales conditions provide another way for you to calculate a wide variety of prices or discounts on documents. For this purpose, a condition is linked to calculation lines on which you can enter the price or discount formulas that should be used within the system.

You can already specify calculation lines when you set up base data in the app and can later copy these lines along with a condition to one or more price or discount records.

Create a condition

To create a sales condition:

1. Choose the Search icon, enter Sales Condition List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following tables.

## General

Field	Description
No.	Exit the field to have the system assign a number from the series set up for this purpose or enter a number manually. The number must be unique.
Description	Specify a description for the condition.
Calculation Base	Specify what the condition is used for.
Currency Code	Specify the currency code that will be used for the condition.  You must fill in this field, as a sales condition is always used in combination with one and the same currency code.

## Lines

On the lines, you can specify how a price or a reduction in price will be calculated when the condition applies.

## Note

Prices and discounts will later be determined based on the order in which you fill in these lines.

Field	Description
Description	Specify a description for the condition line.
Operators	Specify the operator that will be used for the price or discount.  + adds the entered percentage or amount  - subtracts the entered percentage or amount
Value	Specify the percentage or amount that you want to add or subtract (depending on what operator you're using).
Calculation Method	Specify the type of price calculation that will be performed.  <b>Previous Result</b> Calculates a percentage based on the result of the previous condition line.  <b>Net Percentage</b> Determines a percentage by using the total direct unit cost or line discount.  <b>Currency Amount</b> Adds or subtracts the entered amount in the specified currency.

As an example, a condition might have been specified as follows:

Description	Operator	Value	Calculation Method
Trade show discount	-	10	Previous result
General markup	+	5	Previous result

In this example, a 10% discount needs to be deducted from the cost amount—which is EUR 3,040—before 5% is added to the resulting EUR 2,736 (EUR 3,040 - EUR 304) because the product has a markup.

By applying the condition, the item is then sold at EUR 2872.80. As another example, consider the following net percentage conditions:

Description	Operator	Value	Calculation Method
Trade show discount	-	10	Net percentage
General markup	+	5	Net percentage

Here, a 10% discount needs to be deducted from the cost amount before a 5% markup based on the original amount is added to the total.

In this situation, the item can be sold at EUR 2888.00 (with EUR 2,736 left after applying the basic discount but EUR 136.80 added at the end).

Additionally, you can choose Translations on the Lines FastTab to have steps in the calculation translated and copied automatically to documents on which the specified language code is used.

Field	Description
Target Language	Choose a language for translation.
Value	Enter the translated description of the calculation step.

#### Note

Although sales conditions aren't typically printed on documents in KUMAVISION, the translations can be retrieved if required for a specific implementation project.

#### Link a condition to a price or line discount

You must fill in the Price Condition No. field on a price list if you want to link a condition to a price or line discount. The currency that you've specified for the condition must match the currency entered for the price or discount.

For prices or discounts linked to conditions, the Unit Price or Discount % field will always be blank in the price list. The values in these fields will be filled in only when you enter a condition-based price or discount on a document line.

#### Use a condition to find the best price or line discount

When trying to determine the best prices or reductions in prices, the system uses condition-based prices or line discounts in the same way as standard functionality; a condition isn't a factor in deciding whether a certain price or line discount can be entered on a sales document. The only difference to standard functions is that sales prices or line discounts linked to conditions are calculated in real time.

## Get Sales Price

The standard Get Sales Price action can be used to copy the sales prices that are available for a document from a price list to selected document lines. With this action, you can bypass the pricing function that is run when you enter an item number or a quantity on a line.

The same is true for the Get Line Disc. action. However, this function now also calculates for each line that is assigned to a sales condition the discount based on price lists that include the condition (instead of retrieving a value of 0 from the item master).

Sometimes, the currency and unit of measure specified for the document line and price record might differ when you're trying to calculate the best price for an item. The following fields were thus added to the Sales Price Lists page:

- Unit of Measure (Calc.)
- Currency Code (Calc.)
- Unit Price (Calc.)

The first two fields contain the values that were entered on the document line from which the calculation was run. The third field shows the price in the unit and currency specified on the line—unlike the standard Unit Price field, which shows prices in the currency and unit stored in the price list master.

You can select the Assist button next to the Price Condition No. field to see in what way a condition has been used to determine sales prices or discounts.

## Price units

The following formula is used in the standard app to determine the price on a document line:

$$\text{Line Amount Excl. VAT} = \text{Quantity} * \text{Unit Price} * [(100 - \text{Line Discount } \%) / 100]$$

But there are other formulas. One of them provides a method for calculating a multiple of an amount by using a price unit. Typically, this method is preferred when dealing with items that are large in number but low in price (like screws).

### Example 1

You enter Piece as the base unit on an item card and a document line.

You can then state a price on the line in multiples of 1000, that is, the price unit (or price per unit) equals the sales price for 1000 pieces.

### Example 2

You enter Piece as the base unit of measure on an item card and Package on a purchase line. A package equals 50 pieces, as specified on the Item Units of Measure page.

You can then state a price on the line in multiples of 50, that is, the price unit (or price per unit) represents the sales price for 50 packages.

You can already specify price units that you and your customers agreed on when you set up basic app data.

#### Note

Price units aren't used to convert one unit of measure into another. This is because fixed conversion rates cannot be entered for item units of measure.

For example, you might want to use the unit Piece and enter an item on a document line in pieces. However, the price for the line is determined based on weight (weight-dependent document pricing). To calculate this price, you will need another method that requires a separate explanation (outside the scope of this article).

#### Item price groups

For items of the same type, you can assign sales prices per category. For example, a group of paperbacks might cost the same because of the size and material used (regardless of who authored each book).

You can set up prices for item groups in the same way as for individual items. The feature supports entering agreements:

- For sales types
- For campaigns
- In customer hierarchies
- For sales conditions
- According to quantity, delivery date, and currency
- Based on units of measure, in the following way:

You can store the price (for a group) in a certain unit of measure on a document line provided the unit has been assigned to the relevant group beforehand.

#### Note

Item price groups cannot be used to store prices for variants. If variants are available for an item assigned to a price group, the group price will apply to all variants.

To set up a price group for an item:

1. Choose the Search icon, enter Item Price Groups, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a meaningful abbreviation for the group.
Description	Specify a description for the group.
Sales	Turn on this toggle if the group should be used in sales.
Purchases	Turn on this toggle if the group should be used in purchasing.



After creating a group, you can choose Prices > Sales Prices on the ribbon to enter prices for the group. This process is the same as for prices maintained in the standard app.

#### Block prices

What values are shown in the Unit Price and Line Discount % fields on document lines depends on the agreements you have in place with customers.

You can specify a wide variety of sales price and discount agreements in the system, including agreements made with an individual customer, a group of customers, or all customers, as well as agreements covering single products or an entire group of items.

When you add an item to a document, the system will compare the value that you enter in the Quantity field on a line against the minimum quantities set for the associated customer in the item master to calculate the best sales price and discount available.

In short, the standard app calculates prices and discounts separately on each line of a document. Sometimes, however, you might need to enter one and the same item on multiple lines, for example, because products must be delivered in batches on different dates.

For this reason, standard functionality has been extended so that prices and discounts can now be determined based on the total quantity entered for an item on all lines of a document. For a line to be included in the total, however, the values in the following fields must also match those on the other lines:

- Type and No.
- Variant Code
- Unit of Measure Code and Qty. per Unit
- Allow Line Disc. and Allow Invoice Disc.

Lines on which the following fields aren't blank will not be included under any circumstances:

- Shipment No. or Return Receipt No. (concerns invoice or credit memo lines created from a blanket sales order)
- Blanket Order No. (concerns order lines that refer to a blanket order line)
- Alternate

To calculate block prices:

1. Open a sales document.
2. On the ribbon, choose Update Block Pricing. Block prices are then calculated when you release the document.

If you manually change the Unit Price or Line Discount % field on a document line, the system will not update the value in either field when you run the function, and the line will not become part of the quantity for calculation.

The same will happen with document lines that are related to blanket order or framework lines, with alternate lines, and when you invoice posted shipments or returns.

You can also deactivate the block pricing feature on individual documents by turning off the Price/Disc. Min. Qty. per Line toggle on the relevant document header. This might be necessary if you want to show a customer how a block price or discount is calculated on a quote.

## Note

For this feature to work, you need to have selected the KUMAVISION Lowest Price or KUMAVISION Price Sequences option in the Pricing Method field in Sales & Receivables Setup and turned on the Price/Disc. Min. Qty. per Line toggle there.

### Pricing by order type

In certain situations, you might need differing (price and discount) conditions considering the purpose of an item, such as when it is sold to a new customer versus when it is required for repairs.

For this reason, you can now assign a sales order type to sales prices and line discounts on item cards. Either is then used by the pricing functionality only if you enter the relevant order type on the header of a sales document.

### Customer resource prices

As another option, you can now assign customer-specific prices to resources on customer or resource cards.

Resource prices can be created for a specific customer, a customer group, or all customers. They can also be linked to an individual resource or a resource group and, like item prices, can be given a starting and an ending date.

The business logic that undergirds best price and price sequence calculations is also used to determine resource prices.

## Note

Prices for resource work aren't incorporated into hierarchy-based pricing.

### Save prices or discounts

Often, the sheer number of item variations sold in the retail sector means that prices aren't maintained in advance but depend on quotes or orders.

The Save Price/Discount feature provides a convenient way for you to save for reuse the item prices that you agreed to on quotes or orders the next time that the items are needed. To save prices from a quote or an order:

1. Create a sales quote or order that contains the requested items.
2. Change the values in the Unit Price and Line Discount % line fields to what has been agreed on.
3. Select a line that you want to save a price or discount for.
4. On the Lines FastTab, on the ribbon, choose Line > Related Information > Price/Discount Calculation > Save Price/Discount.
5. Fill in the fields as described in the following tables.

## Note

You can select multiple lines before running this function; only lines of type Item will be saved. If none are among those selected, you will see a message and the process will be canceled.

For sales prices:

Field	Description
Save Price	<p>Select this field to save the unit price entered on the line.</p> <p>You need to turn on this toggle before you can fill in the other fields.</p>
Price List Code	<p>Select a price list.</p> <p>You must fill in this field if you want to save sales prices.</p>
Customer No.	Specify for what customer the price should be saved.
Starting Date	<p>Specify the date starting on which the price should apply.</p> <p>This field is filled in with the work date by default but can be changed manually.</p>
Ending Date	Specify when the price should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be copied as the minimum quantity for the price to a price list.
Copy Variant Code	<p>Turn on this toggle if you want the variants specified on the line to be copied to a price list as being sold at this amount per unit.</p> <p>With the toggle turned off, the unit price will be valid for all variants.</p>
Show New Price	Turn on this toggle if you want to see the new unit price on the Price List Lines page so that you can review and (potentially) revise the sales price for the item.

For line discounts:

Field	Description
Save Line Discount	Select this field to save the discount entered on the line. You need to turn on this toggle before you can fill in the other fields.
Customer No.	Specify for what customer the discount should be saved.
Starting Date	Specify the date starting on which the discount should apply. This field is filled in with the work date by default but can be changed manually.
Ending Date	Specify when the discount should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be copied as the minimum quantity for the discount to a price list.
Copy Variant Code	Turn on this toggle if you want the variants specified on the line to be copied to a price list as variants bought at this discount per unit. With the toggle turned off, the line discount will be valid for all variants.
Show New Line Discount	Turn on this toggle if you want to see the new discount on the Price List Lines page so that you can review and (potentially) revise the line discount for the item.

Afterward, choose OK to exit the page.

#### Close prices or discounts

The system retrieves unit prices and line discounts based on the starting and ending dates entered for them on a price list.

KUMAVISION base (BOOSTER) always uses the most recent price or discount for an item or item group provided all other factors with an impact on sales remain the same.

However, you can also have an ending date assigned automatically when you create another price or discount for which you enter a later starting date. This might make it easier for users to understand changes in prices and discounts. To have a date assigned automatically:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the Prices FastTab, turn on the Close Prices and Discounts toggle.

If you then enter a price or discount for the same item-price or item-discount combination but enter a later starting date, the system will fill in the Ending Date field for the previously valid entry with a date set to one day before the new starting date.

## Note

A price or discount can only be closed if the entry replacing it doesn't have an ending date.

### Best price calculations

Microsoft Dynamics 365 Business Central will always calculate the best price on sales documents. In this context, the best price is the lowest unit price with the highest line discount allowed on a given date.

Sales prices and discounts are entered on price lists independently from each other. This means that a sales line might contain the lowest price of one price list line and the highest discount of another.

Certain customers, however, are typically charged prices slightly above those calculated by the system. For this reason, you can now turn off the best price option for everyone or only certain customers.

Turning off the feature corresponds to hierarchical pricing.

### General setup

To change the pricing rules:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the General FastTab, in the Pricing Method field, select if and to what extent the best price option should be used.

Option	Description
(blank)	The system should always calculate the best possible price.
KUMAVISION base Price Sequences	Best price calculation should not take place at all.
KUMAVISION base Lowest price	If the best price for an item is calculated will depend on whether you've turned on the Best Price toggle on the relevant customer card.

### Customer-specific setup

You can also specify a price calculation method for a customer by filling in the Pricing Method field on the relevant customer card. The option you select then replaces the setting you made in Sales & Receivables Setup.

With the No Best Price toggle for a customer turned on, the system will always use a price that is specific to the customer, even if that price is higher than the standard price. The pricing method is also copied automatically to the Invoice Details FastTab on each document created for this customer.

The correct calculation method is determined in the following order of priority:

1. Manual setting on the sales document
2. Customer card
3. Customer price group
4. Sales & Receivables Setup

## Pricing behavior

To account for a variety of item quantities, customers, and customer groups, you can enter different (but equally valid) prices for an item. If the best price calculation is used, the system then retrieves these price records to find the lowest possible price at which the item can be sold.

## Pricing date

The date used to calculate prices on quotes, orders, and return orders is the order date. On credit memos and invoices, it's the posting date.

## Price sequences

With the Best Price toggle turned off, the system will retrieve a price based on the following field values, each listed in order of priority:

### 1. **Hierarchy Level**

Lowest to highest. The value in this field, however, is only used if you're working with hierarchies in the system, for example, when selling to members of an association.

### 2. **Sales Type**

Campaign, Customer, Customer Price Group, All Customers

### 3. **Sales Order Type**

[filled in], [not filled in]

### 4. **Type**

Item, Item Price Group

### 5. **Variant Code**

[code specified], [no variant]. The value in this field, however, is only relevant if you're working with variant codes in the system.

### 6. **Unit of Measure Code**

[filled in], [not filled in]

### 7. **Currency Code**

[code], [no code]. The value in this field, however, is only relevant if the customer uses a foreign currency.

### 8. **Responsibility Center Code**

[filled in], [not filled in]

### 9. **Minimum Quantity**

### 10. **Starting Date**

[newest], [older], [not filled in]

When you enter a campaign created for a customer on a sales document, the customer's other (active) campaigns will be disregarded. The prices specified for this campaign have a higher priority than all other types of prices.

If no campaign is specified, every campaign linked to the customer or contact will be included in the price calculation (when a hierarchy is available: if it was created for the main customer in a hierarchy).

Initially, the best price is determined only for the customer whom you entered on the document. If the customer is linked to another customer in a hierarchy, the latter will be ignored by the system for the time being.

However, if no valid price is found for the customer, the system will search the next level of the hierarchy. You'll see an error message if the customer has been linked to multiple other customers on the same level.

The number of hierarchy levels can be unlimited. If no valid price can be found for the customer on any level, the system will go through the available customer price groups based on the same logic. Within a group, a price for an item variant has a higher priority than a general price for an item—provided the sales and item type match.

The same check is later repeated for currencies. In this context, a price with a currency is prioritized over prices for which no currency has been set up. As for the minimum quantity, the highest quantity threshold within the validity period will be used to retrieve the price.

Lastly, the system will check the starting date, with a more recent price given a higher priority than older entries. Essentially, only prices available on the order date can be retrieved.

## Discount calculations

Discounts are determined in the exact same way as prices.

### Pricing by hierarchy

Another new feature will include the prices and discounts stored at a higher level of a customer hierarchy (see Create Hierarchies) to determine the lowest price with the highest discount for an item that you want to sell to a customer. However, before you can use this feature, you must set it up first:

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. In the Hierarchy Type Code Pricing field, select the type of hierarchy that you want to use for extended pricing.

Customers linked to this hierarchy are then included in calculating the best price and discount on a document line based on multiple price-related factors, such as the validity period, minimum quantity, unit of measure, currency, and responsibility center.

At which level of a customer hierarchy a value is determined isn't relevant in this situation, as prices or discounts might be calculated, for example, for customers and item price groups at multiple levels at the same time.

### Pricing by responsibility center

In addition to standard functionality, you can now also assign prices and line discounts to different responsibility centers.

To be able to use this feature, you only need to fill in the Responsibility Center field for a unit price or line discount on a price list.

### Price worksheets

## Price worksheet extension

The following fields have been added to the Price Worksheet page for when you want to calculate or save prices on a price list:

- Price Unit
- Unit Price (Price Unit)
- Responsibility Center
- Order Type
- Price Condition No.

Link a sales condition to a worksheet

In Microsoft Dynamics 365 Business Central, you can use price worksheets to specify factors for calculating unit prices. In KUMAVISION base (Booster), you can now also use a sales condition (see Sales Conditions) on a price worksheet.

#### Workflow

To link a condition to a worksheet:

1. Choose the Search icon, enter Price Worksheet, and then choose the related link.
2. On the ribbon, choose Suggest Lines.
3. Choose Price Condition in the Calculation Type field.
4. In the Price Condition No. field, create or select the condition that should be used to determine a new price.

The price is then created and copied to the worksheet.

For conditions that relate to unit costs, you can fill in the Unit Cost Calculation Date field to specify when the cost should be calculated, giving you the option of calculating unit prices for future unit costs.

You can then use the standard Implement Price Change function to copy the prices to the Sales Prices page.

#### Note

If you perform multiple calculations for an item on the same worksheet, for example, because you want to use another date each time, you can run the Calculation action from the ribbon to view the calculation log (consisting of the condition lines).

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## Purchasing

### Create hierarchies

Hierarchies are used to link (any number of) vendors, customers, or contacts to each other. Hierarchical relationships can be shown progressing from top to bottom or bottom to top.

#### Type Setup

When you're trying to add a vendor to a hierarchy, you might see the following:

"Specify at least one hierarchy type."

This means that no hierarchy has been set up yet. To create a hierarchy:

1. Choose the Search icon, enter Hierarchy Types, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the type of hierarchy.
Description	Enter a text that describes the type of hierarchy.
Default	Specify if this type of hierarchy should be used as the default type when you create new hierarchies.
Source Table Caption	Specify if you want to link the hierarchy type to vendors, customers, or contacts.

#### Assign vendors

To specify hierarchical relationships between vendors:

1. Choose the Search icon, enter Vendors, and then choose the related link.
2. Open a vendor card.
  - To create a top-down structure**
    - a. On the ribbon, choose Related > Vendors > Hierarchy - Relates Vendors
  - To create a bottom-up structure**
    - b. On the ribbon, choose Related > Vendors > Hierarchy - Relates to Vendor
3. Check if the correct type filter is set.
4. Enter a vendor number in the Value field.
5. Choose another line and repeat the steps.

**View a hierarchy**

To see a hierarchy:

1. Open a vendor card.
2. On the ribbon, choose Related > Vendor > Hierarchy – Where-Used.
3. Select a method for display:
  - Related records (top-down approach)
  - Relates to record (bottom-up approach)
4. Choose Calculate.

**Purchase order types**

Keeping track of large numbers of unposted documents in the system can be a difficult task: some might have been created to fulfill standard orders, some might have been set up for rush jobs, and some might be the basis for repairs or consignment. A quick solution to this problem is to organize documents by type so that they can be filtered later.

**Note**

If you're using KUMAVISION trade365, you can also add payment terms to purchase order types. For more information, click [here](#).

**Setup**

To set up an order category:

1. Choose the search icon, enter Purchase Order Types, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the type of order. The code must be unique.
Description	Specify a description for the order type.
Type	Specify the type of order: <ul style="list-style-type: none"> <li>• Standard</li> <li>• Quote Request</li> <li>• Subcontracted</li> </ul>
Transaction Code	Select a code in this field if you want to set a transaction filter on the reports available for purchase order types.
Default	Specify if this type will be used as the default type for new purchase orders.

**Assign dimensions**

You can then assign dimensions to an order type for analytical purposes. To assign a dimension:

1. Choose the Search icon, enter Purchase Order Types, and then choose the related link.
2. Choose Related > Purchase Order Type > Dimensions > Dimensions-Single to assign the current record or choose Dimensions-Multiple to assign more than one data record.
3. Choose OK to open the Dimensions page.
4. Fill in the fields as described in the following table.

Field	Description
Dimension Code	Select the code of the dimension that should be used.
Dimension Value Code	Select the dimension value that should be used.
Value Posting	Specify the requirements that need to be met should you want to use the dimension and dimension value. <ul style="list-style-type: none"> <li>• Code Required</li> <li>• Shared Code</li> <li>• No Code</li> </ul>
Allowed Values Filter	Description to follow.

**Select reports by type**

You can also use order types to specify what purchase reports to print.

1. Choose the Search icon, enter Report Selection – Purchase, and then choose the related link.
2. In the Usage field, specify the type of document that you want printed.
3. Fill in the Report ID field on a line or choose Order Types on the ribbon to store a report based on a specific type.

Like on the standard report selection page, you can specify a sequence if you want to enter more than one report here.

**Assign an order type**

To assign a type to an order:

- Create or open a purchase order.
- On the General FastTab, in the Purchase Order Type field, select a type.

**Distribute worksheet lines**

In large and midsize organizations, requisition and planning worksheets might be maintained by more than one person.

For this reason, you can distribute the results of requisition and planning onto worksheets assigned to individual employees.

More specifically, when you've completed a worksheet, the lines that you filled in on the document can be copied to various worksheet names, which you can then assign to any number of IDs. To be able to use the feature, you must first assign an item to an ID:

- Open an item card.
- On the Planning FastTab, fill in the Assigned User ID field.

On requisition or planning worksheets, the Assigned User ID field is then filled in on the lines where you enter the number of the item.

Additionally, you must set up a link between the assigned ID and a worksheet name:

1. Choose the Search icon, enter Wksh. Line Distribution Filter, and then choose the related link.
2. Fill in the fields as necessary.

#### Note

Each ID can only appear once within the distribution filters.

#### Split requisition worksheets by location

When a requisition worksheet created in Microsoft Dynamics 365 Business Central contains multiple worksheet lines assigned to the same vendor, the system will combine all of them into one purchase order even if the location assigned to each line is different (that is, the items that were entered on the lines will be received at different sites).

As a result, the purchase header shows that the order will be sent to address A, whereas the lines also show locations B, C and D—and all items ultimately end up at A despite different sites specified on the lines. To prevent this from happening:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the KUMAVISION FastTab, choose Yes in the Copy from Req. Wksh. by Location field.

#### Quote requests and price overview

You can use the new Price Overview page to see all price quotes requested for purchasing products individually or in bulk, the prices themselves, and the lead times for procuring the items from vendors and contacts.

The information shown on the page can be copied to a vendor-item catalog or stored with the relevant unit cost entries.

Quote requests are typically created from a requisition or planning worksheet for multiple vendors or contacts at once. Alternatively, you can enter vendors from a vendor-item catalog. To create a quotation request from a worksheet:

1. Open a worksheet.
2. Select the For Quote Requests field on the worksheet line that you want to create a request for.
3. On the ribbon, choose Related > Quote Request > Request Selection > Dimensions-Single or Dimensions-Multiple to select the vendors or contacts whom you want to ask for prices.
4. Choose Create Quote Requests on the ribbon to generate requests per vendor or contact number.
5. On the dialog, choose whether—besides the vendors or contacts listed on the request selection—you also want to use vendors from the item-vendor catalog.
6. Turn on the Print Quote Requests toggle if you want to print the quote requests immediately after running the function.
7. Choose OK.

The conditions that must be met for achieving certain prices are then entered on a price list. To see the list:

- Open a requisition or planning worksheet.
- Choose Related > Quote Request > Item Price Overview.

Besides unit costs grouped by vendor, the list includes information from other fields, such as the Lead Time field.

At the end of a line, you can see the field Direct Unit Cost Excl. VAT (Base / LCY). This field shows you the result of dividing the line amount without VAT by the unit quantity. If you specify a currency code, the value in the field will also be converted to the entered currency.

The actions that you can run from the overview are described in the following tables.

#### Action - Functions

Field	Description
Item/Vendor Catalog	Copies the lead time on a line to the field with the same name in the catalog assigned to the selected vendor and item.
	Used to create block prices or update them on orders.
Save Price/Discount	Creates lines on the Purchase Price Lists page and copies the data for the selected vendor and item there. The Starting Date field on the lines, however, is filled in with the work date.
	If the Vendor No. field on a quote is still blank, you're asked if the entered contact should be converted to a vendor. Choose No if you want to cancel the entire process.

## Related &gt; Purchase Prices

Field	Description
Item	Opens the related item card.
Purchase Prices	Opens the purchase prices specified for this item and vendor combination.
Item/Vendor Catalog	Opens the catalog that has been assigned to this item and vendor.
Quote Request	Opens the related quote request.
Document Texts Header Text Extended Texts	Opens the document, header, or extended texts assigned to the document line.

**Validity period on quotes**

To limit the period in which an offer should be valid, you can fill in the Quote Expiration Date field on the General FastTab of a quote document.

When you run the Save Prices/Discounts function from the Lines FastTab and this field is filled in, the validity date will be suggested as the ending date for the entire quote. However, you can still change the date manually if necessary.

**Order confirmation**

As an addition to standard functionality, you can now confirm individual lines on a purchase order instead of the entire order at once.

Each field on a confirmation line is then automatically updated if you change the corresponding field on the related purchase line. Similarly, deleting a line from an order removes the corresponding line from the confirmation document.

**Setup****Purchases & Payables Setup**

To set up confirmation reminders:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the General FastTab, in the Default PO Cnfrm. Rmdr. Date field, select a reference date for confirmation reminders.
3. On the Number Series FastTab, specify a number series for new and issued confirmation reminders.

**Confirmation reminder codes**

To set up conditions for a reminder:

1. Choose the Search icon, enter Purch. Order Cnfrmn. Rmdr. Terms, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the reminder.
Description	Specify a description for the reminder.
Max. No. of PO Cnfrmn. Rmdrs.	Specify how many reminders can be sent when using this code.

To specify the number of reminder levels and assign text to them:

1. Choose the Search icon, enter Purch. Order Cnfrmn. Rmdr. Terms, and then choose the related link.
2. Select a reminder.
3. On the ribbon, choose Level.
4. Fill in the number of levels and the formula that you want to use on each level.

To enter introductory and closing texts for a stage, choose Related > Level > Beginning or Ending Text on the ribbon.

#### Assign terms to vendors

To assign reminder terms to a vendor:

1. Choose the Search icon, enter Vendors, and then choose the related link.
2. Open a vendor card.
3. On the Receiving Tab, select a reminder in the Cnfrmn. Rmdr. Terms Code field.

#### Extended Report Selection

As a last step, you need to make the reminder report available in the system.

1. Choose the Search icon, enter Report Selection - Extended, and then choose the related link.
2. In the Usage field, select the PO Cnfrmn. Rmdr. Test option.
3. On the lines, fill in the Sequence and Report ID fields.

#### Issue a reminder

To remind a supplier of a delivery and ask the supplier to confirm the order:

1. Choose the Search icon, enter Purch. Order Cnfrmn. Rmdr. List, and then choose the related link.
2. Exit the No. field to have the system fill in a number from the series set up for this purpose.
3. On the ribbon, choose Create Confirmation Reminder.
4. You can then fill in the filter fields, for example, to limit the creation of a reminder to a certain vendor or item. Leave these fields blank if you want the system to search for all overdue confirmation receipts.
5. Choose OK.

## Note

Before you can send a confirmation reminder to a vendor, a reminder terms code must be specified for the vendor on the vendor card.

The reminder must then be registered in the system so that you can set up reminder levels and print reminder documents. To register a reminder:

- On the ribbon, choose Issue.
- When you run the action, the corresponding receipt will be printed on the device set up as the default printer.
- Alternatively, you can print the reminder from the Issued Purch. Order Cnfrmn. Rmdr. List.

## Process IDs

Shared document IDs can be helpful, for example, for tracking purchases from quote entry to (potential) return shipment.

This is especially true if the documents used for a transaction must be linked across departments—such as when you want to tie a customer's return order to an order returned to a vendor.

## Setup

Before you can use document tracking, you need to set up a number series for process IDs.

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the Number Series FastTab, in the Document Process ID Nos. field, select the number series that you want to use for this purpose.

## Workflow

A process ID is always copied from the header of the initial document to the headers and lines on quotes, orders, receipts, invoices, return orders (if the return order lines were created by using the Get Posted Document Lines to Reverse action), and archived documents created from the document.

For example, a process ID entered on a purchase order is transferred to an invoice or receipt created from it when you post the order.

On the order, on the Line FastTab, you can then choose Line > Navigate Doc. Process ID on the ribbon to see the documents linked to the ID. You can also view individual documents by selecting the value in the No. of Entries field or use the standard Navigate action to look for them.

When you copy a document or run the Get Posted Document Lines to Reverse function to create lines from a return order, the system copies the process ID from the source document to the new lines. Afterward, you can only find them by searching for the source document ID.

If you don't want this to occur, you must turn off the Copy Document Process ID toggle in Purchases & Payables Setup before you fill in document lines with the Copy Document function. As for return order lines, the ID is always copied from the order.



**Add transaction data**

You can use the Add Transaction Data function to correct posting information on orders that have been received but not invoiced.

You make the corrections before choosing this action on the ribbon. When you run the function, the contents of the following fields are copied from lines that have been received but not invoiced yet to a posted receipt and the associated item, material, and value entries:

- Gen. Business Posting Group
- VAT Business Posting Group
- Gen. Product Posting Group
- VAT Product Posting Group
- Dimension Set ID
- Global Dimension Code 1
- Global Dimension Code 2

**Send quotes to contacts**

You can use a vendor template to send quotes to potential suppliers, that is, to contacts to whom no vendor has been assigned.

Vendor templates are set up in Finance. You can then run the Create Purchase Quote action from the ribbon of a vendor card to fill in the purchase quote with the required contact details and choose in the Vendor Template Code field the template that you want to use.

You can also create a quote without having to create a vendor. In this case, a vendor must be set up only when you convert the quote to an order.

**Print released documents**

The system performs multiple checks when a purchase document is released. This includes checking if mandatory fields are filled in and whether prices and costs have been calculated.

For this reason, KUMAVISION base (BOOSTER) limits printouts to documents that have been released, the only exception being quotes (print previews will not be restricted either).

**Blanket order extension**

When you want to purchase items in large quantities, you often set up blanket orders in the system so that you can receive products from suppliers at lower prices but in multiple smaller shipments over a specified period.

However, when using standard functionality, you might not see that creating a purchase order from a blanket agreement is even possible until that order has been posted. Moreover, because you cannot see or select blanket agreements on requisition and planning worksheets, you run the risk—especially when you need to order many items at once—that products might be bought at standard conditions and prices.

To solve these issues, the Rem. Blanket Order Qty. field has been added to the lines of purchase orders and the Blanket Order No. field to those of requisition and planning worksheets. This way, you can assign a line of a worksheet to a line of a purchase order provided a large enough part of the originally agreed-on quantity remains, with vendor data and price terms being retrieved from the blanket agreement.

Alternatively, you can have the blanket order lines that are still available for the selected vendor assigned by the system, with price conditions copied too. You can also create separate purchase orders for every blanket order line.

The Rem. Blanket Order Qty. (Base) is a FlowField that totals the Rem. Blanket Order Qty. (Base) values on purchase lines created from a blanket order. From the value in this and in the Qty. Per field, the system then calculates the Rem. Blanket Order Qty. value when you create standard purchase orders. Other fields that have been added to worksheet lines are:

- No. of Blanket Order Lines
- Blanket Order No.
- Blanket Order Line No.

The first is a FlowField that indicates the number of blanket purchase lines on which the type, number, and location match and the value in the Rem. Blanket Order Qty. (Base) field is greater than 0.

You can use the lookup in the other fields to assign a blanket order or blanket order line to the worksheet. Filling in either copies the vendor and, if available, the vendor item number and price terms and conditions (cost, discount, price unit, and currency) from the assigned blanket purchase line.

The system then checks if subtracting the value in the Outstanding Qty. (Base) from the Rem. Blanket Order Qty. (Base) and worksheet line quantity results in a value greater than 0 in the Quantity (Base) field.

Should you clear the Blanket Order No. and Blanket Order Line No. fields later, the system will recheck the assigned vendor number and update the purchase prices if necessary.

#### Assign a blanket order automatically

To have blanket order lines assigned automatically:

1. Open a purchase order.
2. On the ribbon, choose Assign Blanket Order. Other options are Delete or Reassign (a combination of Assign and Delete).
3. Alternatively, choose Carry Out Action Message on the ribbon when you create a purchase order and select Auto Assign Blanket Order.

When you run the assignment function, the system checks all worksheet lines for which the carry out action message was set to New.

If you haven't linked lines manually, the search will extend to all blanket orders that have been assigned to this vendor, item, item variant, and location and for which the outstanding quantity is not 0, starting with the lowest document and document line number.

When a blanket order line with enough remaining quantity is found, the line will be assigned to the worksheet line or split off prior to assignment for a quantity that is greater.

Besides assigning the blanket order line, the system will copy the contents of cost and price fields (Unit Cost, Price Unit, and Line Discount, for example) to the worksheet line.

You can remove a line by selecting it and choosing Delete on the ribbon. The vendor is then revalidated, and the line will be repriced.

Additionally, a new toggle is now included with the Carry Out Action Message function. Turning on this toggle—called One Order per Blanket Order—will sort worksheet lines based on blanket order and blanket order line numbers before a new order is created for each line where these numbers are filled in.

#### Assign a blanket order manually

You can also use the Assign function to transfer the terms and conditions of a blanket agreement to a manually created purchase line by filling in the Blanket Order No. field on that line.

You are then asked whether you want to copy the value in the Direct Unit Cost Excl. VAT or the Line Discount % field from the line on the blanket agreement.

#### Copy item function

The following options have been added to the Copy Item action:

Field	Description
All	Turns all options on or off.
Version (Prod. BOM)	Fills in this field with the production BOM version that is valid at the time. However, the version can be changed manually if necessary.
Version (Routing)	Fills in this field with the routing that is valid at the time. However, the version can be changed manually if necessary.

Running the function then creates not only an item but also a production BOM or a routing filled in with the number of the item in the No. field and linked to it on the item card. The following item header information is also copied:

Field	Description
Description	Specifies the description of the item.
Unit of Measure Code	Specifies the basic unit code of the item.
Type	Specifies the type of routing or production BOM that will be copied.

#### Note

Item versions aren't copied but must be assigned manually. As the version codes of routings and production BOMs aren't linked to triggers, the system will copy only the entries it has found so that a version you create by using the relevant toggle must be changed manually as well.

#### Item tracking

In Microsoft Dynamics 365 Business Central, you can specify that items must be posted with serial or lot number tracking. Often, however, this specification changes during the lifecycle of a product, which makes the item more difficult to track and complicates repairs.

In KUMAVISION base (BOOSTER), you can change both numbers under certain conditions:

- The item cannot have open item entries.
- The relevant item entries cannot be fully invoiced.
- The unit cost on the item card must have been adjusted.
- Reservations for the item cannot be made with a serial or lot number.

These conditions also apply to items for which you set the costing method to Specific.

#### Supporting documents

This feature is used to maintain item-related documents, such as drawings and certificates, in the system.

#### Store a document

To store a document for an item:

1. Choose the Search icon, enter Items, and then choose the related link.
2. Open an item card.
3. On the ribbon, choose Related > Item > Supporting Documents.
4. Fill in the fields as described in the following table.

Field	Description
Type	<p>Specify the type of document. Options are:</p> <ul style="list-style-type: none"> <li>• Drawing</li> <li>• Protocol</li> <li>• Description</li> <li>• Marketing</li> <li>• Prescription</li> <li>• Approval Letter</li> <li>• Certification</li> <li>• Long-Term Supply Contract</li> <li>• Short-Term Supply Contract</li> </ul>
File Name	Use the arrows to select a file for upload.
Description	Enter a description for the document.
Starting Date Ending Date	Specify the period in which the document is valid.
Version	Specify the version of the document.
Sub Version	Specify the sub-version of the document.

The actions found on the ribbon are described in the following table.

Function	Description
Import	Imports a file for the selected line.
Export	Exports a file for the selected line for storage elsewhere in the system.
Delete	Deletes the document stored for the selected line.

#### Undo posted receipts

Sometimes, you might want to cancel only a partial quantity from a receipt. To activate this feature:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the KUMAVISION FastTab, set the Warehouse Undo Type field from Default to Extended Undo.

To reverse a partial quantity on a document:

1. Choose the Search icon, enter Purchase Receipts, and then choose the related link.
2. Open the relevant receipt and select the line you want to cancel.
3. On the ribbon, choose Change Cancellation Qty.
4. Fill in a quantity.
5. Choose Post to post the reversal document.

#### Note

Only unbilled receipts can be reversed in this way.

#### Prices

##### Price source

The Price Source field indicates where the Direct Unit Cost Excl. VAT or Direct Unit Cost (Price Unit) Excl. VAT value on a document line comes from:

Option	Description
Item Purchase Price	The value was copied from an item card or the purchase price master.
Blanket Order	The value was retrieved from a blanket purchase order.
Manual	The value was entered manually.

#### Note

When copied to a purchase order from a blanket agreement or entered manually, the direct unit cost will—contrary to standard processes—not be updated when you enter new quantities on the order.

For line discounts, the equivalent to this field is the Line Discount Source field.

Extended pricing

You can now also assign purchase prices and line discounts to different responsibility centers.

Moreover, you can use the prices and discounts stored at a higher level of a vendor hierarchy (see [Create Hierarchies](#)) to determine the lowest price with the highest discount for an item that you want to purchase from a vendor. However, before you can use this feature, you must set it up first:

- 1. Choose the Search icon, enter Purchases & Payables, and then choose the related link.
- 2. In the Hierarchy Type Code Pricing field, select the type of hierarchy that you want to use for extended pricing.

Vendors linked to this hierarchy are then included in calculating the best price and discount on a document line based on multiple price-related factors, such as the validity period, minimum quantity, unit of measure, currency, and responsibility center.

At which level of a vendor hierarchy a value is determined isn't relevant in this situation, as prices or discounts might be calculated, for example, for vendors and item price groups at multiple levels at the same time.

Purchase conditions

Purchase conditions provide another way for you to enter line discounts. For this purpose, a condition is linked to calculation lines on which you can enter your various discounting methods for use on purchase documents.

A condition can already be created and transferred to one or more purchase discount records when you create base data in the app.

Create a condition

To create a purchase condition:

- 1. Choose the Search icon, enter Purchase Condition List, and then choose the related link.
- 2. On the ribbon, choose New.
- 3. Fill in the fields as described in the following table.

General

Field	Description
No.	Exit the field to have the system assign a number from the series set up for this purpose or enter a number manually. The number must be unique.
Description	Specify a description for the condition.
Calculation Base	Specify what the condition is used for.
Currency Code	Specify the currency code that will be used for the condition.  You must fill in this field, as a purchase condition is always used in combination with one and the same currency code.

Lines

On the lines, you can specify how a reduction in price will be calculated when the condition applies.

#### Note

Discounts will later be determined based on the order in which you fill in these lines.

Field	Description
Description	Specify a description for the condition line.
Operators	Specify the operator that will be used for the discount.  + adds the entered percentage or amount  - subtracts the entered percentage or amount
Value	Specify the percentage or amount that you want to add or subtract (depending on what operator you're using).
Calculation Method	Specify the type of price calculation that will be performed.  <b>Previous Result</b> Calculates a percentage based on the result of the previous condition line.  <b>Net Percentage</b> Determines a percentage by using the total purchase price or direct unit cost.  <b>Currency Amount</b> Adds or subtracts the entered amount in the specified currency.

As an example, a condition might have been specified as follows:

Description	Operator	Value	Calculation Method
Basic discount	-	5	Net percentage
Special offer	-	3	Net percentage

In this example, a 5% discount needs to be deducted from the direct unit cost of a certain item before another 3% discount applied to the original amount is subtracted from the result because the product is on offer.

You now want to buy the item from vendor 3000 on 04/15/2023 as part of a new purchase order. The line discount that has been assigned to the item is valid within the following period:

Vendor	Discount %	Purchase Condition No.	Valid From	Valid Until
3000		PUR_COND_EX	01/01/2023	04/30/2023

### Note

Because the discount in this example depends on a purchase condition, the Discount % field in the item master remains empty; the system will instead calculate the actual value the moment you assign the line discount to a purchase document.

When you fill in the document, the condition specified for the discount is then used by the standard pricing function to calculate the total line discount (8%).

### Note

To see how values are calculated, you can go to the Lines FastTab, select a line, and choose Line > Price/Discount Calculation > Line Discount on the ribbon.

Additionally, you can choose Translations on the Lines FastTab to have steps in the calculation translated and copied automatically to documents on which the specified language code is used.

Field	Description
Target Language	Choose a language for the translation.
Value	Enter the translated description of the calculation step.

### Note

Although purchase conditions aren't typically printed on documents in KUMAVISION, the translations can be retrieved if required for a specific implementation project.

### Link a condition to a line discount

You must fill in the Purchase Condition No. field if you want to link a condition to a line discount. The currency that you've specified for the condition must match the currency entered for the discount.

For discounts linked to conditions, the Discount % field will always be blank in the item master. The value in this field will be determined only when you enter a condition-based discount on a document line.

### Use a condition to find the best discount

When trying to determine the best reductions in item prices, the system uses condition-based line discounts in the same way as standard line discounts; a condition isn't a factor in deciding whether a certain discount can be entered on a purchase document. The only difference to standard functionality is that discounts linked to conditions are calculated in real time.

### Note

The standard business logic for calculating line discounts hasn't changed.

### Copy a condition to a calculation line



When you specify a discount on a purchase line, the condition lines that might be linked to the discount will be copied to a purchase line subpage. To see the subpage:

- Open a purchase order.
- Go to the Lines FastTab and select a line.
- On the ribbon, choose Line > Price/Discount Calculation > Price or Line Discount.

You can change, delete, or insert lines here if necessary. Alternatively, you can set up a blank calculation sheet and use a ribbon function to copy values from condition lines.

Edits are made on this buffer page so that you can simulate their impact first and discard them if necessary; only changes that are accepted by you will be copied to the relevant purchase line (and saved for when you want to reopen the page to make revisions).

When you exit the page, the Discount Calculation field will be selected on the associated purchase line.

#### Note

This checkbox is hidden by default.

### Copy calculation lines

When you post or archive a purchase order, all calculation lines that have been filled in for a condition-based discount on the order are copied alongside other data to the posted or archived document. However, you can still open the lines from there (albeit in read-only format).

#### Note

Exceptions are receipt and return shipment lines, as neither contain purchase price fields.

Additionally, the lines are copied from one document to another when you use the Copy Document action or when you create a purchase order from a blanket order. Only if you run the Recalculate Lines function will they be updated instead.

The Discount Calculation checkbox can also be unhidden there.

### Price units

The following formula is used in the standard app to determine the price on a document line:

Line Amount Excl. VAT = Quantity \* Direct Unit Cost \* [(100 - Line Discount %) / 100]

But there are other formulas. One of them provides a method for calculating a multiple of an amount by using a price unit.

#### Example 1:

You enter Piece as the base unit on an item card and a document line. You can then state prices on the line in multiples of 1000, that is, the price unit (or price per unit) equals the purchase price for 1000 pieces.

#### Example 2:

You enter Piece as the base unit of measure on an item card and Package on a purchase line. A package equals 50 pieces, as specified on the Item Units of Measure page.

You can then state a purchase price on the line in multiples of 50, that is, the price unit (or price per unit) represents the price for 50 packages.

You can already specify price units that you and your vendors agreed on when you set up basic app data.

#### Workflow

You use the following fields to specify price units on purchase lines:

- Price Unit
- Direct Unit Cost (Price Unit) Excl. VAT

These fields can also be found on archived and posted documents.

Alternatively, you can assign a unit to a single document or store the unit for use by the pricing functionality.

When you assign direct unit costs to items, you need to ensure that price units are set up as well.

#### Note

Price units aren't used to convert one unit of measure into another. This is because fixed conversion rates cannot be entered for item units of measure.

For example, you might want to use the unit Piece and enter an item on a document line in pieces. However, the price for the line is determined based on weight (weight-dependent document pricing). To calculate this price, you will need another method that requires a separate explanation (outside the scope of this article).

#### Item price groups

For items of the same type, you can assign purchase prices per category. For example, a group of paperbacks might cost the same because of the size and material used (regardless of who authored each book).

You can set up prices for item groups in the same way as for individual items. The feature supports entering agreements:

- In vendor hierarchies
- For purchase conditions
- According to quantity, delivery date, and currency
- Based on units of measure, in the following way:

You can store the price (for a group) in a certain unit of measure on a document line provided the unit has been assigned to the relevant group beforehand.

#### Note

Item price groups cannot be used to store prices for variants. If variants are available for an item assigned to a price group, the group price will apply to all variants.

When you enter the number of an item on a purchase line, the following will happen:

- Besides the price stored specifically for the item, the system will also use the prices entered for the relevant item price group.
- The best price will be determined among all prices found in the system, with neither item-specific nor group prices boasting an advantage here.

You can use the FactBoxes on purchase (invoice) lines to look up item prices, including those specified for a group. You can also select a price there (which corresponds to running the Get Purchase Price action).

To set up a price group for an item:

1. Choose the Search icon, enter Item Price Groups, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a meaningful abbreviation for the group.
Description	Specify a description for the group.
Sales	Turn on this toggle if the group should be used in sales.
Purchases	Turn on this toggle if the group should be used in purchasing.

After creating a group, you can choose Related > Item Price Group > Purchase Prices on the ribbon to enter prices for the group. This process is the same as for prices maintained per vendor or vendor group in the standard app.

#### Block prices

What values are shown in the Direct Unit Cost and Line Discount % fields on document lines depends on the agreements you have in place with vendors.

You can specify a wide variety of purchase price and discount agreements in the system, including agreements made with an individual vendor, a group of vendors, or all vendors, as well as agreements covering single products or an entire group of items.

When you add an item to a document, the system will compare the value that you enter in the Quantity field on a line against the minimum quantities set for the associated vendor in the item master to calculate the best purchase price and discount available.

In short, the standard app calculates prices and discounts separately on each line of a document. Sometimes, however, you might need to enter one and the same item on multiple lines, for example, because products must be delivered in batches on different dates.

For this reason, standard functionality has been extended so that prices and discounts can now be determined based on the total quantity entered for an item on all lines of a document. For a line to be included in the total, however, the values in the following fields must also match those on the other lines:

- Type and No.
- Variant Code
- Unit of Measure Code and Qty. per Unit
- Allow Line Disc. and Allow Invoice Disc.

Lines on which the following fields aren't blank will not be included either:

- Receipt No. or Return Shipment No. (concerns invoice or credit memo lines created from a blanket purchase order)
- Blanket Order No. (concerns order lines that refer to a blanket order line)
- Alternate

To calculate block prices:

1. Open a purchase document.
2. On the ribbon, choose Update Block Pricing. Block prices are then calculated when you release the document.

If you manually change the Direct Unit Cost or Line Discount % field on the line of a document, the system will update neither value when you run the function, and the line will not become part of the quantity for calculation.

The same is true for document lines related to blanket order or alternate lines and when you invoice posted receipts or returns.

#### Note

This feature is only available if you selected Extended Pricing in the Pricing Method field in Purchases & Payables Setup.

#### Save prices or discounts

Often, the sheer number of item variations sold in the retail sector means that prices aren't maintained in advance but depend on quotes or orders.

The Save Price/Discount feature provides a convenient way for you to save for reuse the item prices that you agreed to on quotes or orders the next time that the items are needed. To save prices from a quote or an order:

1. Create a purchase quote or order that contains the requested items.
2. Change the values in the Direct Unit Cost and Line Discount % line fields to what has been agreed on.
3. Select a line that you want to save a price or discount for.
4. On the Lines FastTab, on the ribbon, choose Line > Price and Discount Calculation > Save Price/Discount.
5. Fill in the fields as described in the following tables.

## Note

You can select multiple lines before running this function; only lines of type Item will be saved. If none are among those selected, you will see a message and the process will be canceled.

For purchase prices:

Field	Description
Save Price	Select this field to save the unit cost entered on the line.  You need to turn on this toggle before you can fill in the other fields.
Vendor No.	Specify for what vendor the unit cost should be saved.
Starting Date	Specify the date starting on which the unit cost should apply.  This field is filled in with the work date by default but can be changed manually.
Ending Date	Specify when the unit cost should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be considered the minimum quantity for applying the cost to the item.
Copy Variant Code	Turn on this toggle if you want the variants specified on the line to be bought at this cost amount per unit.  With the toggle turned off, the direct unit cost will be valid for all variants.
Show New Price	Turn on this toggle if you want to see the new unit cost on the Purchase Prices page so that you can review and (potentially) revise the purchase price for the item.

For line discounts:

Field	Description
Save Line Discount	Select this field to save the discount entered on the line. You need to turn on this toggle before you can fill in the other fields.
Vendor No.	Specify for what vendor the discount should be saved.
Starting Date	Specify the date starting on which the discount should apply. This field is filled in with the work date by default but can be changed manually.
Ending Date	Specify when the discount should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be considered the minimum quantity for applying the discount to the item.
Copy Variant Code	Turn on this toggle if you want the variants specified on the line to be bought at this discount per unit. With the toggle turned off, the line discount will be valid for all variants.
Show New Line Discount	Turn on this toggle if you want to see the new discount on the Line Discounts page so that you can review and (potentially) revise the line discount for the item.

Afterward, choose OK to exit the page.

#### Close prices or discounts

The system retrieves direct unit costs and line discounts based on the starting and ending dates entered for them.

KUMAVISION base (BOOSTER) always uses the most recent direct unit cost or discount for an item or item group provided all other factors with an impact on purchases remain the same.

However, you can also have an ending date assigned automatically when you create another price or discount for which you enter a later starting date. This might make it easier for users to understand changes in prices and discounts. To have a date assigned automatically:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the KUMAVISION FastTab, turn on the Close Prices and Discounts toggle.

If you then enter a cost or discount for the same item-price or item-discount combination but enter a later starting date, the system will fill in the Ending Date field for the previously valid entry with a date set to one day before the new starting date.

#### Note

A price or discount can only be closed if the entry replacing it doesn't have an ending date.

**Prices (Version 20.0 or higher)****New pricing experience**

The new pricing features must first be turned on.

1. Choose the Search icon, enter Feature Management, and then choose the related link.
2. Go to the line that says Feature Update: New Sales Pricing Experience and set the Enabled For field to All Users.

**Note**

If you're using the older pricing functionality, do not turn on this feature. Once turned on, the new feature cannot be turned off again.

**Price source**

The Price Source field indicates where the Direct Unit Cost Excl. VAT or Direct Unit Cost (Price Unit) Excl. VAT value on a document line comes from:

<b>Option</b>	<b>Description</b>
Item Purchase Price	The value was copied from an item card or the purchase price master.
Blanket Order	The value was retrieved from a blanket purchase order.
Manual	The value was entered manually.

**Note**

When copied to a purchase order from a blanket agreement or entered manually, the direct unit cost will—contrary to standard processes—not be updated when you enter new quantities on the order.

For line discounts, the equivalent to this field is the Line Discount Source field.

**Save prices or discounts**

Often, the sheer number of item variations sold in the retail sector means that prices aren't maintained in advance but depend on quotes or orders. The Save Price/Discount feature provides a convenient way for you to save for reuse the item prices that you agreed to on quotes or orders the next time that the items are needed. To save prices from a quote or an order:

1. Create a purchase quote or order that contains the requested items.
2. Change the values in the Direct Unit Cost and Line Discount % line fields to what has been agreed on.
3. Select a line that you want to save a price or discount for.
4. On the Lines FastTab, on the ribbon, choose Line > Price and Discount Calculation > Save Price/Discount.
5. Fill in the fields as described in the following tables.

## Note

You can select multiple lines before running this function; only lines of type Item will be saved. If none are among those selected, you will see a message and the process will be canceled.

### For purchase prices:

Field	Description
Save Price	Select this field to save the unit cost entered on the line.
	You need to turn on this toggle before you can fill in the other fields.
Price List Code	Specify a price list.
	You must fill in this field if you want to save purchase prices in the system.
Vendor No.	Specify for what vendor the unit cost should be saved.
	Specify the date starting on which the unit cost should apply.
Starting Date	This field is filled in with the work date by default but can be changed manually.
	Specify when the unit cost should no longer apply.
Ending Date	Specify for what vendor the unit cost should be saved.
	Specify for what vendor the unit cost should be saved.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be stored as the minimum quantity on the price list assigned to the item.
	Turn on this toggle if you want the variant specified on the line to be copied to the price list at this cost amount per unit.
Copy Variant Code	With the toggle turned off, the direct unit cost will be valid for all variants.
	With the toggle turned off, the direct unit cost will be valid for all variants.
Show New Price	Turn on this toggle if you want to see the new unit cost on the Price List Lines page so that you can review and (potentially) revise the purchase price for the item.
	Turn on this toggle if you want to see the new unit cost on the Price List Lines page so that you can review and (potentially) revise the purchase price for the item.



**For line discounts:**

<b>Field</b>	<b>Description</b>
Save Line Discount	Select this field to save the discount entered on the line. You need to turn on this toggle before you can fill in the other fields.
Vendor No.	Specify for what vendor the discount should be saved.
Starting Date	Specify the date starting on which the discount should apply. This field is filled in with the work date by default but can be changed manually.
Ending Date	Specify when the discount should no longer apply.
Copy Min. Quantity	Turn on this toggle if you want the quantity specified on the line to be stored as the minimum quantity on the price list assigned to the item.
Copy Variant Code	Turn on this toggle if you want the variant specified on the line to be copied to the price list at this discount per unit. With the toggle turned off, the line discount will be valid for all variants.
Show New Line Discount	Turn on this toggle if you want to see the new discount on the Price List Lines page so that you can review and (potentially) revise the line discount for the item.

Afterward, choose OK to exit the page.

**Purchase conditions**

Purchase conditions provide another way for you to enter line discounts. For this purpose, a condition is linked to calculation lines on which you can enter your various discounting methods for use on purchase documents.

A condition can already be created and transferred to one or more purchase discount records when you create base data in the app.

**Create a condition**

To create a purchase condition:

1. Choose the Search icon, enter Purchase Condition List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

## General

Field	Description
No.	Exit the field to have the system assign a number from the series set up for this purpose or enter a number manually. The number must be unique.
Description	Specify a description for the condition.
Calculation Base	Specify what the condition is used for.
Currency Code	Specify the currency code that will be used for the condition.  You must fill in this field, as a purchase condition is always used in combination with one and the same currency code.

## Lines

On the lines, you can specify how a reduction in price will be calculated when the condition applies.

## Note

Discounts will later be determined based on the order in which you fill in these lines.

Field	Description
Description	Specify a description for the condition line.
Operators	Specify the operator that will be used for the discount.  + adds the entered percentage or amount  - subtracts the entered percentage or amount
Value	Specify the percentage or amount that you want to add or subtract (depending on what operator you're using).
Calculation Method	Specify the type of price calculation that will be performed.  <b>Previous Result</b> Calculates a percentage based on the result of the previous condition line.  <b>Net Percentage</b> Determines a percentage by using the total purchase price or direct unit cost.  <b>Currency Amount</b> Adds or subtracts the entered amount in the specified currency.

As an example, a condition might have been specified as follows:

Description	Operator	Value	Calculation Method
Basic discount	-	5	Net percentage
Special offer	-	3	Net percentage

In this example, a 5% discount needs to be deducted from the direct unit cost of a certain item before another 3% discount applied to the original amount is subtracted from the result because the product is on offer.

You now want to buy the item from vendor 3000 on 04/15/2023 as part of a new purchase order. The line discount that has been assigned to the item is valid within the following period:

Vendor	Discount %	Purchase Condition No.	Valid From	Valid Until
3000		PUR_COND_EX	01/01/2023	04/30/2023

Note

Because the discount in this example depends on a purchase condition, the Discount % field in the item master remains empty; the system will instead calculate the actual value the moment you assign the line discount to a purchase document.

When you fill in the document, the condition specified for the discount is then used by the standard pricing function to calculate the total line discount (8%).

Note

To see how values are calculated, you can go to the Lines FastTab, select a line, and choose Line > Price/Discount Calculation > Line Discount on the ribbon.

Additionally, you can choose Translations on the Lines FastTab to have steps in the calculation translated and copied automatically to documents on which the specified language code is used.

Field	Description
Target language	Choose a language for the translation.
Value	Enter the translated description of the calculation step.

Note

Although purchase conditions aren't typically printed on documents in KUMAVISION, the translations can be retrieved if required for a specific implementation project.

#### Link a condition to a price or line discount

You must fill in the Price Condition No. field if you want to link a condition to a price or line discount. The currency that you've specified for the condition must match the currency entered for the price or discount.

For price lists linked to conditions, the Discount % field will always be blank in the item master. The value in this field will be determined only when you enter a condition-based price or discount on a document line.

Use a condition to find the best price or discount

When trying to determine the best reductions in item prices, the system uses condition-based purchase prices in the same way as standard prices; a condition isn't a factor in deciding whether a certain price can be entered on a purchase document. The only difference to standard functionality is that prices linked to conditions are calculated in real time.

#### Note

The standard business logic for calculating line discounts hasn't changed.

#### Price units

The following formula is used in the standard app to determine the price on a document line:

Line Amount Excl. VAT = Quantity \* Direct Unit Cost \* [(100 - Line Discount %) / 100]

But there are other formulas. One of them provides a method for calculating a multiple of an amount by using a price unit.

#### Example 1

You enter Piece as the base unit on an item card and a document line.

You can then state prices on the line in multiples of 1000, that is, the price unit (or price per unit) equals the purchase price for 1000 pieces.

#### Example 2

You enter Piece as the base unit of measure on an item card and Package on a purchase line. A package equals 50 pieces, as specified on the Item Units of Measure page.

You can then state a purchase price on the line in multiples of 50, that is, the price unit (or price per unit) represents the price for 50 packages.

#### Workflow

You use the following fields to specify price units on purchase lines:

- Price Unit
- Direct Unit Cost (Price Unit) Excl. VAT

These fields can later also be found on archived and posted documents.

Alternatively, you can assign a unit to a single document or store the unit for use by the pricing functionality. When you specify direct unit costs for items, you need to ensure that price units have been specified as well.

#### Note

Price units aren't used to convert units, as fixed conversions cannot be entered for item units of measure

For example, you might want to use the unit Piece and enter an item on a document line in pieces. However, the price for the line is determined based on weight (weight-dependent document pricing). To calculate this price, you will need another method that requires a separate explanation.

#### Print a unit on documents

Price units and the direct unit costs specified in these units can be printed on each purchase document in the system.

You can already specify price units that you and your vendors agreed on when you set up basic app data.

#### Item price groups

For items of the same type, you can assign purchase prices per category. For example, a group of paperbacks might cost the same because of the size and material used (regardless of who authored each book).

You can set up prices for item groups in the same way as for individual items. The feature supports entering agreements:

- In vendor hierarchies
- For purchase conditions
- According to quantity, delivery date, and currency
- Based on units of measure, in the following way:

You can store the price (for a group) in a certain unit of measure on a document line provided the unit has been assigned to the relevant group beforehand.

#### Note

Item price groups cannot be used to store prices for variants. If variants are available for an item assigned to a price group, the group price will apply to all variants.

When you enter the number of an item on a purchase line, the following will happen:

- Besides the price stored specifically for the item, the system will also use the prices entered for the relevant item price group.
- The best price will be determined among all prices found in the system, with neither item-specific nor group prices boasting an advantage here.

You can use the FactBoxes on purchase (invoice) lines to look up item prices, including those specified for a group. You can also select a price there (which corresponds to running the Get Purchase Price action).

To set up a price group for an item:

1. Choose the Search icon, enter Item Price Groups, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a meaningful abbreviation for the group.
Description	Specify a description for the group.
Sales	Turn on this toggle if the group should be used in sales.
Purchases	Turn on this toggle if the group should be used in purchasing.

After creating a group, you can choose Related > Item Price Group > Purchase Prices on the ribbon to enter prices for the group. This process is the same as for prices maintained in the standard app.

#### Block prices

What values are shown in the Direct Unit Cost and Line Discount % fields on document lines depends on the agreements you have in place with vendors.

You can specify a wide variety of purchase price and discount agreements in the system, including agreements made with an individual vendor, a group of vendors, or all vendors, as well as agreements covering single products or an entire group of items.

When you add an item to a document, the system will compare the value that you enter in the Quantity field on a line against the minimum quantities set for the associated vendor in the relevant price lists to calculate the best purchase price and discount available.

In short, the standard app calculates prices and discounts separately on each line of a document. Sometimes, however, you might need to enter one and the same item on multiple lines, for example, because products must be delivered in batches on different dates.

For this reason, standard functionality has been extended so that prices and discounts can now be determined based on the total quantity entered for an item on all lines of a document. For a line to be included in the total, however, the values in the following fields must also match those on the other lines:

- Type and No.
- Variant Code
- Unit of Measure Code and Qty. per Unit
- Allow Line Disc. and Allow Invoice Disc.

Lines on which the following fields aren't blank will not be included either:

- Receipt No. or Return Shipment No. (concerns invoice or credit memo lines created from a blanket purchase order)
- Blanket Order No. (concerns order lines that refer to a blanket order line)
- Alternate

To calculate block prices:

1. Open a purchase document.
2. On the ribbon, choose Update Block Pricing. Block prices are then calculated when you release the document.

If you manually change the Direct Unit Cost or Line Discount % field on the line of a document, the system will update neither value when you run the function, and the line will not become part of the quantity for calculation.

The same is true for document lines related to blanket order or alternate lines and when you invoice posted receipts or returns.

#### Note

This feature is only available if you selected KUMAVISION Lowest Price in the Pricing Method field in Purchases & Payables Setup.

#### Close prices or discounts

The system retrieves direct unit costs and line discounts from price lists based on the starting and ending dates entered for them.

KUMAVISION base (BOOSTER) always uses the most recent direct unit cost or discount for an item or item group provided all other factors with an impact on purchases remain the same.

However, you can also have an ending date assigned automatically when you create another price or discount for which you enter a later starting date. This might make it easier for users to understand changes in prices and discounts. To have a date assigned automatically:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the Prices FastTab, turn on the Close Prices and Discounts toggle.

If you then enter a cost or discount for the same item-price or item-discount combination but enter a later starting date, the system will fill in the Ending Date field for the previously valid entry with a date set to one day before the new starting date.

#### Note

A price or discount can only be closed if the entry replacing it doesn't have an ending date.

#### Pricing by responsibility center

In addition to standard functionality, you can now also assign purchase prices and line discounts to different responsibility centers.

To be able to use this feature, you only need to fill in the Responsibility Center field for a unit cost or line discount field on a price list.

**Extended pricing**

Another new feature will include the prices and discounts stored at a higher level of a vendor hierarchy (see [Create Hierarchies](#)) to determine the lowest price with the highest discount for an item that you want to purchase from a vendor. However, before you can use this feature, you must set it up first:

1. Choose the Search icon, enter Purchases & Payables, and then choose the related link.
2. In the Hierarchy Type Code Pricing field, select the type of hierarchy that you want to use for extended pricing.

Vendors linked to this hierarchy are then included in calculating the best price and discount on a document line based on multiple price-related factors, such as the validity period, minimum quantity, unit of measure, currency, and responsibility center.

At which level of a vendor hierarchy a value is determined isn't relevant in this situation, as prices or discounts might be calculated, for example, for vendors and item price groups at multiple levels at the same time.

**Keep worksheet prices**

When data is copied from a requisition or planning worksheet to a purchase order, the standard app rechecks the order date on the document, which will also refresh the prices stored on it. To prevent this from happening:

1. Choose the Search icon, enter Purchases & Payables Setup, and then choose the related link.
2. On the KUMAVISION FastTab, in the Update Price when Copied from Req. Wksh., select No Repricing.



## Warehouse and Inventory

### Make copies of shipping notes

By using standard app functionality, you can specify a set number of invoice copies that are printed when you post an invoice sent to a customer.

A new feature lets you do the same for shipping notes so that, for example, as a wholesaler, you can respond to forwarders' requests for a certain number of copies that they need to supply to international clients.

Each copy is printed automatically when a shipping note is posted. To specify the number of copies:

1. Choose the Search icon, enter Customers, and then choose the related link.
2. Open a customer card.
3. On the General FastTab, fill in the No. of Shpt. Copies field.

### Show quantities in item statistics

The statistics page you can open from item cards in Microsoft Dynamics 365 Business Central provides multiple ways in which to list currency amounts for a specific item. None of these views, however, contain item-related quantities. Therefore, a Quantity option has been added to the page.

To see quantities in statistics:

1. Choose the Search icon, enter Items, and then choose the related link.
2. Open an item card.
3. Choose Related > Statistics > Item Statistics.
4. Select Quantity in the Show as Lines field and fill in the other fields as necessary.
5. Choose Show Matrix on the ribbon.

You can then see the following quantity totals for each item ledger entry type:

- Positive Adjmt. (Qty.)
- Purchases (Qty.)
- Output (Qty.)
- Assembly Output (Qty.)
- Quantity Increase
- Sales (Qty.)
- Consumption (Qty.)
- Assembly Consumption (Qty.)
- Quantity Decrease
- Transfer (Qty.)

All quantities except those related to item ledger entries of the Transfer type are shown as positive values. You can drill down on a field to see all the item ledger entries totaled for a certain type.

### Identify receipts by supplier

When retrieving source document lines for warehouse receipts, you can now see the external reference numbers stored on the document lines in addition to item numbers. This way, you can filter for a supplier's item reference when creating documents for warehouse receipts.

### Manage negative inventory by location

By using standard system functionality, you can prevent negative inventory at every location of your company. However, some locations might need to make use of the option of posting into the negative.

A field has been added to the location card so that you can decide individually for each location how posting negative adjustments should be handled.

1. Choose the Search icon, enter Locations, and then choose the related link.
2. Select a location card.
3. On the General FastTab, fill in the Prevent Negative Inventory field.

If you didn't turn on the Prevent Negative Inventory toggle in Inventory Setup, the field on location cards shows the following options:

- Default (No)
- No
- Yes

However, if you turned on the toggle in Inventory Setup, the options are:

- Default (Yes)
- No
- Yes

In other words, the default setting at a location depends on whether you've turned the toggle in Inventory Setup on or off.

#### Note

What default option is set in item masters, that is, a Default (Yes) or a Default (No), always depends on whether you turned on the Prevent Negative Inventory toggle in Inventory Setup.

When you're trying to post a negative adjustment, the system goes through the following sequence to decide whether to perform or prevent the posting:

- What option is set on the item card?
- What option is set for the location?
- Has the toggle been turned on in Inventory Setup?

### Supply certificates of conformity

You can now also store conformance certificates for lots and provide them to customers if necessary.

#### Setup

### Extended Manufacturing Setup

To be able to use this feature, you need to specify a number series for certificates. To set up a series:

1. Choose the Search icon, enter Extended Manufacturing Setup, and then choose the related link.
2. On the General FastTab, select a series in the Conformance Certificate Nos. field. Alternatively, to create a new series, select the button next to the field and then choose New.

**Manage a certificate**

To manage certificates:

1. Choose the Search icon, enter Conformance Certificate List, and then choose the related link.
2. On the ribbon, choose New to create a certificate or choose Manage > View or Edit after selecting an existing one.
3. If you choose New, the No. field will be filled in with a number from the series that you set up for this purpose. You can also assign a number manually.
4. Optionally, fill in the Description and Certificate No. fields based on what you see written on the certificate. The other fields on the General FastTab will be filled in by the system after you've run the Import function.
5. Choose Import on the ribbon to select the file that contains the certificate.

You can then choose Get Lots from Purch. Receipts, Get Lots from Lot No. Info, or Get Lots from ILEs on the ribbon to assign the certificate to a lot.

The other actions available on the ribbon are described in the following table.

<b>Function</b>	<b>Description</b>
Export	Saves the image file displayed on the header.
Open	Shows the image file displayed on the header.
Delete	Deletes the image file displayed on the header.

**Lot No. Information card**

This card shows in the Conformance Certificate No. field the number of a certificate of conformity. You can use the Assist button next to the field to open the card of the certificate itself.

**Post transfers automatically**

Another new feature is that you can have the receipt of transfer orders posted at the same time as their shipment. This can be useful, for example, when you have no staff member who could confirm receipt at the destination.

You can use standard or KUMAVISION functionality for direct transfer orders, the difference being that when you choose the default option, you cannot ship or receive only part of an order.

With the KUMAVISION option, on the other hand, the system also posts partial receipts and shipments. To set up the feature:

1. Choose the Search icon, enter Inventory Setup, and then choose the related link.
2. On the Numbering FastTab, in the Direct Transfer Setup field, select the option you want to use (Microsoft Direct Transfer or KUMAVISION base Direct Transfer).
3. In the Direct Transfer Posting field, select Direct Transfer for standard functionality. For the KUMAVISION base extension, select Receipt and Shipment.

However, for the KUMAVISION base function to work, you must also turn on the feature for a location:

1. Open a location card.
2. On the General FastTab, turn on the Auto Post Transfers toggle.

The toggle is then set automatically on transfer orders to which this location is assigned.

#### **Get source document lines**

In Microsoft Dynamics 365 Business Central, you can use the Get Source Documents function to retrieve source data for the following inventory and warehouse documents:

- Inventory Put-Away
- Inventory Pick
- Whse. Receipt
- Whse. Ship

All lines that still need to be received or shipped are then copied there. Lines that aren't required must be deleted manually. The new Get Source Document Lines function extends standard functionality to include filter options for the lines of source documents. Grouped by type of document, the lines can then be filtered, for example, by item numbers so that only part of a document is retrieved.

## Manufacturing

### Compliance with 21 CFR Part 11 / GAMP5

In manufacturing, more than one employee might be logged on to the same work center when a product is reported as finished. To fulfil 21 CFR Part 11, production journals need to contain an identifier (*an electronic signature*) to show who reported item consumption or completion.

#### Setup

### Extended Manufacturing Setup

Before you can decide who will report on production progress, you must turn on the digital signature feature:

1. Choose the Search icon, enter Extended Manufacturing Setup, and then choose the related link.
2. On the General tab, turn on the Check Digital Signature toggle.

### Manufacturing User Setup

To specify who can post to manufacturing and store their digital signatures:

1. Choose the Search icon, enter Manufacturing User Setup, and then choose the related link.
2. Choose New on the ribbon.
3. Assign access to posting based on the following criteria:
  - a) If individual login credentials are assigned to everyone, fill in the User ID field but leave the Resource No. field blank.
  - b) If one ID is assigned to each work center (so that more than one person can post at a station), group the relevant resources by ID.
  - c) If output can be reported on any work center, enter an authorized resource in the Resource No. field but leave the ID field blank.
4. Fill in the rest of the fields as described in the following table.

Field	Description
Digital Signature	Specify the person's digital signature.
Signature Blocked	Turn on the toggle if you want to block this signature from being used.
Signature Fail Count	Shows the number of times the wrong signature was entered.  Following three failed attempts, the Signature Blocked toggle turns on automatically. The reason for blocking the sign-off is then shown in the Signature Blocking Reason field.
Signature Blocking Reason	Shows why the signature was blocked.
Reset Signature	With the toggle turned on, the signature needs to be updated before it can be used again.

#### Post production journals

Provided the Digital Signature feature is turned on in Extended Manufacturing Setup, the system will ask for a signature when a production journal is posted.

#### Note

If multiple resources are assigned to the same work center, the resource authorized to post to manufacturing must be specified in a Resource No. field in Manufacturing User Setup.

#### ID and resource log

During the posting process, the user ID and the resource number of the person who entered a digital signature is stored with the item or capacity entry posted so that you can see who created a certain entry.

## Production order cockpit

Two fields have been added to the list and to the cards of released production orders to indicate in percent and through a traffic light system the progress of the following production order values:

- Material consumption
- Capacity consumption
- Completion (output status)

Other new fields show the progress of outsourced tasks:

- % Subcontracted  
Indicates in percent—for each subcontracted operation—the total of Outstanding Qty. (Base) field values from related purchase lines and the Quantity (Base) values from posted receipt lines. These values, which represent all operations, are then divided by the input quantities entered for the order before being divided by 100. The Subcontracted field, written without the percent sign, indicates by color the degree to which work on the production order has been outsourced to other companies.
- % Subcontrd. Output  
Indicates in percent—for each subcontracted operation—the total of output values as stored in the associated capacity entries. These values, which represent all operations, are then divided by the input quantities entered for the order before being divided by 100. The Subcontrd. Output field, without the percent sign, indicates by color how much subcontracted work has been reported as finished.

## Navigate production BOMs and routings

This feature gives you direct access to the production bill of materials and the routing from an item card, making it easier to find production base data.

Component BOMs now also show the BOM and the routing stored for an item, and you can navigate further from there.

Day-to-day production management and work preparations often require that users can go directly from the item card to, for example, the Production BOM and the Routing pages.

However, to see a BOM version in the system, for example, you typically need to open the relevant item and go from there to the production BOM list before you can open the versions page from that list. The goal of the new feature is thus to provide a faster, one-click experience when looking for manufacturing-related information.

## Assist button

To see production data, just use the Assist button next to a production field:

- On the item card, to see the production BOM and the routing, as well as their versions, use the button next to Production BOM or Routing.
- On production BOM lines, to see the related BOM, select the button next to the Production BOM field.

!!!Note "Note The Assist button feature available in KUMAVISION factory365 provides even more options. For details, click [here](#).

**Create production data**

If the production BOM and routing fields on an item card are empty, you can also use the Assist button to create and link the base data of manufacturing with assembly items.

1. Open an item card.
2. On the Purchasing FastTab, select the Assist button next to the Production BOM No. field.
3. You're asked if you want to set up a new BOM. Choose Yes to open the production BOM for editing and certification.

**Check shortage prior to release**

Another new feature adds a missing parts list to production orders. Called a shortage list, it contains all components that aren't available at present.

You can open the list manually from a production order by choosing Shortage List on the ribbon, but it will also open on its own when an order is checked for shortages prior to release.

**Setup**

You need to turn on the feature before you can use it.

1. Choose the Search icon, enter Manufacturing Setup, and then choose the related link.
2. On the General tab, choose an option in the Shortage Release Check field to specify whether to show the shortage list—and, potentially, a warning message—when a production order is released.



Regardless of what option you choose, the list will include the fields described in the following table.

Field	Description
Type	Specifies the type of component (item) that is not available.
No.	Specifies the number of the component item.
Due Date	Specifies when the production item must be completed.
Description	Specifies the description of the component item.
Quantity per	Specifies the component quantity that is not available for completing the production item.
Unit of Measure Code	Specifies the unit used for the component item (the typical unit for these items is Piece).
Flushing Method	Specifies the method used to record the consumption of the component item in manufacturing.
Expected Quantity	Specifies the estimated demand for the component item in manufacturing.
Remaining Quantity	Shows the result of subtracting the expected from the output quantity.
Projected Available Balance	Specifies how many component items (with the same variant and location code) are available prior to the due date entered on the line, considering all positive and negative adjustments made during that period.
Available Inventory	Specifies the number of component items in inventory.
Substitution Available	Specifies if an item substitute is available for the component.

#### Production structure lists

A production structure is a partly of fully exploded BOM that shows, along with routings, the data used to manufacture a certain item. All lower-level BOMs for components can also be exploded in this view.

To see a detailed breakdown of how an item is produced:

1. Choose the Search icon, enter Production Structures List, and then choose the related link.
2. Select an item in the Item Filter field. This will fill in both the Prod. BOM Filter field with the BOM stored for this item and the Routing Filter field with the routing number linked to the item.
3. The Prod. BOM Version Filter shows the BOM version that is active on the date values are calculated, whereas the Routing Version Filter field displays the active routing version.
4. The Calculation Date field initially shows the date specified for the routing.
5. If—in addition to BOM components—you also want to see operations on the page, turn on the Show Routings toggle.

You can then run the Calculate function from the ribbon to show all first-level components and operations (=Level field contains the number 1) on the lines.

Afterward, you can expand or collapse the structure by using the arrows next to Level fields. To show every part of the structure, choose the double arrows.

To see the card, BOM, or routing of the item originally used for the production structure, go to the ribbon, choose Related > Production Structure, and select the option you want.

To see the same information about an item stored within the structure, that is, on a line, select a line before choosing Related > Line and the option you want on the ribbon.

To see the structure for a different calculation date than the working date:

1. In the Calculation Date field, choose the date for which you want to display the structure. After you've specified a date, the system will search for BOM and routing versions active on that date and fill in the Prod. BOM Version Filter and the Routing Version Filter.
2. Choose Calculate on the ribbon.

To calculate a BOM version that isn't active on a certain calculation date, you need to change the Prod. BOM Version Filter manually. The new date will only affect the validity of individual components (within starting and ending dates).

You can also see the structure of production BOMs that aren't assigned to any item. These are known as phantom BOMs.

1. On the Production Structures List page, enter a number in the Prod. BOM Filter field so that the system can start searching for a BOM version active on the calculation date.

#### **Note**

If you calculate a phantom BOM without an item number, routings cannot be shown.

2. Choose Calculate on the ribbon.

#### **Production order structures**

With the help of a production order structure, you can explode all components of a production order in a single view across all levels (provided that the order has more than one level).

1. Choose the Search icon, enter Production Structures List (Prod. Order), and then choose the related link.
2. In the Prod. Order Status Filter and Prod. Order No. Filter fields, select the status and the number of the order that you want to show.
3. If—in addition to BOM components—you also want to see operations on the page, turn on the Show Routings toggle.
4. Choose Calculate on the ribbon.

The actions on the ribbon of the page provide the same functionality as on the Production Structures List page.

#### **Cancel a production order release**

In the standard system, a production order cannot be completed when you've already posted, for example, consumption or resource hours to it but have yet to specify actual output (that is, a warehouse receipt).

Thanks to a new feature, you can now cancel these orders and set their status to Finished.

#### Requirements

For the cancellation feature to work, the following conditions need to be met:

- In User Setup, on the KUMAVISION FastTab, the Can Cancel Prod. Order toggle must be turned on for users who require the function.
- If output, that is, receipts, have already been posted, they must first be cancelled in the Output Journal.
- If consumption postings have already been canceled, the system will check whether the cancelled amounts match those originally consumed. If the amounts don't match, the feature can't be used.

Instead—as in the standard app—manual intervention is required to cancel transfers tied to production and set the order to Finished.

#### Cancel a release

If the stated conditions are met, the production order is cancelled per line via consumption and capacity postings. All postings will be made on the working date.

#### Consumption postings

- Remaining material quantities are reversed through application of the related consumption entries. Therefore, one reversal is posted per entry.
- Any dimension value is copied from its original consumption entry.

#### Output (capacities)

- For each routing and operation number, the system will total the output and scrap quantities posted, the setup and run times, the downtime, and the direct and overhead costs.
- The direct cost is calculated per cancelled posting based on total times (setup times, run times, and downtime), as they're reversed with each posting.
- If a finished or semi-finished product entered on an order line isn't valued according to the standard method, the overhead (Indirect Cost %) is weighted and posted based on total overhead.
- Any dimension value is copied from its original capacity entry.

#### Complete a production order

After the consumption and output postings have been reversed on each line, the production order is set to Finished with the help of standard functionality.

#### Note

Using standard functionality to change the status of a production order to Finished could very well still allow 'retroactive' postings, such as those for operation-related setup times.

## Service

### Repair in-house equipment

Logs repairs and similar services for in-house machinery or other equipment in the system. To use this function:

1. Choose the Search icon, enter Service Management Setup, and then choose the related link.
2. Turn on the Internal Orders toggle on the KUMAVISION FastTab.

This ensures that service orders set up for a customer for whom the Internal checkbox is selected don't create open entries. As a result, these services are treated as not billable on invoices.

### Control service (item) lines on dispatch orders

Specifies whether you want service (item) lines included on dispatch orders, for example, to create package labels with tracking codes.

1. Choose the Search icon, enter Service Management Setup, and then choose the related link.
2. Activate one or both fields described in the following table.

field	description
Service Item Lines on Dispatch Order	Turning on this toggle copies service item lines (that is, repaired items) to dispatch orders.
Service Lines on Dispatch Order	Turning on this toggle copies service lines (that is, a list of the spare parts consumed) to dispatch orders.

## Purchase Request

### Overview

A purchase request (BANF in German) is made for items that aren't linked to item masters. Examples are marketing materials and work clothes.

Requests have their own release process that doesn't involve standard item planning options, such as requisition worksheets. Request lines can instead be filled with pseudo-items linked to G/L accounts.

A completed request can then be submitted to your company's procurement department, where staff can create a purchase order from it in the same way as from a requisition worksheet.

### Note

You need a separate license before you can use this functionality.

### Setup

#### Purchase Request Setup

To set up the functionality:

1. Choose the Search icon, enter Purchase Request Setup, and then choose the related link.
2. Fill in the fields as described in the following tables.

#### General

Field	Comment
Purchase Order Type	Specify the default type that will be assigned to purchase orders created from requests.
Department Code	Specify Global Dimension Code 1.  In Microsoft Dynamics 365 Business Central, this code typically refers to a department.
Customergroup Code	Specify Global Dimension Code 2.  In Microsoft Dynamics 365 Business Central, this code typically refers to a cost unit.

#### No. Series

Field	Comment
No. Series	Specify the number series that will be used for requests.

## Email Notification

Field	Comment
Email Notification	Turn on this toggle if you want people working on requests to receive notifications about them by email.
Declined Offers	Select who will be notified should a request be declined, the person who approved it or everyone involved in the process.  You can also leave the field blank if nobody should receive an email.
Extended Text for Releases	Specify a message that will be included on emails notifying the relevant people of requests released during an approval workflow.
Extended Text for Rejections	Specify a message that will be included on emails notifying the relevant people of requests rejected during an approval workflow.
Extended Text for Orders	Specify a message that will be included on emails notifying the relevant people of requests ordered during an approval workflow.
Reminder Interval	Specify the interval after which people will be reminded that they still have purchase requests to respond to.

## Email accounts

The Purchase Request functionality includes approval workflows during which people set up as approvers in the system will receive email notifications about the progress of requests that they need to respond to.

The email account from which notifications should be sent can be a standard account used by your organization or one specifically created for this purpose. To specify a separate account:

1. Choose the Search icon, enter Email Scenario Assignment, and then choose the related link.
2. Choose Assign Scenarios and select Purchase Request.
3. Fill in the fields as necessary.

## Approval User Setup

You can now assign an approval administrator and request workflow codes. The approval administrator has all rights to purchase request functions. Only a single user can be selected as the administrator.

1. Choose the Search icon, enter Approval User Setup, and then choose the related link.
2. Fill in the fields as described in the following table.

## Note

All users who work with purchase requests should have a workflow code entered on this page, as the code is needed to identify both the approval process and individual approvers.

<b>Field</b>	<b>Description</b>
User ID	Select the ID of the user involved in the approval process.
Salespers./Purch. Code	Specify the code of the salesperson or purchaser linked to the user.
Approver ID	Select the ID of the user who must approve requests made by the person specified in the User ID field.
Sales Amount Approval Limit	Specify the maximum sales amount that the user entered in the Approver ID field can approve.
Unlimited Sales Approval	Select this checkbox if the user entered in the Approver ID field can approve all kinds of amounts in sales.  You cannot fill in a Sales Amount Approval Limit if this field is selected.
Purchase Amount Approval Limit	Specify the maximum purchase amount the user entered in the Approver ID field can approve.
Unlimited Purchase Approval	Select this checkbox if the user entered in the Approver ID field can approve all kinds of amounts in purchasing.  You cannot fill in a Purchase Amount Approval Limit if this field is selected.
Request Amount Approval Limit	Specify the maximum request amount that the user entered in the Approver ID field can approve.
Unlimited Request Approval	Select this checkbox if the user entered in the Approver ID field can approve purchase requests regardless of amount.  You cannot fill in a Request Amount Approval Limit if this field is selected.
Substitute	Specify a person that can assume the approver role if the original approver is not available.
E-Mail	Enter an email address for each person involved in the approval process. You can also use shared addresses.
Phone No.	Enter the user's phone number.
Approval Administrator	Turn on the toggle if the user entered on this line is also the workflow administrator, who has unrestricted access to the entire purchase request functionality.
Request Workflow Code	Specify the code of the required approval process.



A workflow code that you enter on this page is automatically copied to a new request that involves the person assigned to the code. This way, you can drill down on the Code field to set up a workflow before you make a request. For more information about how to specify a workflow, see [Workflows](#).

You will need to enter the code, at the latest, when you fill in the request itself. Else, the document cannot be submitted due to a missing workflow. However, the requester can choose another code mid-process. This might be necessary if the approval procedure or the cost center has changed.

#### Workflows

A workflow specifies the number and permissions of people or departments required for the approval process. To set up a workflow:

1. Choose the Search icon, enter Approval Workflows, and then enter the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the workflow.
Description	Specify a meaningful description for the approval process.
No. of Approvers	Shows the number of approvers required for the process.

You can then choose Approvers on the ribbon to add people to the workflow.

Field	Description
Approver ID	Select the user who will be involved in the approval process.
Name	Shows the name of the user specified in the Approver ID field.
Level	Specify the order in which approvers will be notified or need to approve a document.  You can put more than one person on the same level. They are then notified at the same time.
Approval Amount Limit	Fill in this field if the approver should only be notified when the requested amount exceeds a certain limit during approval.
Can Edit	Select this field if the approver should be able to edit requests.
Can Reject	Select this field if the approver should be able to reject requests.
Notify if Fixed Asset	Select this field if the approver should be notified that a fixed asset has been entered on a request line.

## Note

If you're using KUMAVISION project365, you can store an approval workflow on the Jobs Setup page. For more information, click [here](#).

**Pseudo items**

You can create and manage any number of G/L account-linked pseudo items for use on purchase requests. To set up a pseudo item:

1. Choose the Search icon, enter Pseudo Item List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

<b>Field</b>	<b>Description</b>
No.	Specify the number that will be used for the item.  You must fill in this field manually.
Description	Specify the name of the item.
Description 2	Here you can enter a more detailed description of the item if necessary.
G/L Account	Specify a G/L account that you want to link the item to.  You can only choose an account that can be used to post to purchasing (that is, an account for which the Direct Purchasing field has been selected).
G/L Account Description	Shows the description of the account linked to the item.
Vendor No.	Specify the vendor of the item.  You can only choose an existing vendor in this field.
Vendor Item No.	Shows the number assigned to the item by the vendor.
Direct Unit Cost	Here you can enter a per-unit price for the item.
Unit of Measure Code	Specify the unit in which the item is purchased.
Department Code	Specify Global Dimension Code 1.  In Microsoft Dynamics 365 Business Central, this code typically refers to a department.
Customergroup Code	Specify Global Dimension Code 2.  In Microsoft Dynamics 365 Business Central, this code typically refers to a cost unit.
No. of Extended Texts	Shows the number of text modules stored for the item.

When you create a purchase request later, the lines of the request will be filled in with the information entered on this page.

### Note

Pseudo items cannot currently be used with job budgets created in KUMAVISION project365. For more information, click [here](#).

#### Extended Texts

For each pseudo item, you can store extended texts that will be copied to the orders created from purchase requests. To store a text:

1. Open a pseudo item card.
2. On the ribbon, choose Extended Texts.

For more information on the topic, see Create an [Extended Text](#).

#### Purchase Prices

You can also maintain special purchase prices for pseudo items. To set up a price:

1. Open a pseudo item card.
2. On the ribbon, choose Prices.
3. Fill in the fields as necessary.

For example, you can enter a starting and an ending date for prices that you only want used within a certain period. Or you can enter a minimum quantity starting at which a certain price should apply.

The Vendor Item No. field can be filled in to differentiate between prices set by multiple or alternative suppliers. If you change vendors on a pseudo item line, the default price entered for the item is then replaced by this new price.

#### Purchase request workflow

##### Create a request

To create a purchase request:

1. Choose the Search icon, enter Purchase Request List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

## General

Field	Description
No.	Exit the field or press Enter to have the system assign a number automatically.
Order Date	This field is automatically filled in with the work date.
Due Date	Specify a date that will represent the requested, planned, and expected receipt dates during the ordering process.
Request Workflow Code	Specify a code for the request workflow.  This field might be filled in with a value from the Approval User Setup page if a code has been specified there.
Reason Code	Specify a reason code for the Reject function.
Department Code	Specify Global Dimension Code 1.  In Microsoft Dynamics 365 Business Central, this code typically refers to a department.
Customergroup Code	Specify Global Dimension Code 2.  In Microsoft Dynamics 365 Business Central, this code typically refers to a cost unit.
Status	Shows the status of the document within the approval process. The request might be: <ul style="list-style-type: none"> <li>• Open</li> <li>• Pending Release</li> <li>• Rejected</li> <li>• Ready for Ordering</li> </ul>
Created By	Shows the user who created the purchase request.
Created On	Shows the date and time when the request was created.
Last Modified On	Shows when the document was last edited.
Last Modified By	Shows by whom the document was last edited.
Level	Indicates how far the request is in the approval process.  You can select the hyperlink to see the order of approval.
Comments	Indicates if comments have been stored for the request.  You can select the hyperlink to see them.

Field	Description
Net Total Amount	Shows the net amount for all items entered on the lines.

#### Note

If a workflow code hasn't already been selected in Approval User Setup, you need to select a code here—or the request cannot be sent because of a missing workflow. A code can be created as described under [Approval User Setup](#) and [Workflows](#).

#### Lines

You can then fill in the lines. A line can be of type G/L account, Item, Resource, or Fixed Asset. Standard items are ordered through requisition worksheets.

However, you can also select a pseudo item on a line. You don't specify a line type in this case. Instead, the type is automatically set to G/L account and the account number linked to the item is entered in the No. field.

After you've entered a quantity for item, the unit cost stored for the specified vendor is copied from the Direct Unit Cost field on the pseudo item card—or the Pseudo Item Purchase Prices page if the relevant cost is specified there. The same applies to costs specified on G/L account, item, and fixed asset lines.

If the purchase price page includes alternative supplier costs or cost scales, you can also drill down on a Vendor No. field to choose a supplier and an item number on the request line. However, because of a lack of grouping criteria, a separate number is often created for a pseudo item.

The Purchase Request URL field supports the procurement department. It can be used by the person who requested an item to enter a web address that the purchaser tasked with fulfilling the request can open to see more information about the item itself and the terms and conditions of its delivery (by selecting a line and choosing Open URL on the ribbon).

When all required data has been entered, the request can be sent to the initial approver. To send a request:

- Choose Send on the ribbon.
- Choose Yes to start the approval workflow. Or choose No to make changes or corrections.
- If you choose No to correct the request, you must restart the workflow after making the correction by again choosing Send and choosing Yes on the dialog that appears.

#### Note

To send emails as part of an approval workflow, an SMTP server needs to be set up by your company's IT department.

Afterward—unless the value of what is being asked exceeds an approval limit specified in Approval User Setup—the request is sent to the approver that has been set up for the next step in the process.

**Release a request**

An approver can release a request by clicking the link in the notification email they receive or search for the request number within Microsoft Dynamics 365 Business Central. To release a request in the system as an approver:

1. Choose the Search icon, enter Purchase Request List, and then choose the related link.
2. Choose Search and enter the number you received in the notification email. You'll see the status of the request having been set to Release.
3. Choose Edit to open the request.
4. Choose Release on the ribbon. To add notes to the approval workflow, choose the Comments function and enter a note prior to release.

The request is then sent to the next specified approver. This exact process is repeated until the request has passed through all approval stages. In the last stage, the request is set to Ready for Ordering.

**Reject a request**

After being emailed about a pending release, an approver can also reject the request that is referenced in the email, because the person who is asking for certain items might not have been authorized to do so. To reject a request:

1. Choose the Search icon, enter Purchase Request List, and then choose the related link.
2. Choose Search and enter the number you received in the notification email. You'll see the status of the request having been set to Release.
3. Choose Edit to open the request.
4. On the General FastTab, fill in the Reason Code field to specify why this request is being rejected.
5. Choose Reject on the ribbon.

The request document is then reset to Open, and the requester is notified of the rejection.

**Resubmit a request**

Following a rejection, the requester can edit the document before choosing Send to restart the approval process as described above.

**Cancel a request**

If a request has been rejected and there's no reason to expect that a revised document would fare any different, the request can instead be canceled and archived. To cancel the request:

- Choose Cancel on the ribbon.
- A dialog appears. Choose Yes to set the document status to Cancelled and have it moved to the Archived Purchase Request List.



**Create an order**

If a purchase request has been released by all specified approvers, the items can be procured.

1. Choose the Search icon, enter Purchase Request List, and then choose the related link.
2. Choose Search and enter the number you—working in your company’s procurement department—received in the notification email. You’ll see the status of the request having been set to Ready for Ordering.
3. Choose Edit to open the request.
4. Choose Create Purchase Order on the ribbon. Based on the number of different vendors shown on the request, one or more purchase orders will be created. Afterward, the request will be completed and archived.
5. The requester will be notified of the order by email.

All orders created from purchase requests include the following information:

**Purchase header**

Field	Description
Purchase Order Type	This field is set to Default, unless otherwise specified in Purchase Request Setup.
Due Date	Shows the due date entered on the purchase request.

**Purchase lines**

Field	Description
Promised Receipt Date	Specifies the promised receipt date of the purchased items. The content of this field is calculated based on the expected receipt date.
Expected Receipt Date	Specifies the due date entered on the purchase request.
Requested Receipt Date	Specifies the requested receipt date of the purchased items. The content of this field is calculated based on the expected receipt date.
Purchase Request No.	Specifies the document number from the purchase request.
Pseudo Item No.	Specifies a pseudo item, used as a G/L account filter.
Requester ID	Specifies the person who created the purchase request.

**Actions - Document Texts**

Running the Beginning Text or Ending Text function from the purchase order also shows all texts entered for pseudo items on the original request.

**Archived requests**

Requests are archived when you create purchase orders for them by using the Create Purchase Order function or, following rejection, choose Cancel (without creating an order).

With the status set to Ordered or Cancelled, the documents are then moved to the Archived Purchase Request List.

#### Request log

All steps in the request process are recorded in a log. To see the log, choose Log Entries on the ribbon of a purchase request card or choose Related > Log Entries on the ribbon during the approval process.

## Dispatch

### Overview

With the Dispatch functionality, you can create orders that contain item lines, manually created document lines—such as for the simple dispatch of sample parts—and information about the packaging used for delivery.

Orders of this type might contain posted shipments alongside warehouse and inventory documents, such as Whse. Shipment and Inventory Pick. On each order, you can assign different unit loads (carriers) to one another to create a deep-nested packaging structure. You can then assign a carrier ID on each level so that when you send (that is, post) the order, the consumption of packaging material and the related warehouse or inventory documents will be posted at the same time.

You can also set up packing suggestions to store instructions on how to pack items and make use of available packaging materials. A suggestion specifies the packing methods for one type of item or packaging material. For grouping different items or materials on a higher level, for example, a pallet, you need to combine both types of suggestions.

#### Note

The words “carrier” and “package,” found in Dispatch Carrier Setup and elsewhere in the system, are interchangeable in this context. Both describe common types of unit loads and packaging materials.

On dispatch lines, a carrier specifies a single package that might be identified by an ID. The terms “carrier” and “package” are also synonyms here.

#### Note

As a carrier has, by definition, a quantity of 1, the functionality shouldn't be used for posting the consumption of ancillary packaging materials (10 meters of stretch film or 4 pieces of edge protectors, for example).

#### Note

You need a separate license before you can work with dispatch orders.

### Setup

You need to set up the functionality before you can use it.

#### Important note on carrier posting methods

KUMAVISION base 21.2.52743.0 introduced users to a new way of posting carriers. You can (and must) switch to this new system by turning on the New Carrier Posting Method toggle in Dispatch Setup. You also need to copy all source location data that you stored on location, customer, and vendor cards to the Carrier Posting FastTab on the page.

### Dispatch Setup

1. Choose the Search icon, enter Dispatch Setup and then choose the related link.

## 2. Fill in the fields as described in the following tables.

## General

Field	Description
Dispatch Order Nos.	Specify the number series that will be used for dispatch orders.
Packing Suggestion Nos.	Specify the series that will be used for packing suggestions.
Posting Type	Specify if the Post function should be used to ship orders or ship and invoice them at the same time.
Print Shipment	Turn on this toggle if you want to use the Post and Print function to print the shipment documents created for a dispatch order.
Print Invoice	Turn on this toggle if you want to use the Post and Print function to print the invoice documents created for a dispatch order.
Print Posted Dispatch Order	Turn on this toggle if you want to use the Post and Print function to print a posted dispatch order.
Company ID	Specify the ID that GS1 has assigned to your company.
Carrier ID Nos.	Specify the number series that will be used for a carrier as part of a carrier ID. A carrier ID combines a company ID and a number from another series.
Set Carrier IDs at Order Release	Turn on this toggle if you want a carrier or package ID assigned automatically when a dispatch order is released.
Set Check Digit for Carrier IDs	<p>Turn on this toggle if you want to create NVE-compliant carrier IDs. Activating the option will affect both the calculation and input of IDs.</p> <p>As mentioned previously, a carrier ID combines a company ID and a number from another series. With the toggle turned on, the system will check if the specified string is NVE-compliant.</p> <p>NVE-compliant means the ID must be numerical in nature and consist of 17 characters in total (the check digit not included). You will see an error message if one of these conditions is not met during the creation of an ID.</p>
New Carrier Posting Method	<p>Turn on this toggle to activate carrier postings.</p> <p>This way, you can post disposable and returnable carriers at different locations.</p>

## Carrier Posting

Field	Description
Carrier Item Jnl. Template Name	Choose the name of the item journal template that you want to post shipments with non-returnable packaging to.
Carrier Item Jnl. Batch Name	Choose the name of the item journal batch that you want to post shipments with non-returnable packaging to.
Carrier Transfer Jnl. Template Name	Choose the name of the item journal template that you want to post transfers with returnable packaging to.
Carrier Transfer Jnl. Batch Name	Choose the name of the item journal batch that you want to post transfers with returnable packaging to.

## Packing suggestion groups

You can assign groups of packing suggestions to certain customers, vendors, and locations by using the Packing Suggestion Links function on the ribbon of the relevant card. To set up a group:

1. Choose the Search icon, enter Packing Suggestion Groups and then choose the related link.
2. Fill in the fields as described in the following table.

Field	Description
Code	Specify a unique identifier for the group.
Description	Enter a description for the group.

## Carriers

To set up a carrier:

1. Choose the Search icon, enter Carriers, and then choose the related link.
2. Fill in the fields as described in the following tables.

## General

Field	Description
Code	Specify a code for the carrier.  You cannot assign a number from a series in this field.
Description	Enter a description for the carrier.
Added Packaging	Turn on this toggle if the carrier represents additional packaging.
ID Required	Turn on this toggle if you want the system to check for a carrier or package ID when the dispatch order assigned to the carrier is released.
Carrier ID Nos.	Here you can specify another number series for the carrier so that a number from this series (instead of the series selected in Dispatch Setup) will be used to create a carrier ID.  As mentioned previously, a carrier ID combines a company ID and a number from another series. With the <a href="#">Set Check Digit for Carrier IDs</a> toggle turned on in Dispatch Setup, the system will also check if the specified string is NVE-compliant.
Carrier Posting Type	If the carrier is posted to a warehouse and the Item No. field has been filled in, you can use this field to specify whether the carrier can be returned to the sender.  For disposable packaging, negative adjustment is posted during dispatch. For multi-use units, a transfer is posted to the address set up to receive the carrier (address of a customer or vendor, or another type of location).
Item No.	Fill in this field if the carrier should be linked to an item.
Inventory	If the carrier is linked to an item, this field shows how many of these types of carriers you have on hand.

## Note

There is no inventory management feature that links lot or serial numbers to carriers.

## Dimensions

Field	Description
Length	Specify the length of the carrier in the unit commonly used in your company.
Width	Specify the width of the carrier in the unit commonly used in your company.
Height	Specify the height of the carrier in the unit commonly used in your company.
Weight	Specify the weight of the carrier in the unit commonly used in your company.

**Locations**

The location card has been extended to include a FastTab covering dispatch-related functions. To set up the new features:

1. Choose the Search icon, enter Locations, and then choose the related link.
2. Open a location card.
3. Fill in the fields on the Dispatch FastTab as described in the following table.

## Dispatch

Field	Description
	<p>Specify if you want to use the Dispatch functionality at this location.</p> <p><b>(blank)</b> The functionality will not be used for the location.</p> <p>However, you can still create a dispatch order that uses documents linked to this location.</p> <p><b>Packages</b> Packages will be used at this location.</p> <p>This option provides a way for you to enter packages for sales, purchase return, and transfer orders without having to create a dispatch order.</p> <p>Nevertheless, you can still create an order that uses documents linked to this location.</p> <p><b>Dispatch Orders</b> Dispatch orders will be used at this location.</p>
Packing Suggestion Group	<p>Specify a group for packing suggestions.</p> <p>By assigning a group, you don't need to create a link to a packing suggestion each time an internal dispatch order is received at one of your company's locations.</p>
Outbound Packaging Location Code	<p>Specify the location that you want to use for packaging that will be shipped.</p> <p>You can then post negative adjustments of disposable and multi-use carriers to this location.</p>
Outbound Packaging Bin Code	<p>Specify the bin that you want to use for packaging that will be shipped.</p> <p>You can then post negative adjustments of disposable and multi-use carriers to this bin.</p>
Inbound Packaging Location Code	<p>Specify the location that you want to use for packaging that will be received.</p> <p>You can then post internal transfers of multi-use carriers to this location.</p>
Inbound Packaging Bin Code	<p>Specify the bin that you want to use for packaging that will be received.</p> <p>You can then post internal transfers of multi-use carriers to this bin.</p>



**Customers**

The customer and vendor cards have also been extended to include dispatch-related functions. To set up the features for a customer:

1. Choose the Search icon, enter Customers, and then choose the related link.
2. Open a customer card.
3. Fill in the fields on the Dispatch FastTab as described in the following table.

**Dispatch**

<b>Field</b>	<b>Description</b>
Packing Suggestion Group	Specify a group for packing suggestions.  By specifying a group, you do not need to create a link to a packing suggestion each time a dispatch order is sent to a customer.
Inbound Packaging Location Code	Specify the location that you want to use for packaging that will be received.  Multi-use carriers from the customer's dispatch orders are then posted to this location.  For maximum transparency, only one customer should be set up per location.
Inbound Packaging Bin Code	Specify the bin that you want to use for packaging that will be received.  Multi-use carriers from the customer's dispatch orders are then posted to this bin.

**Ship-to Addresses (action)**

<b>Field</b>	<b>Description</b>
Inbound Packaging Location Code	Specify the location that you want to use for packaging that will be received.  Multi-use carriers from dispatch orders shipped to the specified address are then posted to this location.  For maximum transparency, only one address should be set up per location.
Inbound Packaging Bin Code	Specify the bin that you want to use for packaging that will be received.  Multi-use carriers from dispatch orders shipped to the specified address are then posted to this bin.

**Vendor**

The customer and vendor cards have also been extended to include dispatch-related functions. To set up the features for a vendor:

1. Choose the Search icon, enter Vendors, and then choose the related link.
2. Open a vendor card.
3. Fill in the fields on the Dispatch FastTab as described in the following table.

**Dispatch**

<b>Field</b>	<b>Description</b>
Packing Suggestion Group	Specify a group for packing suggestions.  By specifying a group, you do not need to create a link to a packing suggestion each time a dispatch order is sent to a vendor.
Inbound Packaging Location Code	Specify the location that you want to use for packaging that will be received.  Multi-use carriers from the vendor's dispatch orders are then posted to this location.  For maximum transparency, only one vendor should be set up per location.
Inbound Packaging Bin Code	Specify the bin that you want to use for packaging that will be received.  Multi-use carriers from the vendor's dispatch orders are then posted to this bin.

**Packing suggestions**

Packing suggestions contain all the information relevant to creating dispatch orders. To include a suggestion on an order, you can use the Process Packing Suggestions function found on the ribbon.

The numbers of suggestions are already filled in on the lines of an order when you run one of the actions to get data from warehouse, inventory, or posted documents.

**Create a packing suggestion**

To set up a suggestion:

1. Choose the Search icon, enter Packing Suggestions, and then choose the related link.
2. Fill in the fields as described in the following tables.

## General

Field	Description
Packing Suggestion No.	Exit the field to have a number assigned automatically from the series set up for this purpose.
Type	Specify if the suggestion will be used for an item or a carrier.
No.	Enter the number of an item or a carrier, depending on what option you chose in the Type field.
Description	<p>After filling in the No. field, you can see the description of the item or carrier here.</p> <p>You can also change the description if necessary.</p>
Status	<p>Specifies the status of the suggestion.</p> <p><b>New</b> Automatically set when you create a new packing suggestion.</p> <p>In this status, you can both change an assigned checklist and the suggestion itself.</p> <p><b>Certified</b> You can no longer edit the suggestion.</p> <p>Suggestions need to be in this status before you can use them on dispatch orders. To change a certified suggestion, you need to reset the status to Under Development.</p> <p><b>Under Development</b> You can edit the suggestion.</p> <p><b>Expired</b> Specifies that the suggestion has expired and is no longer in use. It can also no longer be changed.</p>
Lines	

To create or delete suggestion lines, choose Insert Line or Delete Line on the ribbon at the top of the Packing Suggestion page.

Field	Description
Sequence No.	<p>A sequence number is assigned automatically when you use the Insert line function to add a line to the suggestion.</p> <p>The content of this field cannot be changed manually.</p>
Object Type	<p>Specifies if the suggestion covers instructions for an item or a carrier.</p> <p>On the first packing line, the value in this field is copied from the suggestion header. On all subsequent lines, it is copied from the Packing Type field found on the preceding line.</p> <p>The content of this field cannot be changed manually.</p>
Object No.	<p>Specifies the item or carrier packed at the specified level.</p> <p>Depending on the option specified in the Object Type field, this field is filled in with the item or carrier that was assigned to the suggestion. On all subsequent lines, the number is copied from the Packing No. field found on the preceding line.</p> <p>The content of this field cannot be changed manually.</p>
Packing Type	Select whether you want the item or carrier shown in the Object No. field packed inside a specific carrier or if it should be linked to a suggestion instead.
Packing No.	Depending on the option specified in the Packing Type field, this field shows the suggestion number used for packing the item or carrier entered in the Object No. field.
Packing Description	Shows the description of the suggestion entered in the Packing No. field. However, you can change the description if necessary.
Qty. per Level	<p>Specifies how many pieces of the item or carrier entered in the Object No. field can be packed on one level.</p> <p>You can only fill in this field if the Object Type and Packing Type are both set to Carrier.</p>
No. of Levels	<p>Specifies how many levels can be stacked inside the carrier that was entered in the Packing No. field.</p> <p>You can only fill in this field if the Object Type and Packing Type are both set to Carrier.</p>
Total Quantity	<p>Shows the result of multiplying the Quantity per Unit and No. of Levels fields.</p> <p>If, on a line of packaging type Carrier, the value in this field is 0, you can enter</p>

Field	Description
	another value manually. You cannot fill in the field on lines of type Packing Suggestion.
Single Lot	<p>Turn on this toggle to ensure that only one type of carrier or item has been entered on the line when you create a dispatch order.</p> <p>The toggle can only be turned on if the line is the first line on the suggestion or the toggle is also activated on the preceding line.</p> <p>On lines of type Item, the toggle can only be turned on if the item is set up for lot tracking.</p>
Use Packaging as Filler	<p>Specify if you want to use packaging material to fill up container deliveries.</p> <p><b>(blank)</b> No packaging will be added on the last level.</p> <p><b>Fill Level</b> On the last level, the container is filled with as many carriers as needed to match the number shown in the Qty. per Level field.</p> <p><b>Fill Corners</b> On the last level, carriers will be added to fill out the corners of the container.</p> <p>You can only choose something in this field if the Qty. per Level and No. of Levels fields contain a value other than 0. The Object Type and Packing Type fields must also be set to Carrier.</p>
Added Packaging	Indicates if the Added Packaging function on the Lines FastTab was used to add more packaging to the line.

#### Assign a suggestion

To link an item to a packing suggestion:

1. Choose the Search icon, enter Packing Suggestion Links, and then choose the related link.
2. Choose New.
3. Fill in the fields as described in the following table.

## Note

When you work with item variants, item and packing suggestion numbers can always be found at the lowest level of suggestions used for dispatch orders so that you can group the variants. To have a variant packed individually, you must create a separate suggestion and separate links for it.

Field	Description
Item No.	Specify the number of the item for which a suggestion will be set up on the line.
Variant Code	Here you can specify an item variant if available.
Item Description	Shows the description of the item entered in the Item No. field. You cannot change this field manually.
Link Type	Specify the type of recipient that the suggestion should be used for.
	<b>(blank)</b> Represents the default assignment if no other option can be used for the item when entered on a dispatch order.
	<b>Customer</b> Links the item to a customer.
	<b>Vendor</b> Links the item to a vendor.
	<b>Location</b>  Links the item to a location. This is the default option for assigning internal orders.
Link No.	<b>Suggestion Group</b> Links the item to a packing suggestion group. The group can then be assigned to a customer, vendor, or location.
	Specify a number for the link based on the Link Type field.
	Shows the description of the link entered in the Link No. field.
	Specify the number of the suggestion that should be used for the item and the link on a dispatch order.
	Shows the description of the suggestion that you entered in the Packing Suggestion No. field. You cannot change this field manually.
Packing Suggestion No.	Shows the status of the suggestion entered in the Packing Suggestion No. field.
	<b>Note</b> Only certified suggestions can be used for dispatch orders.
Packing Suggestion Status	
Starting Date	Ending Date Specify the period for which you want the link to be valid.



Field	Description
-------	-------------

**Note**

Filling in these fields is optional.

### Workflow

Every dispatch needs a dispatch order, a delivery that consists of one or more packages (=carriers). You can specify packages as early as creating the sales, purchase return, and transfer orders that you want to dispatch.

When you post their shipment, dispatch orders are created and posted by the system while the amount of packaging that you have on hand is reduced (for more information, see [Packages on Outbound Documents](#)).

By creating orders manually, you can link different packages together to set up a multilevel structure for a shipment (for more information, see [Dispatch Orders for Warehouse and Inventory Documents](#) and [Dispatch Orders for Posted Documents](#)). You can also assign packages to individual document lines only.

**Note**

The location that items are shipped from or consumed at isn't important to creating a dispatch order.

### Packages on outbound documents

You can enter packages on the following types of outbound documents:

- Sales orders
- Purchase return orders

You can easily record on them the type and quantity of carriers used, that is, if you selected Packages in the Dispatch Type field when you set up the location linked to the relevant document header. Linking document lines to carriers—or one carrier (a box) to another (a pallet)—isn't possible here.

When you post the shipment of an outbound document, the system will create and post a dispatch order listing all the information available on the document and for the assigned carrier. Provided a source location has been specified for the carrier, the number of carriers that you have on hand will also be reduced during this process.

**Note**

If you selected the Packages option in the Dispatch Type field on a location card and then use the location on a document header, you must enter at least one package on this document.

**Note**

If a carrier is used in inventory management, that is, the carrier is assigned to an item tracked through a serial or lot number, carrier stock will not be reduced. You can also post a document assigned to the carrier without encountering an error.

You can also specify packages on transfer orders if the location entered in the Transfer-from Code field on the order supports this option. A dispatch order is then created and posted as you post the outbound transfer.

### Note

When you post the dispatch order, the carrier inventory at the destination (Transfer-to Code) is reduced, regardless of what is specified for the carrier on source location lines.

The transfer order fields can be filled in as described in the following table.

Field	Description
Carrier Code	Specify the code of the carrier.
Carrier Description	The description is copied from the carrier card and cannot be changed.
Carrier Quantity	Specify the number of carriers used.
Carrier Gross Weight (Scales)	Specify the gross weight of the filled carrier.

### Note

When you assign a carrier to a sales order or a purchase return order, the system will check if a suitable customer or vendor record can be found on the lines of the source location specified for this carrier. If none is found, an error message will appear.

#### Manual dispatch

To create a dispatch order manually:

1. Choose the Search icon, enter Dispatch Order List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

## General

Field	Description
No.	Exit the field to have a number assigned automatically from the series set up for this purpose.
Dispatch Location Code	Description to follow.
Shipment Method Code	Specify the method for dispatch.  You must fill in this field. When you copy another document to the order, the value in this field will be overwritten with the method stored on that document.
Shipping Agent Code	Specify the shipping agent responsible for the dispatch.  You must fill in this field. When you copy another document to the order, the value in this field will be overwritten with the agent code stored on that document.
Shipping Agent Service Code	Specify the shipping agent service rendered for the order.
Shipping Agent Text	For more information, see <a href="#">Shipping Agent Text</a> .
Dispatch Notes	For more information, see <a href="#">Dispatch Notes</a> .
Dispatch Provider	For more information, see <a href="#">Shipping Agents</a> .
V-LOG Company	For more information, see V-LOG Setup.
Forwarder/ Waybill No.	Specify the number that was assigned to the dispatch order by the forwarder or can be found on the bill of lading.
Assigned User ID	Specify the ID of the user responsible for the document.
Single-Package Dispatch	Select this field if you want to create a posted order for each carrier or package when you send (post) this dispatch order.  <b>Note</b> When you enter a carrier on a sales or purchase return order, the system will check if a suitable customer or vendor record can be found on the lines of the source location specified for the carrier. If none is found, an error message will appear.
Status	Shows the status of the order.
Goods Value	Description to follow.

Field	Description
Destination Type	The field is filled in automatically when the first document is retrieved.
Destination No.	The field is filled in automatically when the first document is retrieved.
Sell-to Contact No.	The field is filled in automatically when the first document is retrieved.
Ship-to Code	The field is filled in automatically when the first document is retrieved.
Ship-to Name	The field is filled in automatically when the first document is retrieved but can be changed on the order.
Ship-to Country/Region Code	This field is filled in automatically when the first document is retrieved but can be changed on the order. This field must be filled in.
Ship-to Post Code	The field is filled in automatically when the first document is retrieved but can be changed on the order.
Ship-to Contact	The field is filled in automatically when the first document is retrieved but can be changed on the order.
Fixed Shipping Date	Description to follow.
Fixed Shipping Time	Description to follow.

## Shipping Agent/Forwarder

Field	Description
Pickup Date	Specify the date on which the order needs to be picked up.
Pickup Time	Specify the date at which the order needs to be picked up.
Received On	Specify the date on which the order needs to be delivered.
Received At	Specify the time at which the order needs to be delivered.

## Packaging Locations

Field	Description
Outbound Packaging Location Code	Specify the location that you want to use for packaging that will be shipped.  You can then post negative adjustments of disposable and multi-use carriers to this location.
Outbound Packaging Bin Code	Specify the bin that you want to use for packaging that will be shipped.  You can then post negative adjustments of disposable and multi-use carriers to this bin.
Inbound Packaging Location Code	Specify the location that you want to use for packaging that will be received.  You can then post internal transfers of multi-use carriers to this location.
Inbound Packaging Bin Code	Specify the bin that you want to use for packaging that will be received.  You can then post internal transfers of multi-use carriers to this bin.

## Ribbon Actions Dispatch

Posts an order according to the posting type specified in Dispatch Setup. This process includes:

- Posting warehouse and source documents assigned to the order.
- Posting the packaging material consumed.
- For single-lot dispatch, creating a separate posted dispatch order for each carrier or package. The source document will be displayed in the Single-Package Dispatch Parent Order No. field on every order.
- Archiving the posted document(s).

### Note

The dispatch order must be released before you can run this function.

## Post and Print

Posts a dispatch order and prints the documents that you selected via toggle in [Dispatch Setup](#).

### Note

The dispatch order must be released before you can run this function.

## Goods Value

Description to follow.

## Release

Changes the status of a dispatch order from Open to Released. The following checks are performed automatically when an order is released:

- Have the Shipment Method Code, Shipping Agent Code, Ship-to Name, Ship-to Country/Region Code and Ship-to Post Code been filled in?
- Has at least one carrier been specified on the order?
- Have all item lines and manual lines been assigned to the specified carriers or have none been assigned to them?
- For single-package shipments:  
Are carriers found only on level 1 of the packing structure and have the document lines been assigned to the specified carriers?

If the answer to all these questions is Yes, the order will be released.

## Reopen

Resets the status of an order from Released to Open.

## Scan Document ID (Scanner)

Description to follow.

## Actions - Functions

The following functions can be called via the menu item "Functions":

### Manual Line

Used to enter dispatch lines manually. For more information, see [Manual Lines on Dispatch Orders](#).

### Process Packing Suggestions

See [Process a Packing Suggestion](#).

### Refresh Packing Structure

Updates the packing structure.

### Note

This function also runs automatically when you add packaging materials or assign document lines to packages.

### Assign Carrier ID

Assigns an ID to each carrier entered on a dispatch order as early as the order being in the Open status.

### Note

For the function to work, you must have specified a number series for carrier IDs and turned on the ID Required toggle for the carrier.

## Actions - Warehouse & Inventory

See [Dispatch Orders for Warehouse and Inventory Documents](#).

#### Actions – Posted Documents

See [Dispatch Orders for Warehouse and Inventory Documents](#).

#### Related

Choose Dispatch Order > Comments if you want to enter comments for a dispatch order.

Choose Dispatch Order > Edit Dispatch Notes to change the shipping notes sent with V-LOG transmissions.

#### Dispatch lines

The Lines FastTab contains the item or manual dispatch lines (see [Manual Lines on Dispatch Orders](#)) you want dispatched and the carriers that will be used for delivery.

Carriers can be assigned to one another to create a multilevel structure on an order. One or more carriers can also be assigned to item lines or manual lines.



The fields shown on the FastTab are described in the following table.

Field	Description
	Specifies the type of dispatch line. Options are:
Document Line Type	<ul style="list-style-type: none"> <li>• (blank)</li> <li>• Item</li> <li>• Carrier</li> </ul>
Document Line No.	Specifies the number of an item or the code of a carrier.
Packing Structure	This field is filled in by the system.
Added Packaging	Description to follow.
Empty Packaging	Description to follow.
Carrier Posting Type	Description to follow.
Description	Shows the description of the item from the source document line, the manual dispatch line, or the carrier.
Service Item No.	Description to follow.
Serial No.	Shows the serial number that was stored on the warehouse, inventory, or posted document assigned to the line.
Lot No.	Shows the lot number that was stored on the warehouse, inventory, or posted document assigned to the line.
Quantity	This field is filled in by the system.
Qty. to Handle	<p>This field is filled by the system.</p> <p>You can reduce the Qty. to Handle by choosing Functions &gt; Split Line on the ribbon to create multiple lines with carriers.</p>
Unit of Measure Code	Specifies the unit used on the source document line or for the carrier.
Packing Suggestion Group	Description to follow.
Packing Suggestion No.	Description to follow.

Field	Description
Packing Suggestion Status	Description to follow.
Carrier ID	<p>You can enter a carrier ID manually or have one calculated by the system.</p> <p>For automatic calculation, you need to have turned on the ID Required field on the card of the carrier and set up a number series for carrier IDs.</p> <p>As mentioned previously, a carrier ID combines a company ID and a number from another series. If the Set Check Digit for Carrier IDs toggle is turned on in Dispatch Setup, the system will check if the specified string is NVE-compliant.</p> <p>For more information, see <a href="#">Dispatch Setup</a>.</p> <p><b>Note</b> The carrier ID is shown without the check digit here. A check digit is typically required for barcode carrier IDs. However, in the present context, the digit must be calculated later based on the type of barcode that should be printed.</p>
Weight per UOM	<p>Specifies the gross weight stored on the source document line or the weight of the entered carrier.</p> <p>You can change the content of this field manually.</p>

## Manage

Choose Delete Line to remove one or more lines from a dispatch order.

## Functions Split Line

Splits a line of type Item into two lines.

For the function to work, the quantity on the source line must be greater than 1 and the Qty. to Handle less than the total. The difference between the original quantity and the Qty. to Handle is then entered on the new line.

## Add More Packaging

Adds one or more carriers or packaging materials to a dispatch order.

You can specify the total quantity you want to add when you select the carrier or material. A dispatch line with a quantity of 1 is then entered on the order for each individual carrier or material.

## Highlight Lines

Highlights in red one or more manually selected dispatch lines so that they can be assigned to another dispatch line.

## Remove Highlighting

Deletes the highlighting from lines.

#### Add to Package

Assigns the highlighted lines to another dispatch line.

- Lines of document line type Item or (blank) can only be assigned to a dispatch line of type Carrier.
- Lines of document line type Carrier can only be assigned to a dispatch line of type Carrier.

Assigning one line to another creates a multilevel structure, with the relations between lines indicated in the Packing Structure field. If you assign a dispatch line that contains a substructure, the entire structure will be added as well.

#### Note

You should always assign carriers from bottom to top. On Level 1—the lowest level—you should, for example, specify the pallet used. On Level 2, you should store the first set of cardboard boxes. On Level 3, an anti-slip mat might be introduced, and Level 4 might then contain another set of boxes.

#### Remove from Package

Removes the highlighted lines from a carrier or package.

A line that contains a carrier or package with a substructure is moved to Level 1 in the packing structure, with the substructure left intact.

#### Line Source Document Line

Opens the source document for a line of type Item. Source documents can be:

- Sales orders
- Purchase return orders
- Service orders
- Transfer orders
- Posted shipments
- Posted service shipments
- Posted return shipments
- Posted outbound transfers

#### Whse. Document Line

Opens the warehouse shipment or inventory pick for a line of type Item.

## FactBoxes

## Dispatch order

Field	Description
Dispatch Comment	Indicates if notes have been added to the dispatch order.
Customer No./ Vendor No.	Shows the content of the Destination Type field from the dispatch header.
Gross Weight	Shows the total gross weight on Level 1 dispatch lines.
Tare Weight	Shows the total tare weight from all carrier lines, regardless of their level within the structure.
Net Weight	Shows the total net weight from all item and manual dispatch lines, regardless of their level within the structure.
No. of Packages (Level 1)	Shows the total number of packages on Level 1.
No. of Packages (Total)	Shows the total number of packages on all levels.
Interface	Indicates if an interface is used for the dispatch order.

## Dispatch Lines

Field	Description
Tare Weight	Specifies the carrier net weight that was entered on the carrier card.
	For carrier lines without substructures, this field is empty. For carrier lines with substructures, this field shows the total gross weight from all substructure levels.
Net Weight	For item lines, the value in this field is identical to the gross weight of the item times the quantity entered for the item on the lines.
	<b>Note</b> Dispatch considers net and gross weights to be interchangeable. This is because items have already been packed at this point—for example, paint has already been filled into a can.
Gross Weight	For a carrier line without a substructure, this field shows the weight of the carrier. For a carrier line with a substructure, the field shows the total net weight plus the tare weight.
	For item lines, the value in this field is identical to the gross weight of the item times the quantity entered for the item on the lines.
Length	Specifies the length of the carrier.
Width	Specifies the width of the carrier.
Height	Specifies the height of the carrier.

## Dispatch orders for warehouse and inventory documents

You can copy data from warehouse shipments or inventory picks to manually created dispatch orders by choosing Actions > Warehouse & Inventory on the ribbon of an order.

When data is copied from the first document, the Ship-to Address entered on it is transferred to the field with the same name on the dispatch header. Each time you retrieve data from additional documents, you then see a message if the address initially copied to the header is different from the one entered on the document that you want to copy. If you choose OK, the system will create new document lines but leave the data on the header unchanged.

## Get Warehouse Shpt. (action)

Copies warehouse shipment data to a dispatch order.

For this function to work, the following requirements must be met:

- The shipment cannot be part of another dispatch order.
- The Qty. to Ship field on the shipment lines must be filled in.

## Note

In two-stage picking, picks need to be registered before you can copy a warehouse shipment to a dispatch order.

The information stored on the warehouse shipment lines is then used to fill in new dispatch lines as described in the following table.

Field	Description
Document Line Type	This field is filled in with line type Item.
Document Line No.	This field is filled in with the number of the item.
Packing Structure	This field is not filled in automatically.
Description	This field shows the item description from the source document line.
Serial No.	This field is filled in if the warehouse shipment line contains an item tracking line with a serial number.
Lot No.	This field is filled in if the warehouse shipment line contains an item tracking line with a lot number.
Quantity	This field is filled in by the system.
Qty. to Handle	This field is filled in by the system.
Unit of Measure Code	This field shows the unit of measure used on the source document line.
Packing Suggestion Group	This field is filled in if the packing suggestion entered for the order in the Packing Suggestion No. field was calculated with the help of a suggestion group.
Packing Suggestion No.	This field shows the number of the packing suggestion specified for the line.
Packing Suggestion Status	This field shows the status of the specified packing suggestion. Only certified suggestions can be used for dispatch orders.
Carrier ID	For item lines, this field remains blank.
Weight per UOM	This field shows the gross weight from the source document line. You can change the value in this field on the dispatch line.

Get Inventory Pick (action)

Copies inventory picking data to a dispatch order.

For this function to work, the following requirements must be met:

- The inventory pick is not part of another dispatch order.

The data stored on the inventory pick lines is then used to fill in new dispatch lines as described in the following table.

Field	Description
Document Line Type	This field is filled in with line type Item.
Document Line No.	This field is filled in with the number of the item.
Packing Structure	This field is not filled in automatically.
Description	This field shows the item description from the source document line.
Serial No.	This field is filled in if the inventory pick line contains an item tracking line with a serial number.
Lot No.	This field is filled in if the inventory pick line contains an item tracking line with a lot number.
Quantity	This field is filled in by the system.
Qty. to Handle	This field is filled in by the system.
Unit of Measure Code	This field shows the unit of measure used on the source document line.
Packing Suggestion Group	This field is filled in if the packing suggestion entered for the order in the Packing Suggestion No. field was calculated with the help of a suggestion group.
Packing Suggestion No.	This field shows the number of the packing suggestion specified for the line.
Packing Suggestion Status	This field shows the status of the specified packing suggestion. Only certified suggestions can be used for dispatch orders.
Carrier ID	For item lines, this field remains blank.
Weight per UOM	This field shows the gross weight from the source document line. You can change the value in this field on the dispatch line.

Packing structure



For more details on how to add carriers or packaging materials to a dispatch order and assign them to one another, as well as assign item lines to carriers or packaging materials, see [Dispatch Lines](#).

### Dispatch an order

Before a dispatch order can be sent (that is, posted), it must be released. The following checks are performed automatically when an order is released:

- Have the Shipment Method Code, Shipping Agent Code, Ship-to Name, Ship-to Country/Region Code and Ship-to Post Code been filled in?
- Has at least one carrier been specified on the order?
- For single-package shipments:  
Are carriers found only on level 1 of the packing structure and have the document lines been assigned to the specified carriers?

If the answer to all these questions is Yes, the order will be released. Posting the order will:

- Post the consumption of packaging material.
- For single-package shipments, create a separate posted dispatch order for each carrier or package. The source document will be displayed in the Single-Package Dispatch Parent Order No. field on every order.
- Archive the posted document(s).

#### Dispatch orders for posted documents

### Get posted documents

You can copy data from posted documents to manually created dispatch orders by choosing Actions > Posted Documents on the ribbon of an order. You can retrieve information from the following documents:

- Posted sales shipments
- Posted service shipments
- Posted transfer shipments
- Posted return shipments

When data is copied from the first document, the Ship-to Address entered on it is transferred to the field with the same name on the dispatch header. Each time you retrieve data from additional documents, you then see a message if the address initially copied to the header is different from the one entered on the document that you want to copy. If you choose OK, the system will create new document lines but leave the data on the header unchanged.

The information that was entered on the source document lines is then used to fill in new dispatch lines as described in the following table.

Field	Description
Document Line Type	This field is filled in with line type Item.
Document Line No.	This field is filled in with the number of the item.
Packing Structure	This field is not filled in automatically.
Description	This field shows the item description from the source document line.
Serial No.	This field is filled in if the source document line contains an item tracking line with a serial number.
Lot No.	This field is filled in if the source document line contains an item tracking line with a lot number.
Quantity	This field is filled in by the system.
Quantity	This field is filled in by the system.
Unit	This field shows the unit of measure used on the source document line.
Packing Suggestion Group	This field is filled in if the packing suggestion entered for the order in the Packing Suggestion No. field was calculated with the help of a suggestion group.
Packing Suggestion No.	This field shows the number of the packing suggestion specified for the line.
Packing Suggestion Status	This field shows the status of the specified packing suggestion. Only certified suggestions can be used for dispatch orders.
Carrier ID	For item lines, this field remains blank.
Weight per UOM	This field shows the gross weight from the source document line. You can change the value in this field on the dispatch line.

#### Packing structure

For more details on how to add carriers or packaging materials to a dispatch order and assign them to one another, as well as assign item lines to carriers or packaging materials, see [Dispatch Lines](#).

#### Dispatch an order

Before a dispatch order can be sent (that is, posted), it must be released. The following checks are performed automatically when an order is released:

- Have the Shipment Method Code, Shipping Agent Code, Ship-to Name, Ship-to Country/Region Code and Ship-to Post Code been filled in?
- Has at least one carrier been specified on the order?
- For single-package shipments:  
Are carriers found only on level 1 of the packing structure and have the document lines been assigned to the specified carriers?

If the answer to all these questions is Yes, the order will be released. Posting the order will:

- Post the consumption of packaging material.
- For single-package shipments, create a separate posted dispatch order for each carrier or package. The source document will be displayed in the Single-Package Dispatch Parent Order No. field on every order.
- Archive the posted document(s).

#### Process a packing suggestion

To create a set of instructions on how to pack items and carriers according to the suggestion numbers that were filled in on dispatch lines, choose Actions > Functions > Process Packing Suggestions. The numbers were copied to the lines when you used one of the functions to get data from a warehouse, an inventory, or a posted document.

When you run the action, the system creates a temporary structure with the help of the specified packing suggestion and the links between suggestions and items that you set up on the Packing Suggestion Links page.

You cannot edit the structure that you see, but you can copy it to the order by choosing OK.

#### Manual lines on dispatch orders (no warehouse, inventory, or posted documents)

To add document lines to a dispatch order manually:

1. Choose the Search icon, enter Dispatch Order List, and then choose the related link.
2. Open a dispatch order.
3. On the ribbon, choose Actions > Functions > Manual Line.
4. Fill in the fields as described in the following table.

Field	Description
Description	Specify a description for the dispatch line.
Quantity	Enter a quantity for the line.

This creates a dispatch line with the following field values on the lines:

Field	Description
Document Line Type	Remains blank and cannot be changed.
Document Line No.	Remains blank and cannot be changed.
Packing Structure	Remains blank and cannot be changed.
Description	Shows the entered description.
Serial No.	Remains blank and cannot be changed.
Lot No.	Remains blank and cannot be changed.
Quantity	Shows the entered quantity.
Qty. to Handle	The field is filled in by the system.
Unit of Measure Code	Remains blank and cannot be changed.
Carrier ID	Is determined automatically.
Weight per UOM	Remains blank and cannot be changed.

#### Packing structure

For more details on how to add carriers or packaging materials to a dispatch order and assign them to one another, as well as assign manually created lines to carriers or packaging materials, see [Dispatch Lines](#).

#### Dispatch an order

Before a dispatch order can be sent (that is, posted), it must be released. The following checks are performed automatically when an order is released:

- Have the Shipment Method Code, Shipping Agent Code, Ship-to Name, Ship-to Country/Region Code and Ship-to Post Code been filled in?
- Has at least one carrier been specified on the order?
- For single-package shipments:  
Are carriers found only on level 1 of the packing structure and have the document lines been assigned to the specified carriers?

If the answer to all these questions is Yes, the order will be released. Posting the order will:

- Post the consumption of packaging material.
- For single-package shipments, create a separate posted dispatch order for each carrier or package. The source document will be displayed in the Single-Package Dispatch Parent Order No. field on every order.
- Archive the posted document(s).

## V-LOG dispatch

Besides the packing slip, wholesalers might need other shipping documents, especially a package label for use by the shipping agent. The interface to the program used to ship orders is thus often adapted to meet the requirements of specific projects.

KUMAVISION base (BOOSTER) provides Dispatch users with an interface to V-LOG. With the help of V-LOG, they can automate workflows for shipping orders via UPS, DHL, DPD, and other logistics companies and forwarders.

However, this means that all data needed for V-LOG transfers, for example, the delivery address, the number of packages, and the weight, must be provided in a standardized format.

Additionally, you need to set up the interface in the system as described in the following:

### No. Series

Specify a number series for future orders if necessary.

For more information on how to create a series, see [Dispatch Setup](#).

### Carrier Setup

Set up the carriers required for the interface.

For more information on how to set up a carrier, see [Dispatch Setup](#).

### Locations

Set up one or more locations with dispatch type Dispatch Orders.

Only locations with this setup can be transferred via the interface.

### V-LOG Setup

Turn on the interface itself.

1. Choose the Search icon, V-LOG Setup, and then choose the related link.
2. Fill in the fields as described in the following table.

**Note**

Usually, this interface is set up in collaboration with KUMAVISION staff.

Field	Description
	Turn on this toggle to activate the V-LOG interface.
Active	<p><b>Note</b></p> <p>The interface should be turned on only after you finished configuring the web service endpoint.</p>
Webservice Endpoint	Specify an MHP-compliant URL.
V-LOG Company	Enter a company in an MHP-compliant format.
Printer	Select the printer that labels should be printed on.
Status Request Cooldown (min)	<p>Specify the cooldown period required between successive, manually triggered status requests on a V-LOG line.</p> <p>Another V-LOG update can only be requested by a user after the time entered in this field has passed.</p>
Verify V-LOG Postage Mapping	Specify whether the system should check for valid V-LOG postage mappings before dispatch orders are released.
Use XML Formatting	<p>Turn on this toggle if you want to use the XML format to transfer the following values:</p> <ul style="list-style-type: none"> <li>• 'Send_Date'</li> <li>• 'Send_DateTime'</li> <li>• 'inch_value'</li> <li>• 'send_height'</li> <li>• 'send_length'</li> <li>• 'send_width'</li> <li>• 'send_value of goods'</li> </ul> <p>The option is turned on automatically when you first set up the interface.</p> <p>For an existing setup, you can turn off this option to test if the program receiving the data can handle the XML values.</p>

Shipping agents

Specify V-LOG as the default dispatch provider for a shipping agent.

1. Choose the Search icon, enter Shipping Agents, and then choose the related link.
2. Select a shipping agent.
3. Select V-LOG in the Default Dispatch Provider field.

This option is used so that you don't need to enter the provider manually on every new order. However, you can choose a different provider if necessary.

Transmissions to V-LOG mainly consist of numeric key values. If you want all dispatch orders shipped by an agent transmitted through V-LOG, you need to enter the agent's numeric value in the V-LOG Code field. This numerical value must be requested by MHP on a case-by-case basis.

#### V-LOG Notes

Additionally, you can add notes that the shipping agents require. These notes might include descriptions of the dispatch process and customizable, numeric V-LOG codes that can later be assigned to an order. To add a note:

1. Choose the Search icon, enter Shipping Agents, and then choose the related link.
2. Select a shipping agent.
3. On the ribbon, choose Related > Line > Dispatch Notes.
4. Fill in the fields as described in the following table.

Field	Description
Shipping Agent	Shows the shipping agent for whom you want to add a note.
V-LOG Dispatch Note	Enter a V-LOG code to categorize the dispatch note. For more information, see the following table.
Description	Specify a text that will be used as a description when you assign the note to a dispatch order.
Numeric V-LOG Dispatch Note	Specify a numeric V-LOG code manually, if necessary.

V-LOG Code	Option Name	MHP Field Name
DEL	Delivery Remarks	Delivery Advice
SUR	Miscellaneous	Miscellaneous Information
SIN	Tail Lift Required	Tail Lift Required
SE	Secured	Secured
INV	Order Group (Separate Billing)	Consignment Group (for Separate Invoice)
RE	Invoice Text	Invoice Text
COD	COD at Pickup	COD for Collection
AVI	Pickup Notice	Advice Information for Collection
C01	Order Text 1	Order Text 1
C02	Order Text 2	Order Text 2
I01	Invoice Text 1	Invoice Text 1
I02	Invoice Text 2	Invoice Text 2
I03	Invoice Text 3	Invoice Text 3
I04	Invoice Text 4	Invoice Text 4
EAV	Email Address	Email Address

Shipping agent text



You can use the Shipping Agent Text field on dispatch orders to enter another note that you want to transmit to a shipping agent. You can enter a maximum of 250 characters here.

### Dispatch Notes

You can also drill down on the Dispatch Notes field found on dispatch orders to select a V-LOG dispatch note that you assigned to a certain shipping agent.

### Posted dispatch orders

To print a posted dispatch order:

1. Choose the Search icon, enter Posted Dispatch Orders List, and then choose the related link. Alternatively, open any posted order linked to the dispatch order.
2. Select a dispatch order and choose Reports > Print. Alternatively, open the relevant document and choose Line > Dispatch.

If you open the posted order from a source document, the source document lines found on it are highlighted in blue.

## Compliance

### Overview

The Compliance functionality helps you design processes that can fulfil regulations such as FDA 21 CFR 11. It supplies, for example, the operational system checks you need for properly certifying BOMs and routings, releasing items, vendors, customers, and validation plans, and providing feedback on manufacturing operations.

You can specify individual regulatory requirements through table and field filters. If, following a change in data, you want to re-release a record that must meet some of those requirements, a compliance document will be generated. This document then needs to be approved by certain staff members prior to release.

#### Note

You need a separate license before you can use this functionality. If you're working with KUMAVISION medtec365 and the [Workflow and Notification Manager](#), you can also specify a workflow for handling approvals.

#### Note

If you're working with KUMAVISION healthcare365 and the [Workflow and Notification Manager](#), you can also specify a workflow for handling approvals.

### Setup

#### Compliance Setup

To set up compliance management:

1. Choose the Search icon, enter Compliance Setup, and then choose the related link.
2. Fill in the field as described in the following table.

Field	Description
Compliance Nos.	Specify the number series that you want to use for compliance documents.
Check Owner and Possessor at Reject	Description to follow.

#### Compliance permissions

#### Individual permissions

You set up permissions for users to specify who will be involved in each step of the compliance process. To set up a permission:

1. Choose the Search icon, enter Compliance Permissions, and then choose the related link.
2. Choose New on the ribbon.
3. Fill in the fields on the new line as described in the following table.

Field	Description
Code	Enter a meaningful code to identify the permission. You can later assign this code to a permission group.
Description	Enter a brief text to describe the permission.

#### Permission groups

Individual permissions can be grouped before being assigned to a user authorized to manage compliance checks. To set up a group:

1. Choose the Search icon, enter Compliance Permission Groups, and then choose the related link.
2. Choose New on the ribbon to insert a new line on the page.
3. Fill in the fields as described in the following table.

Name	Description
Code	Enter a meaningful code to identify the permission group.
Description	Enter a brief text to describe the group.

To add individual permissions to a group, fill in the Code fields on the Lines FastTab.

You can then enter a maximum net amount that values entered on purchase or sales documents will be checked against. If a value you specify is exceeded, the document can no longer be released. Should you also require minimum amounts for multi-level approval processes, you can enter them in the relevant [Compliance Tables](#).

## Compliance User Setup

This page specifies the users who are authorized to manage compliance checks. It also contains all digital signatures for case-related functionality. To set up a user for compliance procedures:

1. Choose the Search icon, enter Compliance User Setup, and then choose the related link.
2. Choose New on the ribbon to insert a line for a new user.
3. Fill in the fields on the line as described in the following table.

Field	Description
User ID	Specify the user for whom you want to add a signature.
Salespers./Purch. Code	Shows the code from the field with the same name in standard user setup after you've entered an ID.
Digital Signature	Enter the digital signature of the user.
Signature Blocked	Turn on this toggle if you want to block the user from using the entered signature.
Signature Fail Count	Shows the number of times the user has entered the wrong digital signature.
Signature Blocking Reason	Shows why the digital signature was blocked.
Reset Signature	With the toggle turned on, the user's digital signature needs to be updated before another attempt to enter it can be made.

## Note

If you're using KUMAVISION medtec365, you can assign follow-ups at this point. For more information, click [here](#).

## Assign permission groups

Any number of compliance permission groups can be assigned to a user. What the user is authorized for is covered by the individual permissions assigned to a group. For example, if permission A is required for a certain compliance table, the user must have this permission according to at least one assigned permission group. To assign a group:

1. Choose the Search icon, enter Compliance User Setup, and then choose the related link.
2. Select a user on a line.
3. Choose Compliance Permission Groups on the ribbon.
4. Fill in or change the group. If you change it, choose OK to confirm.

**Compliance tables**

You can specify in compliance tables for which records a check for compliance is required. To set up a table:

1. Choose the Search icon, enter Compliance Tables, and then choose the related link.
2. Choose New on the ribbon.
3. Fill in the fields on the new line as described in the following table.

Field	Description
Code	Enter a unique code for the data record.
Table No. Table Caption	Specify a table for which you want to check compliance.  <b>Note</b> Some tables have subtables that might become part of the compliance check.
Sorting	If the system finds multiple entries that differ in their field filters, a record might be subject to more than one release requirement.  You can then use this field to specify the order in which to check entries in the table. The sequence is always ascending.
Description	Specify an internal description for the table.
No. of Field Filters	Shows how many requirements must be fulfilled before the table is said to be compliant with the relevant regulation. You specify a requirement by choosing Compliance Fields on the ribbon.
Status	Indicates if the table is part of the compliance process. Only in the Released status will a compliance rule that you specified on the line be applied throughout the system.
Minimum Amount	You can use this field to specify an amount limit on purchase and sales documents.  If this amount exceeds the total net value entered on the relevant document, approval will be required.
Signature Required for Release	Select this checkbox if you want each compliance release verified through the digital signature.
Change Permission Code	Choose the code that permits changing the record. This will start the compliance process.
Release Permission Code	Choose the code that permits release of the record.
Reject Permission Code	Choose the code that permits rejection of the record.
Release 1-5	Select the releases, that is, approvals required for the record. You can have up to 5 levels of approval.
Release 1-5 Permission Code	Select the permission codes for releases.

### Note

If you're using KUMAVISION medtec365, you'll see additional options on this page. For more information about them, click [here](#).

You can specify compliance requirements per table. To set a filter on a field:

1. Select a table.
2. Choose Compliance Fields on the ribbon.
3. Fill in the fields as described in the following table.

Field	Description
Field No. Field Caption	Specify the number of a field available in the selected table.
Field Value	Specify a value for the field.

If you don't fill in these fields, the entire record will be checked. This means that any change to the table will trigger a compliance check.

If a field value has been specified, the system will check whether this value matches the field value in the relevant table. Only then will it trigger a compliance check or set up a compliance record.

### Note

If you're using KUMAVISION medtec365, you'll see additional options on this page. For more information about them, click [here](#).

For example, you might want to monitor the tracking code field of a certain item. The current value in the field is BE. You now change the code to NL, which will generate a compliance document.

Or you might want to track changes to the Quote document type. The data records to be monitored have already been filtered based on the Buy-from Vendor field, with the filter set on a specific vendor. When a quote is later created for the vendor, a compliance document will be created as well.

### Note

Only if a data record meets at least one of the specified requirements will the system create a compliance document. Also, filling in a table that has subtables might mean that they, too, will be checked for compliance. You can see the relations to subtables on the Compliance Tables page by unhiding the Subtable ID Filter.

#### Audit trail (change log)

The Compliance functionality only logs the time when a compliance record was last modified and the ID of the user who modified the record, whereas the content of the changes made to checked data are listed in a log called an Audit Trail.

However, you first need to set up this change log for—at least—the tables entered on the Compliance Tables page. To set up a log:

1. Choose the Search icon, enter Change Log Setup, and then choose the related link.
2. Alternatively, enter Compliance List, select a data record, and choose Report > Audit Trail. You can also select an open or archived record and then choose this function.
3. On the Change Log Setup card, turn on the Change Log Activated toggle.
4. On the ribbon, choose Tables and select the table for which you want to set up an audit trail.
5. In the Log Insertion, Log Modification, and Log Deletion fields on the line, you can specify if the log should include changes to some or all fields.
6. To specify the exact fields when selecting the Some Fields option, choose the Assist button next to Log Insertion, Modification, or Deletion to open a list of all fields in the relevant table. Depending on the log function you selected, you can then choose Insertion, Modification, or Deletion on the relevant line.

Afterward, you can choose Audit Trail in open compliance records or the compliance list to see all changes that must be released, whereas the Compliance List Archive—and archived compliance records in general—also include changes made previously.

## Manage compliance

### Trigger compliance

Changing and releasing a record or completing data maintenance in a table triggers a check for compliance if one of the conditions specified on the Compliance Tables page is met.

Following the change, you need to give a reason for why the data record needs to be released again. You can also enter a longer explanation of the change via a separate text field if necessary. After you've entered a reason, the system informs you that the record can only be released after the changes have been approved.

You can see the status and history of compliance procedures related to the record in the Compliance FactBox on the right.

### Edit a compliance document

To see a compliance document:

1. Choose the Search icon, enter Compliance List, and then choose the related link.
2. This opens a list of all documents with open compliance procedures. Select a record and choose Manage > View on the ribbon.

## Document approvals

Document releases (that is, approvals) are handled based on how you've set up the approval process for compliance documents. To release a document:

1. Select the approvals in the Approvals area and choose Release on the ribbon.
2. Depending on the release option you chose for the relevant compliance table, the system might now ask you for your digital signature.

### Note

When all approvers have released the compliance document, the source document is also released.



Following approval, the compliance document will be closed and archived.

## Reject a document

To reject a document:

1. Select a record and choose Reject on the ribbon.
2. Enter a reason for the rejection. You can also enter a longer explanation in a separate field.

Following rejection, the compliance document will be closed and archived.

### Audit trail (compliance card and list)

If you set up an audit trail, you can see a log of all changes by running the Audit Trail function on the card or list ribbon. The basis for this trail is the change log you set up as described earlier (see [Audit Trail \(Change Log\)](#)).

### Compliance List Archive

To view already completed compliance documents, choose the Search icon, enter Compliance List Archive, and then choose the related link.

The page that opens shows you two sets of records, the released and the rejected compliance documents.

## Warranty Claims, Complaints, and FMEA

### Overview

The Complaints Management functionality helps you handle warranty claims and customer complaints that concern products or services provided by your organization.

Based on ISO 9001:2015 and ISO 13485:2016, “claim” and “complaint” have the following meaning when used in KUMAVISION (Booster):

#### **Claim**

Refers to a specific product or service and grants legal remedies should the product or service not be up to standard.

#### **Complaint**

Voices displeasure with the quality of a product or service.

When you receive a claim or complaint, you can enter in the system the people and products or services written on the document and the staff members who will investigate or review the matter. Staff can also look at the purchase, sales, service, or production documents that might be relevant to the case.

The claim or complaint can then be reviewed, with the aim of taking preventive or corrective actions to remedy or mitigate failures. The effectiveness of these measures can later be evaluated as part of a failure mode and effects analysis (FMEA).

#### Note

You need separate licenses before you can use Complaints Management and FMEA functions.

### Setup

#### Claims and complaints

### Warranty Claims & Complaints Setup

To be able to enter claims and complaints in the system, you must turn on the functionality first.

1. Choose the Search icon, enter Warranty Claims & Complaints Setup, and then choose the related link.
2. Fill in the fields as described in the following table.

## General

Field	Description
Contact Creation	Specify whether you want a contact created automatically when you receive a claim or complaint by a person or organization not yet stored in the system.
Update Contact	Specify whether data for an existing contact who is involved in a claim or complaint should be updated if some of the information given on the document differs from what is stored in the system.
Check Digital Signature	Turn on this toggle if a user's signature should be required when a complaint, claim, or FMEA card is released, reopened, archived, or deleted.

### Note

If you're using KUMAVISION medtec365, you can see additional options for adjusting transaction codes on this page. For more information, click [here](#).

## Warranty Claims

In the Warranty Claim Nos. field, specify a number series that will be used for warranty claims.

For all other fields, use the Create Permissions action on the ribbon to assign codes to functions for which permissions should be checked.

## Complaints

In the Complaint Nos. field, specify a number series that will be used to assign numbers to complaints.

For all other fields, use the Create Permissions action on the ribbon to assign codes to functions for which permissions should be checked.

## Ribbon Function

Choose Create Permissions to have permission codes initialized during setup of the functionality and copied to the Claim & Complaint Permissions page.

### Note

Do not rerun this function after the permission codes have been initialized.

### Claim & Complaint Permissions

For more information on how to initialize the values shown on this page, see [Warranty Claims & Complaints Setup](#).

For users to be able to view claims or complaints, they must have at least the Read permission assigned to an associated permission group.

### Claim & Complaint Permission Groups

On this page, claim and complaint permissions can be grouped on the lines.

## Note

The Super permission group must contain each individual permission for a claim or complaint.

### Warranty Claims & Complaints User Setup

To specify who can use the functionality and store their digital signatures:

1. Choose the Search icon, enter Warranty Claims & Complaints User Setup, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
User ID	Select the ID of the user for whom you want to enter a digital signature.
Digital Signature	Specify the user's digital signature.
Signature Blocked	Turn on the toggle if you want to block this signature from being used.
Signature Fail Count	Shows the number of times the wrong signature was entered.  Following three failed attempts, the Signature Blocked toggle turns on automatically. The reason for blocking the sign-off is then shown in the Signature Blocking Reason field.
Signature Blocking Reason	Shows why the signature was blocked.
Reset Signature	With the toggle turned on, the signature needs to be updated before it can be used again.

You can then assign permissions in groups to a user authorized to manage claims and complaints:

- Select the line on which to find the relevant user.
- On the ribbon, choose Claim & Complaint Permission Groups.

Any number of groups can be assigned to the user. If a specific permission is required for a complaint, the user must have this permission in at least one of the assigned groups.

## Failures

On the Analysis FastTab of claims and complaints, you can specify a code for every category of failures that you want to record. For a complete, meaningful evaluation of claims and complaints, each of these categories needs to cover as many defects and errors as possible. To set up a code:

1. Choose the Search icon, enter Failure Categories, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code that clearly identifies the failure.
	Specify for which document the code can be selected.
	<b>(blank)</b> You can select this category on claims and complaints.
Type	<b>Complaint</b> The category is only available for complaints.
	<b>Warranty Claim</b> The category is only available for claims.
Description	Here you can enter a more detailed description of the error.
Description 2	Here you can enter even more details.
Case Type Code	Specify for which type of case the code can be selected.
Case Subtype Code	Specify for which subtype of a case the code can be selected.

The type and subtype specified for a claim or complaint determine the codes available on the Analysis FastTab of the claim or complaint card. If no type or subtype has been specified, all codes will be available for selection, including those that haven't been assigned anywhere.

## Note

The system doesn't check if the case type or subtype that you selected is valid.

## Authorities

To set up the authorities to which incidents must be reported:

1. Choose the Search icon, enter Authorities, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the agency to which incidents must be reported.
Description	Enter a brief description of the agency.

Government authorities that must be notified of certain claims or complaints are later entered on the Analysis FastTab of a claim or complaint card.

## Reasons for rejecting cases

To specify reasons why a claim or complaint might have been rejected:

1. Choose the Search icon, enter Case Rejection Reasons, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the rejection reason. The code must be unique.
Description	Describe why the claim or complaint is being rejected.
Relevant to Statistics	Specify if the rejection reason should be included in statistical analyses.  This checkbox can be used for informational purposes or as part of BI functionality.
Default	Select a procedure that the system needs to follow in certain situations.  <b>(blank)</b> No default procedure to follow.  <b>Closed by Class Change</b> If you reclassify a warranty claim or complaint, the system will archive the document with this option selected in the Rejection Reason Code field on the claim or complaint card.

A rejection reason code must be filled in when the Justified field on a claim or complaint card that you want to close has been set to No. The codes can be found on both open and archived document lists.

**Types and subtypes of cases**

To specify case types:

1. Choose the Search icon, enter Case Types, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the type. The code must be unique.
Description	Specify a description for the type.
No. of Case Subtypes	Indicates the number of subtypes assigned to this type. You can select this field to see the subtypes.

To assign subtypes to a certain type:

1. Select the highlighted No. of Case Subtypes field. Alternatively, select a line and choose Case Subtypes on the ribbon.
2. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the subtype. The code must be unique.
Description	Specify a description for the subtype.

Both types and subtypes might be linked to a claim or complaint, for example, to distinguish between complaints by document type. You assign them to documents in the fields described in the following table.

Field	Description
Type	Select a case type from the Case Types page.
Subtype	Select a subtype from the Case Subtype page based on the type of case specified.

Although archived claims and complaints also include these types, you cannot edit them there.

**Actions**

Mitigation and remedial measures can be maintained in the system as stand-alone actions or in the context of specific claims, complaints, or FMEAs. For this reason, they cannot be specified in Warranty Claims & Complaints Setup.

**Action Setup**

To set up actions for use throughout the system:

1. Choose the Search icon, enter Action Setup, and then choose the related link.
2. Fill in the fields as described in the following table.

## General

Field	Description
Action Nos.	Specify the number series that will be used for actions.
Action Data Check	Turn on this toggle if you want to activate the mandatory field check feature for actions.
Check Risk Assessment Texts	Specify if risk assessment texts need to be available when an action card is closed or an FMEA (or an archived FMEA) has been linked to the action.

## Permissions

On this FastTab, codes are assigned to functions for which permission checks should be performed. To initialize these codes, choose Create Permissions on the ribbon.

For users to be able to view actions, they must have at least the Read permission assigned to an associated permission group.

### Note

Do not rerun this function after the permission codes have been initialized.

## Action Permissions

For more information on how to initialize the values shown on this page, see [Actions Setup](#).

## Action Permission Groups

On this page, action permissions can be grouped on the lines.

## Action User Setup

Here you can assign permissions in groups to a user authorized to manage actions. To assign a group:

- Select the line on which to find the relevant user.
- On the ribbon, choose Action Permission Groups.

Any number of groups can be assigned to the user. If a specific permission is required for an action, the user must have this permission in at least one of the assigned groups.

### Note

The setup on this page doesn't replace the roles and permissions specified for a user elsewhere in the system.

## Case CAPA

CAPA stands for Corrective and Preventive Actions. This quality management subsystem is part of the continuous improvement process (CIP).

A CAPA process ensures GMP-compliant work through identifying deviations from a specified standard before corrective and preventive actions are taken.



## Note

CAPA are used to immediately correct a failure and avoid further repercussions.

To set up a procedure:

1. Choose the Search icon, enter Case CAPA, and then choose the related link.
2. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the CAPA.
Type	Specify for which type of action the code can be selected: <ul style="list-style-type: none"> <li>• (blank)</li> <li>• Corrective</li> <li>• Preventive</li> </ul>
Description	Specify a description for the CAPA.
Description 2	Enter a more detailed description of the CAPA if necessary.

CAPA codes are used on action cards in the Action Code field on the General FastTab. What codes are available depends on what you choose in the Action Type field there.

## FMEA

FMEA, which is short for Failure Mode and Effects Analysis, is used to assess the risks associated with an error or a defect. Because FMEAs can be created from actions or as stand-alone solutions, you cannot specify them in Warranty Claims & Complaints Setup.

### FMEA Risk Matrix Field Setup

Before you can work with risk matrices, you must specify a color scheme for the graphs.

Based on a set of x and y coordinates [(1|1) - (4|4)], these colors can then help you visualize, for example, if the severity or effect probability associated with a certain failure has changed since the last time you printed a matrix for it. To initialize the colors:

1. Choose the Search icon, enter FMEA Risk Matrix Setup, and then choose the related link.
2. Select a line and fill in the fields as described in the following table.
3. Repeat the process until a color has been specified for all coordinates.

Field	Description
X Axis	Specify the X coordinate (1 - 4) that will be assigned to this line on the matrix.
Y Axis	Specify the X coordinate (1 - 4) that will be assigned to this line on the matrix.
Field No.	Select what field content should be shown at the coordinates entered in the X Axis and Y Axis fields.
Field Caption	Shows the caption of the matrix field that you selected a Field No. for.

You can also choose New > Initialize on the ribbon to have the system set up a default color scheme or reset the current matrix to those default values.

## FMEA Setup

To set up FMEAs for use throughout the system:

1. Choose the Search icon, enter FMEA Setup, and then choose the related link.
2. Fill in the fields as described in the following.

## General

In the FMEA Nos. field, specify the number series that will be used for analyses.

## Permissions

On this FastTab, codes are assigned to functions for which permission checks should be performed. To initialize these codes, choose Create Permissions on the ribbon.

## Note

Do not rerun this function after the permission codes have been initialized.

## Indicators

On this FastTab, specify the indicators that will be shown on FMEA lines when the analyzed values exceed certain risk priority thresholds.

Field	Description
Green Light	Select this field to choose an image file that, as part of a traffic light system, should represent the green light on FMEA lines.
Yellow Light	Select this field to choose an image file that, as part of a traffic light system, should represent the yellow light on FMEA lines.
Red Light	Select this field to choose an image file that, as part of a traffic light system, should represent the red light on FMEA lines.

#### Note

Changing the files will not update the images that have already been in use on open and archived FMEA lines unless you also change something else on these lines.

### FMEA Permissions

For more information on how to initialize the values shown on this page, see [FMEA Setup](#).

### FMEA Permission Groups

On this page, FMEA permissions can be grouped on the lines.

For users to be able to view analyses, they must have at least the Read permission assigned to an associated permission group.

### FMEA User Setup

Here you can assign permissions in groups to a user authorized to perform analyses:

- Select the line on which to find the relevant user.
- On the ribbon, choose FMEA Permission Groups.

Any number of groups can be assigned to the user. If a specific permission is required for an analysis, the user must have this permission in at least one of the assigned groups.

#### Note

Only users entered on this page can view, create, or edit FMEAs.

### Internal claims and complaints

You can also register claims and complaints that arise within a company, for example, while a product is being manufactured. To set up a case that will be handled internally:

- Create a new contact card and fill in your company information.
- Select Internal on the card.
- Proceed as if the claim or complaint came from an external contact.

**Register a warranty claim**

To register a claim in the system:

1. Open the card of an existing contact, customer, or vendor for which you want to register a claim.
2. Choose New Case on the ribbon.
3. Choose Warranty Claim.
4. The data stored for the contact, customer, or vendor is then copied to the claim automatically. The other fields must be filled in as described in the following table.

Note

This is the only way to register a claim in the system; you cannot choose New on the ribbon of a warranty claim list.

**General**

Field	Description
No.	Shows the number of the claim document. This number is assigned by the system and cannot be changed manually.
Description	Enter a brief text that describes the claim.
Type	Specify if the claim was received internally or from a vendor or customer.
Vendor No. Customer No.	Based on the type of claim, one of these fields might be filled in automatically.  If the wrong vendor or customer has been entered, you must create a new record and close the current case.
Contact No.	This field is always filled in and cannot be changed.
Name Name 2	Based on the type of claim, these fields show the name and additional name of a vendor, customer, or contact.
Note	Shows if notes have been entered for a customer or vendor.
Justified	Specify if the claim is justified.
	<b>(blank)</b> The claim has not been classified yet.
	<b>Yes</b> Is justified.
	<b>No</b> Is not justified.
Justification Text	<b>Goodwill</b> Is accepted because of a goodwill policy.
	Classifying the claim will open an editor in which you must enter the reason for the classification. Without entering something there, the claim cannot be (re)classified.
	Selecting Yes in the Justified field will open an editor in which you must enter a text to explain why the claim is considered justified.  Only the first line of text entered in the editor will later be shown in this field, regardless of whether the line comes from a justification or analysis. You can adjust this in the editor.  Changes to the text will be added as new versions to the description of the analysis.

Field	Description
	Select a code for why the claim was rejected.
Rejection Reason Code	You can only select a code if the Justified field is set to No; you can then close the case if necessary.  Changing the Justified field will remove the code in this field.
Rejection Reason Description	Shows a text that describes the rejection.
Status	Indicates the status of the claim.  <b>Open</b> The document can be edited.  <b>Released</b> The document requires only final review.  If the signature feature has been turned on, the status will not change until the specified signature has been entered.
Source No.	If the claim was created by converting a complaint, this field is filled in with the number of the complaint document.
Case Type Code	Choose a code to specify the type of case being handled.
Case Subtype Code	Choose a code to specify the subtype of the case.
Assigned User ID	Select an ID in this field to assign a user to the claim.
No. of FMEAs	Shows the number of analyses linked to the claim.
No. of Archived FMEAs	Shows the number of archived analyses linked to the claim.
No. of FMEA Actions	Shows the number of FMEA actions implemented to resolve the claim.
No. of Archived FMEA Actions	Shows the number of archived FMEA actions implemented to resolve the claim.

**Reported By**

This FastTab shows the person who made the claim.

If the person has been entered as a contact, data from the contact master is entered automatically on this FastTab. With a CTI system connected to Microsoft Dynamics 365 Business Central, you can also call the person from the app.

Other contacts can be entered on the following lines. For people already in the system, this means that each contact linked to the person who made the claim can be chosen in the No. field.

The details of these contacts are then filled in by the system if automatic contact creation has been turned on in Warranty Claims & Complaints Setup. Else, you need to fill in the line fields manually.

#### **Reported For**

This FastTab is used to enter the items, services (resources or G/L accounts), and other things that were named in the claim and that the person who made the claim has reported issues with.

You can also have the lines filled in with data from documents available in the system. For more information, see [Ribbon Actions](#).

If you fill in the lines manually, you should do so field by field, starting with the Type field. This ensures that, for example, you can enter things not maintained in the app—for example, because a warranty claim had not been resolved prior to switching to another software system.

#### **Registration Text**

On this FastTab, you can use a plain text editor to note down the conversation that led to registering the case in the system. Choose New Text on the ribbon to make an entry. When you're finished, the text will be displayed on the tab.

Texts are versioned. For more information on how to enter text here, see [Enter Text](#).



## Analysis

On this FastTab, you can document the analysis of the issues named on the claim document.

Field	Description
Analyzed On Analyzed By	These fields specify who analyzed the claim and when.
Analysis Reviewed On Analysis Reviewed By	<p>These fields specify who checked the analysis and when.</p> <p><b>Note</b> The user who checks the analysis cannot also be the user who performed it (<i>dual control principle</i>).</p>
Notification Required	Turn on this toggle if the warranty claim must be reported to the authorities.
Notifications to Authorities	<p>Indicates how many notifications are related to the case. You can select the blue hyperlink to view or enter notifications.</p> <p><b>Note</b> You cannot transmit notifications from Microsoft Dynamics 365 Business Central.</p>
Assigned Failures	<p>On this FastTab, you can categorize the errors or defects that were found during analysis by using the failure codes set up in the system.</p> <p>You must fill in the Failure Code field here. The Description and Description 2 fields are filled in from Warranty Claims &amp; Complaints Setup.</p>
Analysis Text	Shows the analysis and justification texts that have already been entered in the system.

## Assigned Actions

On this tab, you can link preventive and corrective actions to open claims or create new action cards based on the claims for use on other documents.

All actions are managed on cards. Actions created or entered for a claim are transferred along when you archive the document.

## Note

You can only close claims for which all actions have been set to Implemented.

Field	Description
Action Card No.	Specify the action card that you want to assign to the claim.
Failure Code	Assign a failure code to the claim.  If an action is created from the Analysis FastTab, the failure code used for analysis will be copied to the card created for this action.
Description	Shows the description of the action as specified on the related action card.
Description 2	Shows the additional description of the action as specified on the related action card.
Status	Shows the status of the action as specified on the related action card.
Action Type	Shows the type of the action as specified on the related action card.
Action Code	Shows the code of the action as specified on the related action card.
Successful	Shows the content of the field from the related action card.
No. of FMEAs	Shows the number of FMEAs entered on the action card.
No. of FMEA Actions	Shows the number of FMEA actions entered on the action card.
No. of Archived FMEAs	Shows the number of archived FMEAs specified on the action card.
No. of Archived FMEA Actions	Shows the number of archived FMEA actions specified on the action card.

### Ribbon actions

Based on whether the claim you registered came from a customer, a vendor, or an internal source, the ribbon found on the warranty claim card will display different functions.

To open a customer or vendor card or the contact list, choose Home and the corresponding option.

To retrieve data from a vendor or customer document, choose Get Document and the relevant document.

If a complaint comes from an internal source, some of the functions might be grayed out or might only be available to a limited extent, considering there are no outbound documents to manage.

To change the status of a complaint, choose Status and the relevant option.

To enter text for registration, analysis, or in other situations, choose Actions > Functions > New Text. For more information, see Enter Text.

To print a claim, choose Print > C & C Sheet. You can then fill in the No. of Copies field to specify how many copies of the document you want printed and choose what to include on each by turning toggles on or off.

To create a new action for a claim, choose Create Action on the ribbon. To create a new FMEA, choose Create FMEA.

To reclassify a claim, choose Actions > Functions > Change Classification.

For a list of who created, edited, or deleted entries on a complaint, choose Related > Change Log on the ribbon.

#### **Edit a claim**

To change information on a warranty claim:

1. Choose the Search icon, enter Warranty Claims, and then choose the related link.
2. Select a claim and choose Edit on the ribbon.
3. You can now add details to the document, such as the items named on the document (by filling in the relevant fields on the Issues Reported For FastTab).

If you also want to perform an FMEA (only possible from a claim or an action), choose Create FMEA on the ribbon. For more details on how errors or defects can be analyzed, see [Perform an analysis](#).

When all required data has been entered, the claim can be released by choosing Release on the ribbon.

#### **Note**

If the release of the claim requires your signature, you need to sign in the Digital Signature field on the query that appears and choose OK.

The claim is then released. It's not closed yet.

#### **Register a complaint**

To set up a complaint in the system:

1. Open the card of an existing contact, customer, or vendor for which you want to register a complaint.
2. Choose New Case on the ribbon.
3. Choose Complaint.
4. The data stored for the contact, customer, or vendor is then copied to the complaint automatically. The other fields must be filled in as described in the following table.

#### **Note**

This is the only way to register a complaint in the system; you cannot choose New on the ribbon of a complaint list.

**General**

Field	Description
No.	Shows the number of the complaint document. This number is assigned by the system and cannot be changed manually.
Description	Enter a brief text that describes the complaint.
Type	Specify if the complaint was received internally or from a vendor or customer.
Vendor No. Customer No.	Based on the type of complaint, one of these fields might be filled in automatically.  If the wrong vendor or customer has been entered, you must create a new record and close the current case.
Contact No.	This field is always filled in and cannot be changed.
Name Name 2	Based on the type of complaint, these fields show the name and additional name of a vendor, customer, or contact.
Note	Shows if notes have been entered for a customer or vendor.
Justified	Specify if the complaint is justified.
	<b>(blank)</b> The complaint has not been classified yet.
	<b>Yes</b> Is justified.
	<b>No</b> Is not justified.
	<b>Goodwill</b> Is accepted because of a goodwill policy.
Justification Text	Classifying the complaint will open an editor where you must enter the reason for the classification. Without entering something there, the complaint cannot be (re)classified.
	Filling in the Justified field will open an editor in which you must enter a text to describe why the complaint is justified.
	Only the first line of text entered in the editor will later be shown in this field, regardless of whether the line comes from a justification or analysis. You can adjust this in the editor.  Changes to the text will be added as new versions to the description of the analysis.

Field	Description
	Select a code for why the complaint was rejected.
Rejection Reason Code	You can only select a code if the Justified field is set to No; you can then close the case if necessary.  Changing the Justified field will remove the code in this field.
Rejection Reason Description	Shows a text that describes the rejection.
Status	Indicates the status of the complaint.  <b>Open</b> The document can be edited.  <b>Released</b> The document requires only final review.  If the signature feature has been turned on, the status will not change until the specified signature has been entered.
Source No.	If the complaint was created by converting a warranty claim, this field is filled in with the number of the claim document.
Case Type Code	Choose a code to specify the type of case being handled.
Case Subtype Code	Choose a code to specify the subtype of the case.
Assigned User ID	Select an ID in this field to assign a user to the complaint.
No. of FMEAs	Shows the number of analyses linked to the complaint.
No. of Archived FMEAs	Shows the number of archived analyses linked to the complaint.
No. of FMEA Actions	Shows the number of FMEA actions implemented to resolve the complaint.
No. of Archived FMEA Actions	Shows the number of archived FMEA actions implemented to resolve the complaint.

**Reported By**

This FastTab shows the person who made the complaint.

If the person has been entered as a contact, data from the contact master is entered automatically on this FastTab. With a CTI system connected to Microsoft Dynamics 365 Business Central, you can also call the person from the app.

Other contacts can be entered on the following lines. For people already in the system, this means that each contact linked to the person who made the complaint can be chosen in the No. field.

The details of these contacts are then filled in by the system if automatic contact creation has been turned on in Warranty Claims & Complaints Setup. Else, you need to fill in the line fields manually.

#### **Reported For**

This FastTab is used to enter the items, services (resources or G/L accounts), and other things that were named in the complaint and that the person who made the complaint has reported issues with.

You can also have the lines filled in with data from documents available in the system. For more information, see [Ribbon Actions](#).

If you fill in the lines manually, you should do so field by field, starting with the Type field. This ensures that, for example, you can enter things not maintained in the app—for example, because a complaint had not been resolved prior to switching to another software system.

#### **Registration Text**

On this FastTab, you can use a plain text editor to note down the conversation that led to registering the case in the system. Choose New Text on the ribbon to make an entry. When you're finished, the text will be displayed on the tab.

Texts are versioned. For more information on how to enter text here, see [Enter Text](#).

**Analysis**

On this FastTab, you can document the analysis of the issues named on the complaint document.

<b>Field</b>	<b>Description</b>
Analyzed On Analyzed By	These fields specify who analyzed the complaint and when.
Analysis Reviewed On Analysis Reviewed By	<p>These fields specify who checked the analysis and when.</p> <p><b>Note</b> The user who checks the analysis cannot also be the user who performed it (dual control principle).</p>
Notification Required	Turn on this toggle if the complaint must be reported to the authorities.
Notifications to Authorities	<p>Indicates how many notifications are related to the case. You can select the blue hyperlink to view or enter notifications.</p> <p><b>Note</b> You cannot transmit notifications from Microsoft Dynamics 365 Business Central.</p>
Assigned Failures	<p>On this FastTab, you can categorize the errors or defects that were found during analysis by using the failure codes set up in the system.</p> <p>You must fill in the Failure Code field here. The Description and Description 2 fields are filled in from Warranty Claims &amp; Complaints Setup.</p>
Analysis text	Shows the analysis and justification texts that have already been entered in the system.

**Assigned Actions**

On this tab, you can link preventive and corrective actions to open complaints or create new action cards based on the complaints for use on other documents.

All actions are managed on cards. Actions created or entered for a complaint are transferred along when you archive the document.



## Note

You can only close complaints for which all actions have been set to Implemented.

Field	Description
Action Card No.	Specify the action card that you want to assign to the complaint.
Failure Code	Assign a failure code to the complaint.  If an action is created from the Analysis FastTab, the failure code used for analysis will be copied to the card created for this action.
Description	Shows the description of the action as specified on the related action card.
Description 2	Shows the additional description of the action as specified on the related action card.
Status	Shows the status of the action as specified on the related action card.
Action Type	Shows the type of the action as specified on the related action card.
Action Code	Shows the code of the action as specified on the related action card.
Successful	Shows the content of the field from the related action card.
No. of FMEAs	Shows the number of FMEAs entered on the action card.
No. of FMEA Actions	Shows the number of FMEA actions entered on the action card.
No. of Archived FMEAs	Shows the number of archived FMEAs specified on the action card.
No. of Archived FMEA Actions	Shows the number of archived FMEA actions specified on the action card.

### Ribbon actions

Based on whether the complaint you registered came from a customer, a vendor, or an internal source, the ribbon found on the complaint card will display different functions.

To open a customer or vendor card or the contact list, choose Home and the corresponding option.

To retrieve data from a vendor or customer document, choose Get Document and the relevant document.

If a complaint comes from an internal source, some of the functions might be grayed out or might only be available to a limited extent, considering there are no outbound documents to manage.

To change the status of a complaint, choose Status and the relevant option. To enter text for registration, analysis, or in other situations, choose Actions > Functions > New Text. For more information, see [Enter Text](#).

To print a complaint, choose Print > C & C Sheet. You can then fill in the No. of Copies field to specify how many copies of the document you want printed and choose what to include on each by turning toggles on or off.

For a list of who created, edited, or deleted entries on a complaint, choose Related > Change Log on the ribbon.

#### **Edit a complaint**

To change information on a complaint:

1. Choose the Search icon, enter Complaints, and then choose the related link.
2. Select a complaint and choose Edit on the ribbon.
3. You can now add details to the document, such as the name and ID of the second person who will be participating in dual-control procedures (by filling in the relevant fields on the Analysis FastTab).

For more information, see [Analysis](#). When all required data has been entered, the complaint can be released by choosing Release on the ribbon.

#### **Note**

If the release of the complaint requires your signature, you need to sign in the Digital Signature field on the query that appears and choose OK.

The complaint is then released. It's not closed yet.

#### **Convert a claim to a complaint**

If, when you process a warranty claim, you determine that what you're working on reads more like a complaint than a claim with a legal basis, you can create a complaint from the document that you originally registered in the system as a claim while keeping the information you've already recorded.

To convert a claim:

1. Choose the Search icon, enter Warranty Claims, and then choose the related link.
2. Open the claim that you want to convert into a complaint. The status of a released claim will be reset during this process.
3. On the ribbon, choose Change Classification and choose OK.

The claim is then converted, and all available information is transferred to the complaint. Afterward, the original claim will be closed and archived.

Reclassification is indicated on a claim in the Rejection Reason Code and the Rejection Reason Text fields. For the fields to be filled in, you must have set them up as described under [Reasons for Rejecting Cases](#).

You can open an archived claim that is the source of a complaint by clicking the highlighted portion of the Source No. field on the complaint card. After you've finished filling in the new complaint document, choose OK to exit.

**Convert a complaint to a claim**

If, when you process a complaint, you determine that the case you're working on reads more like a warranty claim, you can create a warranty claim from the complaint while keeping the information you've already recorded. To convert a complaint:

1. Choose the Search icon, enter Complaints, and then choose the related link.
2. Open the complaint that you want to convert into a claim. The status of a released complaint will be reset during this process.
3. On the ribbon, choose Change Classification and choose OK.

The complaint is then converted, and all available information is copied to the claim. Afterward, the original complaint will be closed and archived.

Reclassification is indicated on a complaint in the Rejection Reason Code and the Rejection Reason Text fields. For the fields to be filled in, you must have set them up as described under [Reasons for Rejecting Cases](#).

You can open an archived complaint that is the source of a warranty claim by clicking the highlighted portion of the Source No. field on the claim card.

After you've finished filling in the new claim document, choose OK to exit.

**Close a claim or complaint**

Claims and complaints that have been processed and set to Released can be closed and archived by using a ribbon function.

**Close a warranty claim**

All warranty claims can be closed and archived after processing. To close a claim:

1. Choose the Search icon, enter Warranty Claims, and then choose the related link.
2. Select the claim that you want to close.
3. On the ribbon, choose Close Case and choose Yes to confirm.

If the Justified field on the complaint was set to No, a rejection reason code must be entered before you can close the document. You also might need to enter your digital signature if closing the case requires it.

Archived claims can be viewed on the Warranty Claims Archive page.

**Close a complaint**

All complaints can be closed and archived after being processed. To close a complaint:

1. Choose the Search icon, enter Complaints, and then choose the related link.
2. Select the complaint that you want to close.
3. On the ribbon, choose Close Case and choose Yes to confirm.

If the Justified field on the complaint was set to No, a rejection reason code must be entered before you can close the document. You also might need to enter your digital signature if closing the case requires it.

Archived complaints can be viewed on the Complaints Archive page.

**Implement actions**

Actions are recorded on cards, which contain all necessary information, such as contact details and item specifications linked to a case. A Failure Modes and Effects Analysis and a risk matrix can be created based on them as well. For more information about the latter, see [FMEA Risk Matrices](#).

Besides creating and implementing actions because of a claim or complaint, actions can also be created and implemented on their own.

**Create an action**

To create an action on its own:

1. Choose the Search icon, enter Actions, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following tables.

## General

Field	Description
No.	Shows the action number assigned from the series set up for this purpose (see <a href="#">Action Setup</a> ).
Action Type	Specify whether the action is corrective or preventive.
Action Code	Choose the code of an action entered on the Case CAPA page.  The codes that are available depend on what option has been selected in the Action Type field.
Description	Specify a description for the action.
Description 2	Here you can enter an additional description of the action.
Source Type	Indicates from where the action originates.  <b>(empty)</b> The action has no source.  <b>Action Card</b> The action was created as a follow-up to another action.  <b>Complaint</b> The action was created from a complaint document.  <b>Claim</b> The action was created from a claim document.  <b>FMEA</b> The action was created during an analysis.
Source No.	Specify the number of an action card, a complaint or claim document, or an FMEA based on the option you selected in the Source Type field.
Status	Indicates the status of the action card.  <b>Open</b> The card is ready for editing.  <b>Closed</b> The action is completed. You can no longer edit or reopen the card.
Successfully Implemented	Shows if the action was successfully implemented.  The toggle turns on automatically, for example, when the Success Evaluated toggle is turned on.

Field	Description
	If the field is set to No when a card is completed, a follow-up action is created automatically if necessary.
Successfully Implemented On	Shows when the Successfully Implemented toggle was turned on.
Successfully Implemented By	Shows who was logged on to the system when the Successfully Implemented toggle was turned on.
Follow-Up Action No.	Specify a follow-up action that you want to implement if the Successfully Implemented field is not turned on when the action card is closed.
Closed On	Specifies when the action card was closed.
Closed By	Specifies who closed the action card.

#### Risk Assessment

This tab shows the risk assessment texts that were entered by using the New Text function on the ribbon.

Texts are versioned and can only be entered if a card is in the Open status. For more information, see [Enter Texts](#).

Field	Description
No. of FMEAs	Shows the number of FMEA lines that are assigned to the action because they were created from it.
No. of Arch. FMEAs	Shows the number of archived FMEA lines assigned to the action because they were created from it.

## Evaluate Success

Field	Description
No. of FMEA Actions	Shows on how many FMEA lines that have been assigned to the action the Successfully Implemented toggle is turned on.
No. of Arch. FMEA Actions	Shows on how many archived FMEA lines assigned to the action the Successfully Implemented toggle is turned on.
Success Evaluated	<p>This toggle needs to be turned on manually when the success of the action has been evaluated.</p> <p><b>Note</b> You cannot turn on this toggle if a related FMEA has not been completed.</p>
Evaluation Comment	Here you can enter a text to describe the outcome of the effectiveness analysis.
Success Evaluated On	Indicates when the Success Evaluated toggle was turned on.
Success Evaluated By	Shows who turned on the Success Evaluated toggle.

## More Information

Field	Description
Created On	Indicates when the action card was created.
Created By	Shows who created the action card.
Modified On	Indicates when the action card was last changed.
Modified By	Shows who last changed the action card.



## Ribbon actions

Function	Description
Edit	Description to follow
Delete (Icon Recycle Bin)	Description to follow.
New Text	Used to enter a text describing the risk assessment.
Create FMEA	Creates an FMEA for an action.  The FMEA and action cards are then linked through shared data. For more information, see <a href="#">FMEAs</a> .
Close	Case Closes an action card.  <b>Notes:</b> If the Implemented Successfully field on the action card was set to No, a follow-up action is automatically created so that the card can be closed.
Change Log Entries	Shows the change log of an action card.

## Edit an action

To change information about an action:

1. Choose the Search icon, enter Actions, and then choose the related link.
2. This opens a list that shows all actions—both those with and without a reference to a claim or complaint.
3. On the ribbon, choose Edit. You can now add text or create an FMEA or fill in fields that are needed later, such as the fields that will be used to evaluate the effectiveness of a measure.

## Create FMEA (action)

Analyzes the current measure. For more information, see [FMEAs](#).

## Create a follow-up action

If the Successfully Implemented toggle on an action card hasn't been turned on, the fields Successfully Implemented On and By will not be filled when you close the card.

Instead, another action will be created automatically, and the number of the new measure is entered on the card of the previous, unsuccessful action in the Follow-Up Action No. field.

You can then use this field to get to the follow-up. The new measure is also shown on the actions list.

On the card of the follow-up action, the source action is shown in the Source Type and Source No. fields.

## Note

If an action was created from a claim or complaint, the follow-up measure must be added manually to the Actions FastTab on the claim or complaint.

### Close an action

An action can be closed and archived regardless of origin (action list, claim, complaint, or FMEA). The only requirement is that the action is completed.

To close an action card:

1. Choose the Search icon, enter Actions, and then choose the related link.
2. Choose Edit to open an action card.
3. On the ribbon, choose Close.

The Success Evaluated toggle needs to be turned on before you can close the card. The Success Evaluated On and By fields on the Assessment FastTab are then filled in automatically.

Closed actions can be found on the regular action list. To view only those that have been closed, you can filter the list for the Completed status.

### FMEAs

An FMEA, or Failure Mode and Effects Analysis, is a method for investigating and preventing potential errors and defects during day-to-day operations.

Multiple definitions exist; the FMEA procedures implemented in KUMAVISION base (BOOSTER) originate from DIN EN 60812:2015-08. According to this standard, there are four types of FMEA:

#### **Process FMEA**

Investigates potential weaknesses in production or performance based on the results of a design analysis.

#### **Product FMEA**

Examines potential errors and defects of a specific product.

#### **System FMEA**

Analyzes the interaction of components within a complex system, such as a machine or piece of industrial equipment, and the interaction of that system with the environment.

#### **Design FMEA**

Evaluates a product's ease of manufacturing and assembly.

The aim is to identify the causes of errors and defects before implementing actions that are demonstrably effective (=CAPA) to eliminate them from the affected processes while using the lessons learned from those experiences for the creation of a knowledge base that can help a company avoid making the same mistakes again in the future.

Individual errors are described and evaluated based on the following criteria:

#### **Effect Probability A**

High likelihood of failures occurring is rated at 4, with low probability put at 1.

### Failure Effect Severity B

Seen from the customer's point of view. High-priority errors that affect internal or external processes are rated at 4, low-impact errors at 1.

By multiplying A and B, you'll get priority numbers, which can be mapped to a risk matrix.

After initiating CAPA, another FMEA must be performed to gauge their impact and calculate new risk priority numbers. The lower in priority errors are ranked this time, the more effective the implemented measures have been.

FMEA cards can be used to record and document the analysis process. A card can be created from a complaint or an action, in which case a reference to the original document will be included. However, you can also create FMEAs from the list view, without a reference.

#### Create an FMEA

To create an analysis on its own:

1. Choose the Search icon, enter FMEA Overview, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

#### General

Field	Description
No.	Shows the number of the analysis. This number is assigned automatically and cannot be changed.
Source No.	<p>This field shows the number of a complaint or an action if the analysis was created from one.</p> <p>For standalone FMEAs, the field remains blank.</p>
Type	<p>Specify the type of analysis. Options are:</p> <ul style="list-style-type: none"> <li>• Process</li> <li>• Product</li> <li>• System</li> <li>• Design</li> </ul>
Department	Specify the department or area examined in the context of the analysis.
No. of Risk Matrices	<p>Shows the number of risk matrices created from the analysis.</p> <p>You can select the highlighted value to get to the FMEA Risk Matrix Overview, which will be filtered for entries related to this analysis.</p>

Afterward, choose OK to exit. As no other FastTabs have been filled in, you're asked if you want to delete the analysis. Choose No.

#### Lines

The results of the analysis are documented on the lines. Every error or defect needs to be recorded on a separate line as described in the following table.

<b>Field</b>	<b>Description</b>
Failure Location	Specify where the error occurred, for example, as part of a process chain or within a certain department.
Potential Failure	Specify the error or defect that can occur or has occurred.
Failure Effect	Specify the impact of the error or defect.
Cause of Failure	Specify the potential cause of the error or defect.
Verification	Specify a method that can be used to check if the error or defect does, in fact, occur.
Severity	Specify the severity of the damage. For more information, see <a href="#">FMEA Basics</a> .
Effect Probability	Specify how likely the damage will occur. For more information, see <a href="#">FMEA Basics</a> .
Risk Priority	Indicates by color the risk priority. For more information, see <a href="#">FMEA Risk Matrix</a> .

The second part of each line indicates the effectiveness of actions taken:

Field	Description
Recommended Action	Specify the action that should be implemented so that risks can be mitigated or eliminated altogether.
Person Responsible	Specify the person in charge of the measure.
Deadline	Specify when the action has been completed. Filling in this field will open a follow-up document so that you can notify the person responsible for the measure.
Action Taken	Specify the action that has been implemented to mitigate the risk or eliminate the error altogether.
New Severity	Specify the new damage severity if the failure reoccurs after implementing the action.  For more information, see <a href="#">FMEA Basics</a> .
New Effect Probability	Specify the new likelihood of failure after implementing the action.  For more information, see <a href="#">FMEA Basics</a> .
New Effect Priority	Indicates by color the new effect priority. For more information, see <a href="#">FMEA Risk Matrix</a> .

#### Ribbon actions

Function	Description
New Text	Used to enter various texts, such as comments and descriptions of (implemented) actions.
Create Action	Creates a new action as part of the FMEA.
Close Case	Closes and archives the analysis.
Risk Matrices	Opens the FMEA Risk Matrix for the current analysis.
Risk Matrix	Previews or prints the FMEA Risk Matrix.
Change Log	Shows tracked changes if the feature has been turned on for the relevant tables in Change Log Setup.

Edit an FMEA

To change information about an analysis:

- 1. Choose the Search icon, enter FMEA Overview, and then choose the related link.
- 2. This opens a list that shows all analyses—both those with and without a reference to a claim or complaint.
- 3. On the ribbon, choose Edit.

The Action Taken field on FMEA cards is used as a counter if an FMEA was created from an action so that the No. of FMEA Actions field is displayed on the related action card.

You can now add a text on the Action Taken FastTab to describe any measure that was implemented. To add text:

- Choose New Text on the ribbon.
- Enter a text and close the editor.

The text is then filled in on the tab. When you choose New Text again, the new description that you enter will be specified as a follow-on version.

The same is true for remarks about the analysis. To enter a remark, choose Related > Comments on the ribbon.

When all necessary information has been filled in, choose OK to exit the card.

Risk matrix

This matrix indicates based on a traffic light system on FMEA lines the risk associated with a certain error or defect. For more information about the general setup of matrices, see [FMEA Setup](#).

Matrices can be printed directly from FMEA cards. What colors will be used on these graphs depends on the values specified in the risk assessment fields on the lines.

Note

Risk matrices can only be created for open FMEAs.

All matrix-related functions and fields found on FMEA cards are described in the following table.

Function/Field	Description
Related > Risk Matrices	Opens the FMEA risk matrix overview assigned to the current analysis.
Reports > Risk Matrix	Prints the current version of the FMEA risk matrix.
	A white matrix means that no values have been set up yet.
No. of Risk Matrices	Indicates the number of related matrices.
	Clicking the hyperlink will open the FMEA Risk Matrix Overview page.

FMEA Risk Matrix Overview

This page shows the matrices added to an analysis (along with the status that the matrices are in). Initially, all analyses are created without a matrix.

#### Ribbon actions

Field	Description
Create New Version	Creates a new version of the risk matrix.
View	Opens the matrix for viewing.
Edit	Opens the matrix for editing.
Print	Prints or previews the matrix.

#### Create a new version

To create a new matrix:

1. Open the FMEA Risk Matrix Overview page.
2. On the ribbon, choose Create New Version.
3. Fill in the fields as described in the following table.

#### General

Field	Description
FMEA No.	Shows the number of the analysis for which a matrix is created.
Version No.	Shows the version of the matrix.
Status	Indicates the status of the matrix.
Description Description 2	These fields can be used to describe the matrix.
Reason	You must select a reason in this field when you create a new version of the matrix or change an existing graph.

#### Evaluate Success

On this tab, you can specify the colors used to indicate the severity of a failure and the likelihood of damage in the form of risk priority numbers. You can also specify colors to show changes in priority after implementing actions.

You can leave a field blank or select yellow or red. Leaving a field blank will result in the use of the RDLC color set up on the Risk Matrix FastTab in FMEA Setup.

#### More Information

The fields found on this FastTab show when and by whom this matrix version was created or last changed.

#### Edit a matrix

You can change a graph until the Close function is used. To change a matrix:

- Open the FMEA Risk Matrix Overview page.
- On the ribbon, choose Edit.

A matrix that is in the Invalid or Valid status cannot be edited, and you need to create a new version for editing.

A new version is Under Development until you choose close on the ribbon to turn the graph into a valid risk matrix. The contents of the Evaluation FastTab fields are always copied from one version to the next.

### Complete a matrix

The colors used to indicate risk are governed by the matrix that is in the Valid status. When a new version is completed and the close action is run from the ribbon, this version is set to valid, whereas the previous graph is set to Invalid.

The change in matrices then changes the indicators to how they are set up on the FMEA lines in the new version.

### Ribbon actions

Field	Description
View	Opens a version for viewing.
Edit	Opens a version for editing.
Delete (Icon Recycle Bin)	Deletes a matrix version.  You can only delete matrices set to Under Development.
Finish	Sets a matrix version to Completed.  The status of the version then changes to Valid, whereas all previous versions are set to Invalid.
Print	Prints or previews the matrix.

### Close an analysis

An analysis can be closed and archived regardless of origin (FMEA overview or action). The only requirement is that the analysis has been completed. To close an FMEA card:

1. Choose the Search icon, enter FMEA Overview, and then choose the related link.
2. Choose Edit to open an FMEA card.
3. On the ribbon, choose Close, and then choose Yes.

The FMEA is then closed, archived, and moved to the FMEA Archive Overview.



## Note

Archived analyses and matrices cannot be edited. However, you can print an analysis by choosing Risk Matrix on the ribbon of an archived card.

### Enter text

You can specify a wide variety of texts on complaint, claim, action, and FMEA cards. Each text you add is subject to versioning.

As the method for entering texts is identical for warranty claims, complaints, actions, and analyses, except for the type of text that you want to enter (that is, for registration or analysis), the example provided in the following applies to all text entry functions in Complaints Management.

- Open the card on which you want to enter text.
- Choose New Text on the ribbon.
- This opens a text editor. Select the type of text by using the relevant function and specify the text you want in the editor.
- Afterward, the text will be shown on the relevant FastTab, where the description can be changed or supplemented.

Every text is versioned, including new entries and text changes on the relevant pages but also cancelled entries, which will be shown as empty lines. You can see other versions by choosing Previous or Next on the ribbon.

When the Justified toggle is modified on claims and complaints, a text editor opens automatically so that you can enter a reason for the change. This text must be filled in and will be copied to the Analysis Text FastTab as a new text version.

## Unique Device Identification

### Overview

To simplify the tracking of medical products (*in the case of recalls especially*) and to prevent counterfeit goods from being sold, manufacturers must assign a UDI to every product and its packaging prior to the item entering the market.

With the UDI functionality that can be integrated into Microsoft Dynamics 365 Business Central, you can maintain the information you need to meet Unique Device Identification rules and prepare GUDID and EUDAMED reports.

### Note

You need a separate license to use this functionality.

### Abbreviations

Acronyms / Initialisms	Description
DUNS	Data Universal Numbering System
EUDAMED	European Database on Medical Devices
GUDID	Global Unique Device Identification Database
GUDID Data Elements Reference Table	(List of UDI data elements as published by the FDA)
UDI	Unique Device Identification
UDI Data Dictionary	(List of UDI data elements as published by the European Commission)
XML	Extensible Markup Language
XSD	XML Scheme Definition

### UDI User Setup

To configure users' individual access rights to UDI data:

1. Choose the Search icon, enter UDI Setup, and then choose the related link.
2. Enter or select a user and fill in the fields as necessary.

**Set up EUDAMED****UDI Setup**

To set up the UDI-EUDAMED interface:

1. Choose the Search icon, enter UDI Setup, and then choose the related link.
2. On the General and EUDAMED FastTabs, fill in the fields described in the following table.

Field	Description
Default Issuing Entity / Agency Code	Specify the default issuing entity.
Default Manufacturer SRN	Specify the manufacturer's default SRN.

**Actions New DI**

Creates a new DI, such as a Basic DI, a UDI-DI, or a Secondary DI.

**Related - Base Data**

Contains the functions needed to maintain basic EUDAMED data, as described in the European Commission's UDI Data Dictionary. For more information on a specific field function, see the following table.

Function	Description
CMR Categories	Specifies if the device contains a CMR (carcinogenic, mutagenic, or toxic to reproduction) substance.
Clinical Size Types	<p>Specifies the type of clinical size associated with the device.</p> <p>Sizes can be identified by their type (such as length or width), precision (single value, range, or text), or unit of measure.</p>
Device Certificate Types	Specifies the type of product certificate assigned to the device. This type is part of the data that must be provided when you register products that need to be certified.
Issuing Entities	Specifies the issuing entities tasked by the European Commission with creating EUDAMED DI codes (Basic UDI-DIs, UDI-DIs, Unit of Use DIs, Secondary DIs, and Package Level DIs).
EMDN Codes	Specifies EMDN nomenclature code(s) associated with the UDI-DI.
Measure Units	<p>Specifies the unit used for the clinical size associated with the device.</p> <p>Sizes can be identified by their type (such as length or width), precision (single value, range, or text), or unit of measure.</p>
Multi-Component Devices	<p>Specifies if the Basic UDI-DI refers to a system that is a device itself, a procedure pack that is a device itself in accordance with Article 22(4) MDR, or a kit.</p> <p>This field is applicable only to standard devices, not systems or procedure packs.</p> <p>The Kit option is also only applicable to IVDR devices and systems that are devices themselves. In the case of procedure packs, this field applies only to MDR devices.</p>
Non-Medical Device Types (Annex XVI)	References the intended non-medical purpose of the device (UDI-DI) as described in Annex XVI of the MDR regulation.
Notified Bodies	References the organization that issued the product certificate for the device. The organization's contact details are part of the data that must be provided when you register products that need to be certified.
Risk Classes	Specifies the risk class of the device that is assigned to the Basic UDI-DI. What risk class the device is put in depends on the legislation applicable to it.
Special Devices	Specifies if the device is of a special type and if so, the type thereof. You cannot use this function if the device is a standard device that has the options

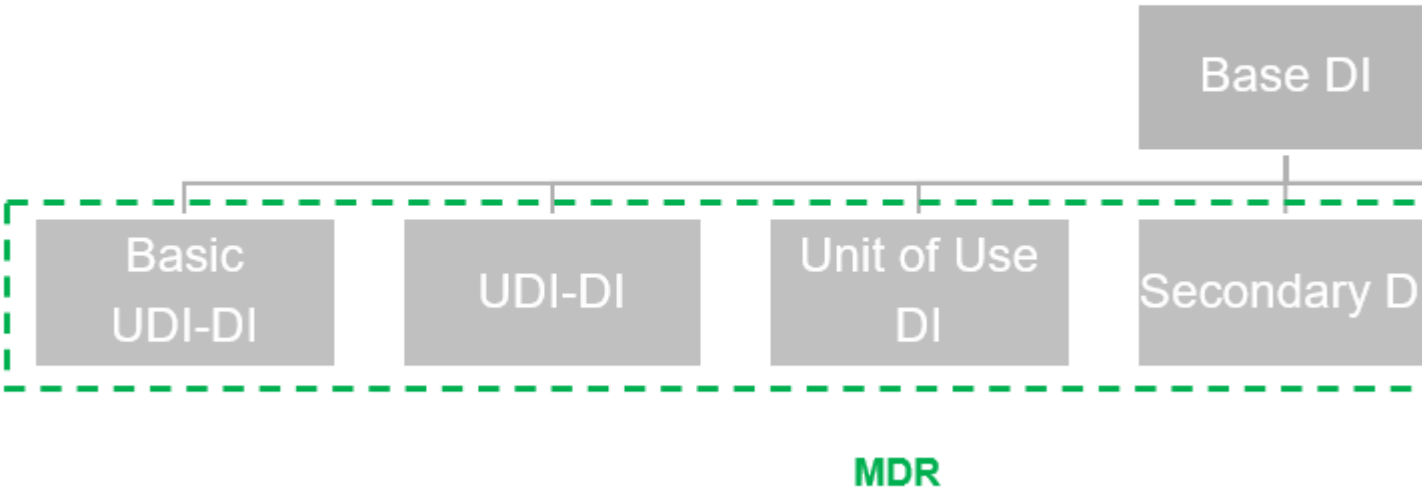
Function	Description
	of System or Procedure Pack ( <i>devices themselves</i> ) or is a system or procedure pack.
Storage and Handling	References the storage and handling conditions associated with the device ( <i>UDI-DI</i> ).
Types of Substances	Specifies the type of medicinal substances contained in the device. This includes substances understood as a medicinal product or as a medicinal product derived from human blood or plasma.
Warning Values	Specifies critical warnings or contra-indications linked to the UDI-DI.

## Related - UDI

Function	Description
DI List	Shows a list of all DIs, such as Basic DIs, UDI-DIs, and Secondary DIs, including those that have already been assigned.
Product Designers	Specifies the product designer, that is, the company who originally manufactured or designed the device.  Also provides data on manufacturers and designers not available in EUDAMED.
Basic UDI-DI List	Shows a list of all Basic UDI-DIs, including those already assigned.
Change Log	Lists the changes made to UDI information.

## DI List

This list stores all DIs available in the system, including DIs already in use and those not in use but acquired from issuing entities. The following chart shows the regulations that certain types of EUDAMED data are subject to.



The fields found on each line of the list are described in the following table.

Field	Description
Code	Specifies the relevant UDI-DI, such as GTIN or HIBC.
Issuing Entity / Agency Code	Specifies the issuing entity, such as GS1.
Description	Can be used for a more detailed description of the record. This description will not be copied to EUDAMED (or GUDID).
DI Type	<div>Specifies the type of DI:</div> <div><ul style="list-style-type: none"><li>• None <i>(placeholder for acquired but not yet assigned DIs)</i></li><li>• Basic UDI-DI</li><li>• UDI-DI</li><li>• Unit of Use DI</li><li>• Secondary DI</li><li>• Package Level DI</li><li>• EUDAMED DI</li><li>• UDI-DI (Legacy)</li></ul></div>
Used in EUDAMED	Specifies whether the DI is part of a EUDAMED record.
Used in GUDID	Specifies whether the DI is part of a GUDID record.

Actions

Based on the type of DI, you can choose one of the following functions on the ribbon:

Function	Description
Create EUDAMED DI	Creates a new EUDAMED record with a Basic UDI-DI, UDI-DI, or EUDAMED DI.
New	Inserts a new line on the page.
Open DI Card	Opens the EUDAMED record.
Open DI Versions	Opens a list of all versions of the DI.
Open Item Relations	Opens the item relations specified for the record.
Audit Trail	Opens the change log for the record.

#### Basic UDI Card

You enter Basic UDI-DI data on the Basic UDI-DI Card. To enter new data:

1. On the DI List, select a DI record of type Basic UDI-DI.
2. Choose Open DI Card on the ribbon. To enter data that you previously used in GUDID or haven't yet used at all, choose Create EUDAMED DI.
3. Fill in the fields according to the UDI Data Dictionary. Fields that aren't part of the dictionary are listed in the following.

#### General

Field	Description
Description	Specifies a text to describe the Basic UDI-DI.
Released	Specifies whether this version of the EUDAMED record has been released.
Active	Specifies whether this version is being or has been the last one edited.
Internal Version	Specifies the version of the Basic UDI-DI.

#### Actions

Function	Description
Create New Version	Creates a new version of the Basic UDI-DI record.
Release Version	Releases the current Basic UDI-DI version.
Open DI Versions	Opens a list of all versions of the DI.
Audit Trail	Opens the change log for the record.



## UDI-DI card

You enter UDI-DI data on the UDI-DI Card. To enter new data:

1. On the DI List, select a DI record of type UDI-DI.
2. Choose Open DI Card on the ribbon. To enter data that you previously used in GUDID or haven't yet used at all, choose Create EUDAMED DI.
3. Fill in the fields according to the UDI Data Dictionary. Fields that aren't part of the dictionary are listed in the following.

## General

Field	Description
Description	Specifies a text to describe the UDI-DI.
Released	Specifies whether this version of the EUDAMED record has been released.
Active	Specifies whether this version is being or has been the last one edited.
Internal Version	Specifies the version of the UDI-DI.

## Actions

Function	Description
Create New Version	Creates a new version of the UDI-DI record.
Release Version	Releases the current UDI-DI version.
Open DI Versions	Opens a list of all versions of the DI.
Open Item Relations	Specifies the relation of the UDI-DI to an item or its variant and unit of measure.
Audit Trail	Opens the change log for the record.

## Actions - Functions

Function	Description
Copy UDI Data	Copies base data from another UDI record.
Delete Basic UDI	Deletes the assigned Basic UDI.
Delete Secondary UDI	Deletes the assigned Secondary UDI.
Delete Unit of Use DI	Deletes the assigned Unit of Use DI.
Delete Direct Marking DI	Deletes the assigned Direct Marking DI.
Delete Legacy Device	Deletes the assigned Legacy Device.
Delete Product Designer Link	Deletes the link to the Product Designer.

## Legacy Device card

You enter EUDAMED DI data on the Legacy Device card. To enter new data:

1. On the DI List, select a DI record of type EUDAMED DI.
2. Choose Open DI Card on the ribbon. To enter data that you previously used in GUDID or haven't yet used at all, choose Create EUDAMED DI.
3. Fill in the fields according to the UDI Data Dictionary. Fields that aren't part of the dictionary are listed in the following.

## Basic UDI

Field	Description
Description	Specifies a text to describe the DI.
Released	Specifies whether this version of the EUDAMED record has been released.
Active	Specifies whether this version is being or has been the one last edited.
Internal Version	Specifies the version of the DI.

## Actions

Function	Description
Create New Version	Creates a new version of the EUDAMED DI record.
Release Version	Releases the current version.
Open DI Versions	Opens a list of all versions of the DI.
Open Item Relations	Specifies the relation of a EUDAMED DI to an item or its variant and unit of measure.
Audit Trail	Opens the change log for the record.

## Actions - Functions

Function	Description
Copy from Legacy	Copies base data from another UDI record.
Delete Secondary UDI	Deletes the assigned Secondary UDI.
Delete Unit of Use DI	Deletes the assigned Unit of Use DI.
Delete Direct Marking DI	Deletes the assigned Direct Marking DI.
Delete Product Designer Link	Deletes the link to the product designer.

**Set up GUDID****UDI Setup**

To set up the UDI-GUDID interface:

1. Choose the Search icon, enter UDI Setup, and then choose the related link.
2. On the General and GUDID FastTabs, fill in the fields described in the following table.

<b>Field</b>	<b>Description</b>
Default Issuing Entity / Agency Code	Specify the default issuing agency.
DUNS Number	Specify the DUNS number that has been assigned by the FDA to identify the manufacturer.  The number is used on documents and for reporting data to the agency.
Export Despite XSD Fail	Specifies if an XML export is possible despite failed XSD validation.
GUDID XSD Validation	Specifies if XSD validation is active ( <i>requires an XSD file</i> ).
GUDID XSD	Specifies if an XSD file has been stored for validation during the XML export process.

**Actions**

<b>Function</b>	<b>Description</b>
New DI	Creates a new DI, such as a Basic DI, a UDI-DI, or a Secondary DI.
Import GUDID XSD	Imports a GUDID XSD file.
Delete GUDID XSD	Deletes the stored GUDID XSD file.

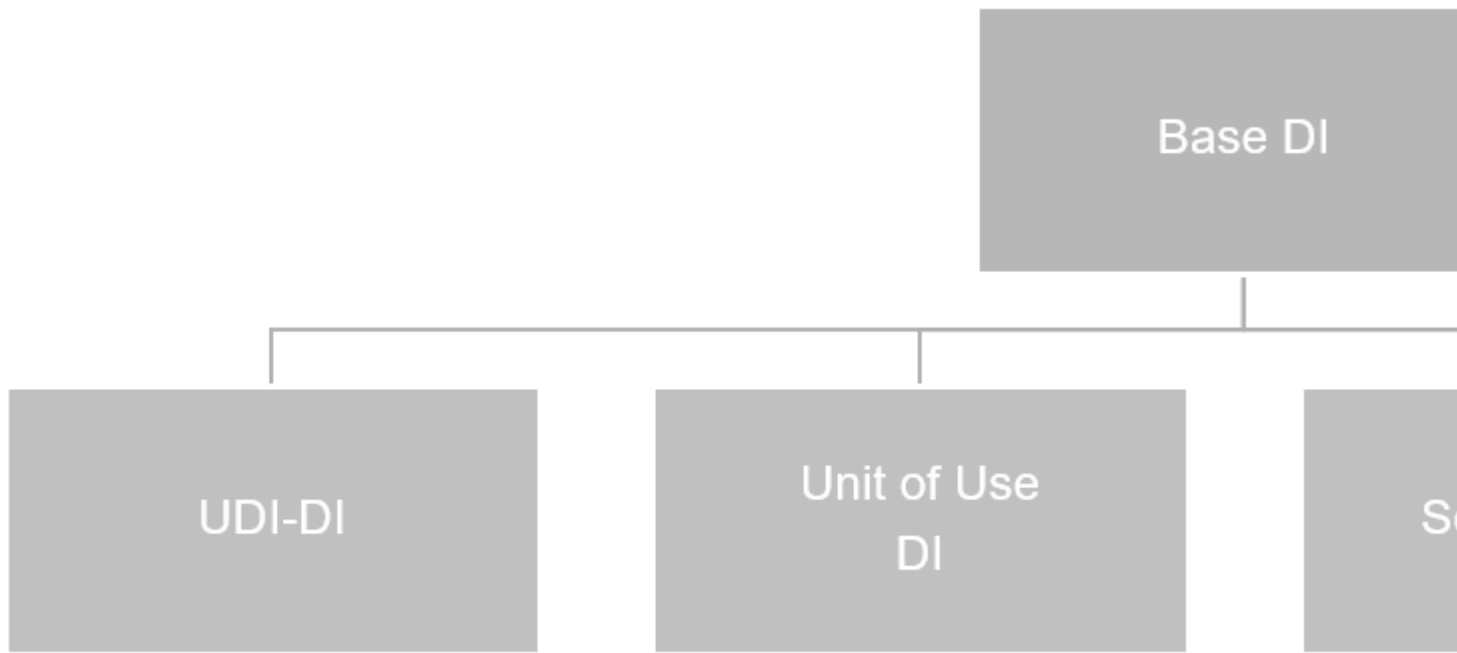
**Related – Base Data**

Contains the functions needed to maintain basic GUDID data, as described in the FDA UDI system. For more information on a specific field function, see the following table.

Function	Description
Units of Measure	Specifies units of measure used for clinically relevant sizes, as well as storage and handling conditions.
FDA Product Codes	Specifies devices based on FDA categories.
GMDN Codes / FDA Preferred Term Codes	Specifies GMDN or Preferred Term (PT) codes. These are unique five-digit codes used to identify common device types. PT codes are assigned to medical devices and related health care products for the purposes of grouping and categorization.
Clinically Relevant Sizes	Specifies the dimension types for the clinically relevant measurement of the medical device.
Submission Types	Indicates the type of FDA premarket submission. This includes 510(k), De Novo, PMA, PDP, HDE, BLA, ANDA, and NDA.
Storage Handling Conditions	Indicates the storage and handling requirements for the device, such as temperature, humidity, and atmospheric pressure needs.
Sterilization Methods	Indicates the methods of sterilization that can be used for the device prior to use on a patient.

#### DI List

This list stores all DIs in the system. The DIs relevant to the GUDID database are shown in the following chart.



You set up GUDID data in the same way as you do EUDAMED information. For more details, see [here](#).

## Package Labels

### Overview

The Label Interface - LIF functionality provides a way for you to transmit data structures that store item-related information supplied by Microsoft Dynamics 365 Business Central to a label design and print program.

After the structures are imported to the third-party solution, they're used to fill in graphical templates set up there so that you can create (and print) a variety of package labels at any time. The interface can be connected to the following programs:

- Software NiceLabel Cloud (Business edition or higher)
- Software NiceLabel On-Premises (LMS Enterprise edition or higher)
- Seagull Scientific BarTender (Automation edition or higher)

### Interface basics

Two key components help integrate the interface with the standard app:

#### Label Designer

- NiceLabel Designer - Pro
- BarTender Designer

#### Automation / Integration Builder

- NiceLabel Automation Builder - Pro
- NiceLabel Automation Builder
- BarTender Integration Builder

The design component is used to customize label templates and layouts. The builder, on the other hand, helps those working with the functionality to create an automated printing process. This includes everything from setting a trigger (to import data) and opening a template to assigning variables and selecting a print option to feeding back values to the source system.

For a more detailed explanation of these processes, see the [NiceLabel Cloud Setup](#), [NiceLabel On-Premises Setup](#), and [BarTender Setup](#).

### Interface options

The functionality comes with an array of tables, pages, and actions. Above all, however, it provides the configurations needed for multiple printing scenarios. You can choose between the following interface options:

- **KUMAVISION Label Interface - NiceLabel Cloud**
- **KUMAVISION Label Interface - NiceLabel On-Premises Web Service**
- **KUMAVISION Label Interface - BarTender Web Service**

Another component—called KUMAVISION Label Interface File Extension—can be used to export files via on-premises solutions. As file access is restricted in SaaS environments, a separate app had to be developed for this purpose.

Note

Because the KUMAVISION Label Interface File Extension isn't compatible with Unicode, the use of this extension can cause an increase in licensing costs for Microsoft products.

General setup

You must set up the label interface before you can transmit information to an external program. You can also set up additional features during this process.

Activate the interface

To turn on the interface:

- 1. Choose the Search icon, enter KUMAVISION Setup, and then choose the related link.
- 2. On the Settings FastTab, turn on the Label Interface toggle.

Note

You need a separate license before you can use the label interface.

Label position codes

The data structures transmitted to third-party software programs contain a list of values, each coupled with an identifier. These identifiers are the same on all labels, regardless of what the labels will be used for. To set up a value:

- 1. Choose the Search icon, enter Label Position Code List, and then choose the related link.
- 2. Fill in the fields as described in the following table.

Field	Description
Code	Specify a unique code that can later be linked to a label structure.
	You can enter a maximum of 20 characters in this field.
Description	Specify a description for the code to clarify the label contents.
	You can enter a maximum of 80 characters in this field.

Label Interface Setup

To configure the label interface:

- 1. Choose the Search icon, enter Label Interface Setup, and then choose the related link.
- 2. Fill in the fields as described in the following table.

## General

Field	Description
Printer	Enter the code that will be used for the printer on this line.
Position Code	The value in this field is automatically copied to label structure lines when you create a new structure.
No. of Copies	Enter the code that will be used for specifying how many labels you want to create.
Position Code	<p>The value you enter in this field can be transmitted as a variable to a label design and print program for analysis if you set up the variable there. The field has the following impact on the creation of data structures:</p> <p>a) For items without item tracking, the system will create a structure line and enter the No. of Copies value from the source document line there.</p> <p>For lot-tracked items, the system will create a structure line filled in for each lot. The No. of Copies value will be copied from the relevant item tracking line.</p> <p>b) For items tracked through serial numbers, the system will create a structure line with a No. of Copies value of 1 per number.</p> <p>If you leave this field blank, the system will create as many lines as needed to match the quantity entered in the field. A quantity of 100 entered in this field, for example, will add 100 lines to the transfer file.</p>
Log Content File Export	Turn on this toggle if you want the label creation process logged by the system. You can see an overview of all archived print jobs on the Label Print Job Archive List page.
Output Interface	<p>Specify the interface that will be used to create labels.</p> <p><b>Note</b> The KUMAVISION Label Interface File Extension is available as a separate app. Other interface solutions are available on request.</p>
File Export	



Available after installing the **KUMAVISION Label Interface File Extension** app.

Field	Description
Structure File Export Path	Specify the directory that will be used to store the structure file you want to export to the label design and print program.
Content File Export Path	Specify the directory that will be used to store the label file you want to export to the label design and print program.
Default Export Separator	Specify the separator that will be required to export label files.
Text Encoding	Specify the type of character encoding that will be used for label files (Windows, UTF8, UTF16, or MSDOS).
Pictograph Export Path	Specify the path that label design and print programs should use to retrieve pictographs stored in KUMAVISION (Booster).
	Specify the file type of pictographs (JPG or BMP).
Pictograph File Type	<b>Note</b> KUMAVISION functionality doesn't separate pictograph files by type. You should therefore select a type here to avoid errors when working with third-party software.

#### Note

Depending on what option you selected in the Output Interface field, the page might show additional interface features. For more information, see [NiceLabel Cloud Setup](#), [NiceLabel On-Premises Setup](#), and [BarTender Setup](#).

#### Label Printers

To set up a device for printing labels:

1. Choose the Search icon, enter Label Interface Setup, and then choose the related link.
2. On the ribbon, choose Label Printer.
3. Fill in the fields as described in the following table.

Field	Description
Label Code	Select the label code that will be used for the printer.
User ID	Specify the ID of the user who will print labels.
Printer Name	Specify the name of the device on which labels should be printed.

One printer can be stored per label code and ID. This is to ensure that external programs transmit the data stored in label structures to the correct printers. A printer can be assigned in the following ways:

1. To a certain label code and user.
2. To a certain label code and all users (that is, the User ID field is blank).
3. To all codes (that is, the Label Code field is blank) but only one user.
4. To all codes and users (Label Code and User ID fields are both empty).

#### Pictographs (Legacy)

By using pictographs, you can assign symbols to labels in Microsoft Dynamics 365 Business Central. No longer supported by NiceLabel Cloud and BarTender Web Service, the feature remains for legacy reasons.

Instead, pictographs should now be added through external sources. By using parameters (*such as „PAR\_“ codes specified on the Label Position Code List page*) and a certain function, however, you can still choose whether to show a symbol on a certain label.

#### Label structures

Label structures are representations of the core information used for labeling. Within a structure, you can assign position codes to Microsoft Dynamics 365 Business Central records and fields. The lines of the structure specify the data that you want to show on a label and where this information comes from. The structures can be used for multiple items (none are related to a specific item).

To set up a structure:

1. Choose the Search icon, enter Label Structure List, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the structure. The code must be unique.
	You can enter a maximum of 20 characters in this field.
Name	Specify a brief description for the structure.
	You can enter a maximum of 50 characters in this field.
Label Type	Specify the type of label. Options are: <ul style="list-style-type: none"> <li>• (blank)</li> <li>• Location</li> <li>• Product</li> <li>• Shipment</li> <li>• Whse. Receipt</li> </ul>
	<b>Note</b> This field is used for informational purposes only.
Status	Shows the status of the structure. A structure can have one of the following statuses: <ul style="list-style-type: none"> <li>• New</li> <li>• Certified</li> <li>• Under Development</li> <li>• Expired</li> </ul>
	<b>Note</b> You can only create labels from certified structures.
Version Nos.	Specify the number series that will be used to assign version numbers to the label.
	Filling in this field is optional.
Active Version	Shows the currently active version of the structure.
	This is the version that is certified and valid on the date on which you open the structure.
From Date	Specify from when the structure should be valid.
To Date	Specify until when the structure should be valid.
	If this field is left blank, this version of the structure will be used until it is replaced by another active version.

Label structure lines

The structure lines represent the individual positions that should be printed on the label.

Field	Description
Position Code	<p>Specify a unique position code that stands for a value on the label. You can select a code from the list or create a new one.</p> <p>For example, you can select position code ITEM_NO in this field to assign the item number from the item master to the label.</p>
Position Description	<p>Shows the description of the code.</p> <p>The description is copied from the Position Code Label List page but can be changed manually in this field.</p>
Source Type	<p>Specify where the data entered for the code comes from.</p> <p>For example, you can choose Text here if you want the system to use the content of the Source Value field.</p> <p>For more information on how to select a source type and subtype, see <a href="#">Source Type —Subtype Combinations</a>.</p>
Source Subtype	<p>Enter another type that will be used in combination with the Source Type field.</p> <p>For example, for the Item source type, you can specify in this field if you want to use the description or the content (=value) stored in the item master.</p> <p>For more information on how to select a source type and subtype, see <a href="#">Source Type —Subtype Combinations</a>.</p>
Source Field No.	<p>You can only fill in this field for source types linked to a table. The number you enter here identifies the field from which a value or a description is copied from.</p> <p>For more information on how to select a source type and subtype, see <a href="#">Source Type —Subtype Combinations</a>.</p>
Source Code	<p>This field can only be used in the following ways:</p> <p><b>Option 1</b></p> <p>If the source type is Pictograph and the subtype is Database, you can choose the code of a pictograph from the pictograph master.</p> <p>This option is available for legacy reasons. It is only used for the KUMAVISION Label Interface File Extension (which needs to be installed separately).</p> <p><b>Option 2</b></p> <p>If the source type is Item Tracking and the subtype Expiration or Production Date, you can format this date in the following ways:</p> <p>&lt;YYYY&gt;: In this format, the year is represented by four digits.</p>

Field	Description
	<p>&lt;YY&gt;: The year is represented by the last two digits.</p> <p>&lt;MM&gt;: In this format, the month is shown as a number.</p> <p>&lt;MONTH&gt;: The month is written out.</p> <p>&lt;DD&gt;: In this format, the day is written out.</p> <p><i>Example 1</i></p> <p>&lt;MONTH&gt; &lt;YYYY&gt; will list the date as December 2022.</p> <p><i>Example 2</i></p> <p>&lt;YYYY&gt;-&lt;MM&gt;-&lt;DD&gt; will list the date as 2022-07-09.</p> <p><b>Option 3</b></p> <p>If the source type is Item Attribute, you must assign the attribute that you want to specify for the label (applies to both Caption and Value subtypes).</p> <p>To select an attribute, use the lookup in the field.</p>
Source Value	<p>This field is filled in automatically unless you chose source type Text or source type Pictograph and subtype Path.</p> <p>If you chose Text, enter the text you want printed for the position code.</p> <p>For source type Pictograph and subtype Path—and if symbols are not stored in the system but a directory—specify the path at which the pictograph can be found.</p> <p>This option is only available for legacy reasons and is only used in combination with the KUMAVISION Label Interface File Extension, which needs to be installed separately.</p> <p>For more information on how to select a source type and subtype, see <a href="#">Source Type —Subtype Combinations</a>.</p>
Language Code	<p>Here you can specify different item codes to add translations to the label structure.</p> <p>The field is only used for types Item Translation, EUDAMED UDI-DI, and EUDAMED Legacy in combination with subtype Value, or for type Item Attribute and subtype Caption or Value.</p>
Source type-subtype combinations	

The following table shows the subtypes that you can add to a source type and what will happen if you do (=source value).



Source type	Source subtype	Source value
Text	(blank)	None; enter a text that you want printed on a label for the selected position code.
Pictograph	Path	<p>None; specify the file path to a pictograph that will be used for the selected position code.</p> <p>This option exists for legacy reasons. For more information, see KUMAVISION Label Interface File Extension.</p>
Pictograph	Database	<p>The Source Value field is filled in automatically with the name of a pictograph that will be used for the selected position code.</p> <p>This option exists for legacy reasons. For more information, see KUMAVISION Label Interface File Extension.</p>
Item	Caption	The Source Value field is filled in automatically with the caption of an Item table field selected via the Source Field No.
Item	Value	The Source Value field is filled in automatically with the content of an Item table field selected via the Source Field No.
Item Attribute	Caption	<p>The Source Value field is filled in automatically with the caption of an Item Attribute table field selected via the Source Field No.</p> <p>If you select the Name field and have specified a language code, the Source Value field is filled in with the translation entered for the attribute.</p> <p>If no translation is available, the system shows the default name instead.</p>
Item Attribute	Value	<p>The Source Value field is filled in automatically with the content of an Item Attribute table field selected via the Source Field No.</p> <p>If you select the Value field and have specified a language code, the Source Value field is filled in with the translation entered for the attribute.</p> <p>If no translation is available, the system shows the default value instead.</p>
Item Variant	Caption	The Source Value field is filled in automatically with the caption of an Item Variant table field selected via the Source Field No.
Item Variant	Value	The Source Value field is filled in automatically with the content of an Item Variant table field selected via the Source Field No.

Source type	Source subtype	Source value
Item Translation	Caption	The Source Value field is filled in automatically with the caption of an Item Translation table field selected via the Source Field No.
Item Translation	Value	<p>The Source Value field is filled in automatically with the content of an Item Translation table field selected via the Source Field No.</p> <p>You can use the Language Code field to specify for which language the item translations should be filtered.</p>
Item UOM	Caption	The Source Value field is filled in automatically with the caption of an Item Unit of Measure table field selected via the Source Field No.
Item UOM	Value	The Source Value field is filled in automatically with the content of an Item Unit of Measure table field selected via the Source Field No.
Item Tracking	Serial No.	The Source Value field is filled in automatically with the serial number that was entered for the item assigned to the selected position code.
Item Tracking	Lot No.	The Source Value field is filled in automatically with the lot number that was entered for the item assigned to the selected position code.
Item Tracking	External Lot No.	The Source Value field is filled in automatically with the external lot number that was entered for the item assigned to the selected position code.
Item Tracking	Expiration Date	<p>The Source Value field is filled in automatically with the expiration date that was entered for the item assigned to the selected position code.</p> <p>You can use the Source Code field to reformat the date.</p>
Item Tracking	Production Date	<p>The Source Value field is filled in automatically with the production date that was entered for the item assigned to the selected position code.</p> <p>You can use the Source Code field to reformat the date.</p>
Customer	Caption	The Source Value field is filled in automatically with the caption of a Customer table field selected via the Source Field No.
Customer	Value	

Source type	Source subtype	Source value
		The Source Value field is filled in automatically with the content of a Customer table field selected via the Source Field No.
Vendor	Caption	The Source Value field is filled in automatically with the caption of a Vendor table field selected via the Source Field No.
Vendor	Value	The Source Value field is filled in automatically with the content of a Vendor table field selected via the Source Field No.
Customer Ref.	Caption	<p>The Source Value field is filled in automatically with the caption of an Item Reference table field selected via the Source Field No.</p> <p>This table is prefiltered for customers.</p>
Customer Ref.	Value	<p>The Source Value field is filled in automatically with the content of an Item Reference table field selected via the Source Field No.</p> <p>This table is prefiltered for customers.</p>
Vendor Ref.	Caption	<p>The Source Value field is filled in automatically with the caption of an Item Reference table field selected via the Source Field No.</p> <p>This table is prefiltered for vendors.</p>
Vendor Ref.	Value	<p>The Source Value field is filled in automatically with the content of an Item Reference table field selected via the Source Field No.</p> <p>This table is prefiltered for vendors.</p>
Company Info	Caption	The Source Value field is filled in automatically with the caption of a Company Information table field selected via the Source Field No.
Company Info	Value	The Source Value field is filled in automatically with the content of a Company Information table field selected via the Source Field No.
Barcode Ref.	Barcode	The Source Value field is filled in automatically with an item reference number based on an item number, a variant code, an item UOM, and the reference type Barcode.
Barcode Ref.	Text	

Source type	Source subtype	Source value
		The Source Value field is filled in automatically with an item reference number based on an item number, a variant code, an item UOM and the reference type Barcode.
Printer	(empty)	The Source Value field is filled in automatically with the printer that will be used for the chosen combination of label structure and user ID.
No. of Copies	(empty)	The Source Value field is filled in automatically with the number of required labels.
Document No.	(empty)	The Source Value field is filled in automatically with the number of the source document if this document triggered the printing process.
Transaction Code	Value	The Source Value field is filled in automatically with the transaction code from a document, for example, a warehouse receipt, if this document triggered the printing process.
Location Code	Value	The Source Value field is filled in automatically with the location code from a document, for example, a warehouse receipt, if this document triggered the printing process.
Location Code	Value	The Source Value field is filled in automatically with the bin code from a document, for example, a warehouse receipt, if this document triggered the printing process.
EUDAMED UDI-DI	Caption	The Source Value field is filled in automatically with the caption of a UDI-DI field selected via the Source Field No.
EUDAMED UDI-DI	Value	The Source Value field is filled in automatically with the content of a UDI-DI field selected via the Source Field No.
EUDAMED Legacy	Caption	The Source Value field is filled in automatically with the caption of a UDI-DI field selected via the Source Field No.
EUDAMED Legacy	Value	The Source Value field is filled in automatically with the content of a UDI-DI field selected via the Source Field No.

Copy structure (action)

Copies an existing label structure. To use this function:

1. On the Label Structure List page, choose New.
2. On the ribbon, choose Copy Structure.
3. In the Copy from Label Code field, specify the code of the structure that you want to copy lines from.
4. Turn on the Copy Incl. Values toggle if also want to copy manual source values (source type Text or source type Pictograph in combination with subtype Path). If you leave the toggle turned off, their source values will be blank, and you need to fill them in again.
5. Choose OK to copy the lines from the selected structure to the new one.

#### Note

You can also use this function to revise an existing structure by copying lines from another prior to making changes. If you run the function from a structure for which lines exist, the system will delete them before copying the other lines.

### Label structure versions

You can create versions of a label structure if you want to use some version of the structure to start being valid on a specified date. To set up this feature:

1. Choose the Search icon, enter Label Structure List, and then choose the related link.
2. Open a label structure.
3. In the Version Nos. field, enter a number series that will be used for the versions of this structure.

You can then see the current structure version in the Active Version field. Data copied from previous, expired versions remains available as well.

The system identifies the active structure version by looking for one where the work date is within the period specified in the Starting Date and Ending Date fields. If this results in more than one search hit, the version with the highest number will be used as the active version.

#### Note

If you want to work with version numbers, we recommend that you add leading zeros to these numbers, as the Version No. is a code field (which is sorted in alphanumeric order).

### Create a new version

To create a new version of a label structure:

1. Choose the Search icon, enter Label Structure List, and then choose the related link.
2. Open a label structure.
3. On the ribbon, choose Versions and then choose New.
4. With the Version Nos. field filled in, you can exit the No. field to have a number assigned automatically. If the Version Nos. field hasn't been filled in on the structure card, you need to enter a number manually.
5. The work date is then automatically suggested in the Starting Date field. However, you can specify another date if needed.

You can now enter data on the lines manually or choose [Copy Structure](#) on the ribbon to copy lines from an existing structure or version.

### Version Matrix (action)

Compares structure versions on a matrix. You can specify filters here before you choose Show Matrix on the ribbon.

### Change Log (action)

Shows changes to a label structure if structures and versions are tracked. This action extends the standard change log functionality. To include label structures on logs, you must add the following tables in Change Log Setup:

- Table 5488108 - KVSKBALabelStructureHeader
- Table 5488109 - KVSKBALabelStructureLine
- Table 5488116 - KVSKBALabelStructureVersion

For more information about tracking changes, see [Auditing changes](#).

### Item-Label Relations

Label structures essentially tell another program where to print lines (position codes) on a label and how to calculate values for them.

All structures are universally valid so that they can be used for multiple items. To assign a structure to an item, choose Item-Label Relations on the ribbon of the relevant structure, item, or item variant.

The Item-Label Relations page stores the links between items and structures, as well as their units of measure, language codes, and customers or vendors. These values are then used to find a label structure or create a new label.

For example, by specifying a unit of measure and a customer number, you can create an OEM label for a certain customer as described in the following table.

Field	Description
Item No.	Specifies the number of the item the structure will be linked to.
Variant Code	Specifies the variant of the item the structure will be linked to.
Label Code	Specifies the code of the structure used.
Item Description	Specifies the item description that will be linked to the structure.
Label Name	Specifies the name of the structure that will be linked to the item.
Item UOM	Specifies the unit of measure in which label data (contents) will be calculated.
Language Code	This field is filled in with the language that has been specified for calculating label contents.
Customer No.	Specifies the customer for which label contents will be calculated.
Vendor No.	Specifies the vendor number for which label contents will be calculated.
Print at Receipt	With the toggle turned on, the label is printed when the item is received at a location.
Print on Prod. Order	If the article linked to the structure is a production article, this checkbox must be activated so that a corresponding label can be printed from the production order.
Print at Shipment	With the toggle turned on, the label is printed when the item is shipped.
Overpack Qty.	This field is used only when the Print at Receipt toggle is turned on and the No. of Copies Position Code field in Label Interface Setup is empty.
No. of Sample Labels	This field can be filled in if labels are printed, for example, as reserve samples.  If the field is filled in, the No. of Copies will be increased by the number specified here.

#### Overpack quantities

The Overpack Quantity field is used when the Print at Receipt toggle is turned on and the No. of Copies Position Code field in Label Interface Setup is blank. When both conditions are met, the number of copies is calculated as follows:

**Non-tracked and tracked items**

Order Quantity	100
Unit of Measure	Pieces
Overpack Quantity	1
= 100 labels (100 divided by 1)	
Order Quantity	100
Unit of Measure	Pieces
Overpack Quantity	2
= 50 labels (100 divided by 2)	

**Label contents and preview**

For the most part, labels are created automatically in Microsoft Dynamics 365 Business Central before they're copied to a third-party solution.

After the labels have been imported, the external program creates the relevant information and sends it to the selected printer. Manual intervention shouldn't be necessary in this context.

However, to track the generation of label contents in Microsoft Dynamics 365 Business Central and preview labels for revisions, you can choose Show Label Contents on the ribbon of a label structure or the Item-Label Relations page.

When you run this function from the Item-Label Relations page, data is filtered for the selected relations. If you run it from a structure, you can only filter for a label code.

On the Label Contents page, you can fill in values on the header, for example, a serial number or an expiration date. You can also enter other information to see how specific label positions are calculated.



The fields in the following table must be filled in as described:

Field	Description
	Specify the number of the item for which you want to create a label.
Item No.	This number is also used to determine the contents of source types Item, Item Variant, Item UOM, Item Translation, Customer Ref., Vendor Ref., and Barcode and is set as a filter on values when label data is calculated.
	Specify the code of the item variant for which you want to create a label.
Variant Code	The code is also used to determine the contents of source types Item, Item Variant, Item UOM, Item Translation, Customer Ref., Vendor Ref., and Barcode and is set as a filter on values when label data is calculated.
Label Code	Specify the code based on which you want to calculate label contents.
Label Name	Shows the name of the label. The name is entered automatically.

You can also enter something in other fields if necessary:

Field	Description
	Here you can specify the item unit of measure for which you want to create a label.
Item UOM	The unit is also used to determine the contents of source types Item, Item Variant, Item UOM, Item Translation, Customer Ref., Vendor Ref., and Barcode and is set as a filter on values when label data is calculated.
Language Code	Here you can specify the language code that you want to use to create content for source type Item Translation.
Serial No.	Here you can specify the number that you want to use to create content for source type Serial No.
Lot No.	Here you can specify the number that you want to use to create content for source type Item Tracking and subtype Lot No.
External Lot No.	Here you can specify the number that you want to use to create content for source type Item Tracking and subtype External Lot No.
Expiration Date	Here you can specify the number that you want to use to create content for source type Item Tracking and subtype Expiration Date.
Production Date	Here you can specify the number that you want to use to create content for source type Item Tracking and subtype Production Date.
Customer No.	Here you can specify the number that you want to use to create content for source types Customer and Customer Ref.
Vendor No.	Here you can specify the number that you want to use to create content for source types Vendor and Vendor Ref.
Label Printer Name	Shows the device on which labels will be printed. This field is filled in automatically depending on setup.
Document No.	Here you can specify the number of a document.
Transaction Code	Here you can specify the code of a transaction.
Location Code	Here you can specify the code of a location.
Bin Code	Here you can specify the code of a bin.
NiceLabel Cloud Trigger API ID	Shows a unique trigger ID that will be used for NiceLabel Cloud.  <b>Note</b> An ID is only filled in if you selected KUMAVISION Label Interface – NiceLabel Cloud in Label Interface Setup.

### Calculate Contents (Action)

Starts in Microsoft Dynamics 365 Business Central the process of calculating line values based on the specified label structure.

### Preview Label (Action)

Provides an online preview of labels created in NiceLabel Cloud or BarTender Web Service.

For this purpose, the label design and print program will simulate the standard printing process, store the results as a PDF file, and send the PDF to Microsoft Dynamics 365 Business Central.

#### Note

To distinguish this preview from the printing process itself, an additional parameter called PreviewFormat is passed on to the label design program. This parameter has the value True for each preview, whereas the value is False for actual printouts.

After you run the Preview Label action, the label is shown on the Preview Label FastTab.

### Create Structure File (Action)

Creates a file that contains all codes and sample values assigned to positions on a label, as a basis for designing new data structures.

After the structure is created, it is stored in the standard Download folder. The file name shows the label code, the ID of the user who created the file, and the date and time of creation.

If you're using KUMAVISION Label Interface - NiceLabel Cloud or BarTender Web Service, the file extension will be JSON. If you're using the KUMAVISION Label Interface - NiceLabel On-Premises Web Service, the structure will be in the XML format. File contents are arranged in the same way as in the file sent to the label design and print program.

### Create a Label (Manually)

After the label information has been determined for a specific item, label data can be created and transmitted by choosing Create Label File. This will create a file manually.

#### Create a label (automatically)

### Warehouse receipt

If the Print at Receipt checkbox is selected on the Item-Label Relations page, labels will automatically be created for items when you post their receipt at a warehouse.

As an example, you created and ordered in advance multiple items, which are now being received.

You then post their receipt so that a label is created and copied automatically to the relevant label design and print program. The PDF file generated for the label will be three pages long, with each page showing one of the three items listed in the Qty. Received field on the receipt.

## NiceLabel On-Premises

### Required version or edition

The NiceLabel Web Service requires the Software NiceLabel On-Premises LMS Enterprise edition or higher.

### NiceLabel On-Premises Setup

#### Label Interface Setup

On this page, you need to select KUMAVISION Label Interface - NiceLabel On-Premises Web Service in the Output Interface field.

Everything else can be configured in the same way as for the default interface.

#### Label structure

To transmit data to NiceLabel On-Premises through a web service call, you need to fill in the NiceLabel On-Premises Web Service URL field in the label structure.

Field	Description
NiceLabel On-Premises Web Service URL	Specify the URL of the NiceLabel Automation Builder that will be used for transmitting data to NiceLabel.

#### Note

You can only see this field if NiceLabel On-Premises Web Service has been selected on the Label Interface Setup page.

### Using NiceLabel On-Premise

You can take the following steps to integrate Software NiceLabel On-Premises with your Microsoft Dynamics 365 Business Central environment.

#### Note

The setup examples provided with this article are *not* meant to replace NiceLabel documentation nor any training in using the program.

#### NiceLabel Automation Builder

With the help of filters and triggers provided by NiceLabel Automation Builder, you can set up print scenarios based on data provided by Microsoft Dynamics 365 Business Central.

#### XML Data Filter

Because data is transferred to NiceLabel On-Premises in the XML format, you need an XML filter. Add this filter, and a name, to a new data structure. On the ribbon, choose Import Data Structure to import a structure file from Microsoft Dynamics 365 Business Central. For more information on how to generate the file, see [Create Structure File](#).

To use XML nodes as variables, you can then set the Usage property of every element in the structure to Variable Value.

### Create a trigger

Afterward, create a unique trigger that contains the processes that you want to run. Go to the Configuration Items tab, choose Add, and then choose Web Service.

Give the trigger a unique name and assign a port for communication with the web service. The port will be part of the web service URL and will be linked to the label structure in Microsoft Dynamics 365 Business Central.

Typically, the label design program is set up in a way so that variables will be read off the labels. Since label integration in this scenario occurs throughout the system and the labels used are transmitted as parameters of a structure, you need to set up integration variables manually by choosing Add > Variable on the Variables tab.

### Note

We recommend that, as names, you use the descriptions specified for the variables on the structure lines created in Microsoft Dynamics 365 Business Central. This way, label information will be mapped automatically to the variables.

To respond to preview or printout requests sent from Microsoft Dynamics 365 Business Central, you must also add the ResponseData variable. This variable will later be used to return values to the app.

### Use Data Filter

Now, assign the NiceLabel parameters to the specified variables by adding the Use Data Filter function to the Actions tab.

Afterward, enter the XML structure as a name on the Filter tab. If the names of the XML variables match the position codes set up in Microsoft Dynamics 365 Business Central, choose Auto Map on the Data Mapping tab.

The information stored in the data structure is then assigned to each variable by the system. If names are different, you must create mappings manually.

### Open Label

Open the relevant label. As the label name is stored on a data structure line in Microsoft Dynamics 365 Business Central, you can again use a variable to get the name. Add the Open Label action, select the Data Source checkbox on the Settings tab, and fill in the Label Name field.

### Preview: Print to PDF

To save print information as a PDF file so that you can preview the label, add the Redirect Printing to PDF action, enter a file name, and select the Overwrite File checkbox.

Because this action should only be performed for previewing a label, go to the Show Execution and Error Handling Options tab and add the condition that for this function to work, the PreviewFormat variable must be set to True.

### Print Label

Afterward, add the Print Label action and specify that the number of labels to print (=No. of Copies) will be sourced from a variable.

#### Preview: Read data from file

For previews, the contents of the PDF file must then be read and copied to the ResponseData variable. Add the Read Data from File action. In the properties, set the File Name as explained under [Preview: Print to PDF](#) and enter 20 as the Number of Retries.

Because, again, this action should only be performed for label previews, add on the Show Execution and Error Handling Options tab the condition that for this function to work, the PreviewFormat variable must be set to True.

#### Preview: Set ResponseType PDF

Because the return value for a preview consists of a PDF document, you also need to convert the ResponseType. For this purpose, add another action that sets the variable to application/pdf in the case of previews.

### NiceLabel Cloud

#### Required version or edition

The NiceLabel Cloud interface requires NiceLabel Cloud Business edition or higher.

#### NiceLabel Cloud setup

#### NiceLabel Cloud APIs Using NiceLabel Cloud APIs

Before you can use NiceLabel APIs, you need to log on to the [API Developer Portal](#), create a subscription, and link the subscription to your Control Center. For more information, see [Cloud Integrations – NiceLabel Help Center](#) page.

#### Label Interface Setup

On this page, you must select KUMAVISION Label Interface – NiceLabel Cloud Web Service in the Output Interface field and enter an API subscription key.

Field	Description
	Specify the primary key shown on the Developer Portal.
NiceLabel Cloud API Subscription Key	This key is used as a component of API authentication, that is, it is included in the header information for HTTP requests as “Ocp-Apim-Subscription-Key.”

Everything else can be set up in the same way as for the default interface.

#### Label printers

With NiceLabel Cloud, you can store what is known as cloud printers. As they aren’t connected to Microsoft Dynamics 365 Business Central, they cannot be selected in the app.

To add them, you need to retrieve printer information through the API from the NiceLabel Cloud by choosing NiceLabel Printer on the ribbon.

You can then choose Update Printer List to connect to the API and get the list of cloud printers stored online.

Label structure

With NiceLabel Cloud, you can set up automated workflows to specify labeling actions and processes. You can also create a single workflow for use in every print scenario by assigning a variety of variables to the parameters available in the NiceLabel Automation Builder.

Automated workflows can be identified by their trigger IDs. To send label data structures from Microsoft Dynamics 365 Business Central to the right triggers, you need to store a NiceLabel Cloud API identifier for each of them.

Field	Description
NiceLabel Cloud Trigger API ID	Enter the unique Trigger Name used by an automated NiceLabel workflow for the label structure.

The content of this field must match the name of the trigger specified in the NiceLabel Control Center.

Use NiceLabel Cloud

You can take the following steps to integrate Software NiceLabel Cloud with your Microsoft Dynamics 365 Business Central environment.

Note

The setup examples provided with this article are *not* meant to replace NiceLabel documentation nor any training in using the program.

NiceLabel Automation Builder

With the help of filters and triggers provided by NiceLabel Automation Builder, you can set up print scenarios based on data provided by Microsoft Dynamics 365 Business Central.

Json data filter

Because data is transferred to NiceLabel Cloud in the JSON format, you need a JSON filter. Add this filter, and a name, to a new data structure. On the ribbon, choose Import Data Structure to import a structure file from Microsoft Dynamics 365 Business Central. For more information on how to generate the file, see [Create Structure File](#).

To use JSON parameters as variables, you can then set the Usage property of every element in the structure to Variable Value.

Create a trigger

Afterward, create a unique trigger that contains the processes that you want to run. On the Configuration Items tab, choose Add, and then choose Cloud.

Give the trigger a unique name and a unique ID. This ID will be used to trigger cloud services and will be linked to the label structure in Microsoft Dynamics 365 Business Central.

Typically, the label design program is set up in a way so that variables will be read off the labels. Since label integration in this scenario occurs throughout the system and the labels used are transmitted as parameters of a structure, you need to set up integration variables manually by choosing Add > Variable on the Variables tab.

#### Note

We recommend that, as names, you use the descriptions specified for the variables on the structure lines created in Microsoft Dynamics 365 Business Central. This way, label information will be mapped automatically to the variables.

To respond to preview or printout requests sent from Microsoft Dynamics 365 Business Central, you must also add the ResponseData and ResponseType variables. These will later be used to return values to the app.

#### Use Data Filter

Now, assign the NiceLabel parameters to the specified variables by adding the Use Data Filter function to the Actions tab.

Afterward, enter the JSON structure as a name on the Filter tab. If the names of the JSON variables match the position codes set up in Microsoft Dynamics 365 Business Central, choose Auto Map on the Data Mapping tab.

The information stored in the data structure is then assigned to each variable by the system. If names are different, you must create mappings manually.

#### Open Label

Open the relevant label. As the label name is stored on a data structure line in Microsoft Dynamics 365 Business Central, you can again use a variable to get the name. Add the Open Label action, select the Data Source checkbox on the Settings tab, and fill in the Label Name field.

#### Initialize ResponseType variable

Set the ResponseType to application/json. Add the Set Variable action, enter ResponseType in the Name field, and select the application/json value.

#### Initialize ResponseData variable

The ResponseData variable, on the other hand, must be "{}." For this purpose, add the Set Variable action, enter ResponseData in the Name field, and enter {}.

#### Preview: Print to PDF

To save print information as a PDF file so that you can preview the label, add the Redirect Printing to PDF action, enter a file name, and select the Overwrite File checkbox.

Because this action should only be performed for previewing a label, go to the Show Execution and Error Handling Options tab and add the condition that for this function to work, the PreviewFormat variable must be set to True.

#### Print label



Afterward, add the Print Label action and specify that the number of labels to print (=No. of Copies) will be sourced from a variable.

#### Preview: Read data from file

For previews, the contents of the PDF file must then be read and copied to the ResponseData variable. Add the Read Data from File action. In the properties, set the File Name as explained under [Preview: Print to PDF](#) and enter 20 as the Number of Retries.

Because, again, this action should only be performed for label previews, add on the Show Execution and Error Handling Options tab the condition that for this function to work, the PreviewFormat variable must be set to True.

#### Preview: Set ResponseType PDF

Because the return value for a preview consists of a PDF document, you also need to convert the ResponseType. For this purpose, add another action that sets the variable to application/pdf in the case of previews.

#### Set ResponseType and ResponseData

As a last step, open the trigger settings. On the Communications tab, enter ResponseType in the Response Type and [ResponseData] in the Response Data field for use by the cloud trigger.

#### Seagull Scientific BarTender

##### Required version or edition

BarTender Web Service requires the Seagull Scientific BarTender Automation edition or higher.

```
BarTender setup{ #additional-bartender-setup }
```

#### Label Interface Setup

On this page, you must select KUMAVISION Label Interface – BarTender Web Service in the Output Interface field.

Everything else can be set up in the same way as for the default interface.

#### Label structure

To transmit data to BarTender through web service requests, you also need to fill in the following fields on label structure headers:

Field	Description
BarTender Web Service URL	Specify the URL of the BarTender Integration Builder that will be used for transmitting data to BarTender.
BarTender Authentication	Turn on the toggle if basic authentication should be required to gain access to BarTender.
BarTender Username	Specify the username needed to log on to BarTender.  This field is only filled in if Basic has been selected in the BarTender Authentication field.
BarTender Password	Specify the password needed to log on to BarTender.  This field is only filled in if Basic has been selected in the BarTender Authentication field.

#### Note

You can only see these fields if BarTender Web Service has been selected on the Label Interface Setup page.

#### Use BarTender

You can take the following steps to integrate Seagull Scientific BarTender with your Microsoft Dynamics 365 Business Central environment.

#### Note

The setup examples provided with this article are *not* meant to replace BarTender documentation nor any training in using the program.

#### BarTender Integration Builder

With the Integration Builder, you can create and manage print scenarios.

When you set up a new scenario, you can also select the trigger that you want to use for interfacing with Microsoft Dynamics 365 Business Central. Choose Web Service.

#### Service

The name of the scenario will match the name of the web service. However, if necessary, you can change the name on the Integration tab.

#### Input data

On the Input Data tab, set the input format to JSON Variables and choose New Sample to select the structure file that you created in Microsoft Dynamics 365 Business Central. For more information on how to generate the file, see [Create Structure File](#).

This will transfer the values of the variables set up in Microsoft Dynamics 365 Business Central to BarTender as sample data.

## Response

On the Response tab, select the format and the content that you want returned to Microsoft Dynamics 365 Business Central.

As an encoded PDF stream is required to preview labels, the response by the app should be copied to a new variable to ensure that this value is filled in by an independent action.

## Variables

On the Variables tab, you can change default variables used in print scenarios or add new variables. As neither action is required in this case, you don't need to change anything here for now.

## Actions

On the Actions tab, you can store various steps that make up something of a workflow. The program will follow each step as data is received. The actions have been classified as follows:

- Print
- Transform
- Input
- Output
- Execute
- File
- Database

Each action also comes with a subset of steps that can be linked together as needed. For more information, see the BarTender documentation.

## Sample task

Have the label design and print program save label data received for preview as a PDF file before transmitting the information to Microsoft Dynamics 365 Business Central in a response stream.

If the data isn't meant for preview, however, have the program print the label information by using the printer specified in the associated data structure.

## Solution

### 1. Print or preview

First, add a Select Case action to perform a check if the action that triggered the printing process is used when previewing labels (that is, if the PreviewFormat variable linked to the action has been set to True). Specify that the next steps in the process will be different for previews and printouts.

### 2. Preview

Assuming the ETI\_DOCUMENT variable will be used to transfer data from Microsoft Dynamics 365 Business Central label structures, the document that you want to open must now be linked to the variable.

The use of this method will reduce the number of printing scenarios needed, as the data structures already designate the relevant labels.

Regarding print options, specify that print data should be saved to a PDF and enter the path to the directory where you want to store the file. Afterward, choose Named Data Sources to assign the variables that you want to add to data sources in the Label Designer.

As a next step, you need to store the PDF file in Base64 format in a variable (to allow a response by the label interface). Add the PowerShell Command action, select Embedded Commands for the Source property, and enter the following:

```
[convert]::ToBase64String((Get-Content -path < file name from extended print options > -Encoding byte))
```

Afterward, enter the variable that you set up under [Response](#) in the Send Command Output and Errors to Variable field.

### 3. No preview = print

For a label to be printed instead, add the Print Document action. The look of the label remains because the layout is specified by the label structure stored in Microsoft Dynamics 365 Business Central.

As for print options, you can use variables to specify the printer you want to use and the number of labels you want printed based on the label structure created in Microsoft Dynamics 365 Business Central. Variables are specified in BarTender via %< name of variable >% (for example, %TYPE\_NO% or %ETI\_PRINTER%).

As a last step, choose Named Data Sources to assign the variables you want transmitted from the relevant print scenario to the named data sources used in the Label Designer.

## 1.2.2 factory365

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### KUMAVISION factory365

With KUMAVISION factory365, you can easily master the balancing act between costs, resources, logistics and adherence to schedules. Because the integrated industry software is perfectly tailored to the needs of the manufacturing industry and offers all functionalities in one system.

- Continuous connection between design and production
- Project management with concurrent calculation
- Pre-, post- and concurrent article costing
- Transaction-related storage of objects such as documents, drawings and certificates
- Role-based interface
- Order proposal with integrated frame processing
- Demand forecasts for inventory optimization
- Flexible management of all types of storage

#### Content

- [General Setup](#)
- [Sales and Marketing](#)
- [Purchasing](#)
- [Warehouse and Inventory](#)
- [Manufacturing](#)
- [External Production With Provision](#)
- [Design and Development](#)
- [Article Attributes](#)
- [Computer Aided Design \(CAD\) Transfer](#)
- [Scheduling Agreement Management](#)
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- [Work in Progress \(WIP\) Assessment](#)
- [Plant Engineering](#)

## General Setup

### Mandatory field check

The mandatory field check allows to define customer-specific mandatory fields to support the creation of master or document data. Certain values are specified, which are checked after the input is completed.

At this point of the online help only the additional functionality of the mandatory field validation in KUMVISION factory365 will be explained. The general scope of functions is described [here](#).

### Mandatory field check setup

Area	Facility	Field
G/L accounts	Financial accounting institution	mandatory field check G/L account
Resources	Resources Setup	Compulsory field check Resource
workstation groups workstations	production setup	mandatory field check workstation group mandatory field check workstation
Delivery schedule headers	Delivery schedule setup	Compulsory field check

### Note

At this point of the online help, only the additional setup options of the mandatory field check in KUMVISION factory365 will be explained to you in more detail. The general setup options are described [here](#).

### Setup mandatory fields

The mandatory fields are defined via the user search "Mandatory fields setup tables".

When called up, the "Mandatory fields setup tables" are opened. In this list, the corresponding tests can be viewed for each table.

You can define the mandatory fields for the corresponding exam record via the "Mandatory fields" menu item.

Field	Description
FieldNo	This field contains the number of the field for which this check is intended
Field name	This field contains the description of the field for which this check is intended and is automatically filled when the "Field no." is assigned.
Comparison Type	<p>The Comparison Type field is used as a comparison operator to check the value of the field in the record against the value from the Comparison Value and/or Maximum Comparison Value fields. Here, the following comparison operators are available:</p> <ul style="list-style-type: none"> <li>- &lt;&gt;</li> <li>- =</li> <li>- &gt;</li> <li>- &lt;</li> <li>- &gt;=</li> <li>- &lt;=</li> <li>- &gt;=</li> </ul> <p><b>Note</b> Depending on the definition of the "Comparison Value" and "Maximum Comparison Value" fields, the selection of the comparison operator may be restricted</p>
Comparison Value	The "Comparison Value" field checks the value of the field in the record in dependence with the "Comparison Type" field.
Reference Value Text	Gives the description of the selection in the Comparison Value field
Maximum comparison value	<p>The field "Maximum comparison value" checks the value of the field in the record in dependence with the field "Comparison type" when selecting the comparison type "&gt;=&lt;=". Thus, it is possible to define from-to ranges.</p> <p>In this case, the "Comparison Value" field takes the "from role" and the "Maximum Comparison Value" field takes the "to role".</p> <p>Note - This input is intended for computable operands only.</p>
Maximum Reference Value Text	Specifies the description of the selection in the "Maximum Comparison Value" field.
Condition Field No.:	Specifies the field on which the condition is to be checked.
Condition Field Name	This field contains the description of the field for which this condition is intended and is automatically filled when the "Condition Field No." is assigned.



Field	Description
Comparison Type	<p>The "Comparison Type" field is used as a comparison operator to check the value of the field in the record against the value from the "Condition Value" and / or "Maximum Condition Value" fields. The following comparison operators are available here:</p> <p>&lt;&gt; = &gt; &lt; &gt;= &lt;= &gt;=</p> <p><b>Note</b> Depending on the definition of the "Value Condition" and "Maximum Condition Value" fields, the selection of the comparison operator may be restricted</p>
Value Condition	The "Value Condition" field checks the value of the field in the record in dependence with the "Comparison Type Condition"
Condition Value Text	Provides the description of the selection in the Value Condition field
Maximum Condition Value	<p>The Maximum Condition Value field checks the value of the field in the record in dependence with the Comparison Type Condition field when the comparison type "&gt;=&lt;=" is selected. Thus, it is possible to define from-to ranges. In this case, the "Comparison Value" field takes the "from role" and the "Maximum Comparison Value" field takes the "to role".</p> <p><b>Note</b> This input is intended for computable operands only.</p>
Condition Option Text	Indicates the description of the selection in the "Maximum Condition Value" field.
Action	<p>The "Action" field controls what type of check is involved. The following selections are available:</p> <p><b>Note</b> if the check is defined as a "Note", users will receive a note message when processing the mandatory field check. However, this hint message does not influence the release of master data or documents. It is to be seen rather as information, with whose assistance the AnwenderInnen can supplement still data, which are perhaps informative, but for processes not compellingly necessary.</p> <p><b>Cancel</b> if a check is defined as "Cancel", then with the processing of the obligation field</p>

**Field****Description**

check an abort message follows. This means that the release of master data or documents cannot be completed because process-relevant information is missing.

**Note**

At this point of the online help, only the setup of the check fields of the mandatory field check in KUMVISION factory365 will be explained to you in more detail. The general setup is described [here](#).

**Flexible reservation system**

With the help of the flexible reservation system, you can allow date conflicts in the reservation items, so that the links between the requirement originator and the requirement coverer are basically preserved, contrary to the Microsoft Dynamics 365 Business Central standard.

The date conflicts are also taken into account within the planning and remain despite "date conflict". A date conflict occurs in a reservation item as soon as the "Expected goods receipt date" is after the "Goods issue date".

**Note**

Basically, date conflicts within reservations should only exist for a short period of time and should be resolved promptly by date reconciliation and updating.

**Company data**

You can activate or deactivate the flexible reservation system function in the company data via the "Allow date conflicts" switch.

**Note**

Please note that existing date conflicts must be cleared before deactivating the functionality.

**Note**

For an individual extension (*e.g. user authorization*) corresponding event triggers are available in the [TechDocs](#).

**Rolecenter**

The number of existing date conflicts is displayed in the Sales, Purchasing, Service, Projects and Production role centers. Via the function call within the respective batch, the reservation items are displayed and the documents can be called up and edited via the standard functionality of the reservations.

## Sales and Marketing

### Check external document

This function enhancement checks when a sales document (*order, sales return, invoice and credit memo*) is released whether the external document number is entered in the field of the same name and whether it is already used in other documents.

To do this, the "Check external document" switch must be activated in the Accounts Receivable & Sales setup.

#### Note

If the switch is activated in the Accounts Receivable & Sales Setup, a release and posting of the document is only possible by entering a unique external document number.

## Purchasing

### Tolerance (time) in both directions

In the standard Microsoft Dynamics 365 Business Central a tolerance time can be set for the procurement run to avoid too many change notifications. This refers to the length of time that a requirement cover (e.g. a purchase order) can be received earlier than a requirement originator (e.g. an order) requires this.

The setup is done in Microsoft Dynamics 365 Business Central Standard first centrally in the production setup via the field "Standard tolerance period" and can be overridden article specific in the article or inventory data with the field "Tolerance period".

In KUMAVISION factory365 the standard fields were renamed to "Standard tolerance period too early" and "Tolerance period too early".

Furthermore, the production setup was extended by the "Standard tolerance period too late" and the article or stock data by "Tolerance period too late". Thus, in KUMAVISION factory365 tolerances can be defined in both directions in the replenishment procedure "lot-by-lot".

!!!Note "Note Basically, the lot accumulation period must be defined if the tolerance period is to be used. Here the rule applies that the lot accumulation period must be larger than the tolerance period.

### Tolerance setup

#### Global

Enter the term "Production setup" via the user search and select the corresponding link.

Via the "Planning" info tab, you have the option of entering the tolerance times in the "Standard tolerance period too early" and "Standard tolerance period too late" fields.

#### Specific

To set and define specific tolerances, open the desired item or inventory data card for this purpose. On the "Planning" info tab, you can define the tolerances in the "Tolerance period Too early" and "Tolerance period Too late" fields.

#### Note

The specific tolerances override the global tolerances from the production setup.

### Optimized planning parameters

In Microsoft Dynamics 365 Business Central, reservations must not be used for the planning parameter "minimum stock". Otherwise, this could lead to untraceable proposal lines.

In KUMAVISION factory365, the planning parameters for the replenishment procedures "Fixed order quantity" and "Replenish to maximum stock" have been optimized so that the "Reserve" field is set to "Never" by default.

When the replenishment procedure is changed to "Fixed order quantity" or "Replenish to maximum stock", the system automatically checks whether any reservations still exist. If this is the case, a message appears informing you to delete them.

## Collective requests

The function extension "Collective inquiries" is to prevent that as soon as a FA component with reservation reference is given via the order proposal into a purchase inquiry, the reservation reference to the later order is not lost.

The order proposal line with reservation and inquiry reference must not be deleted when the "Calculate planning" function is repeatedly executed. Additional requirements are determined as further order proposal lines.

If the purchase inquiry line is converted into a purchase order, the reservation is inherited to the purchase order from the existing order proposal line, and the additional inquiry lines are deleted or marked as ordered.

To be able to use this functionality, the following settings must be made in advance:

### Setup

In the "Accounts Payable & Purchasing", a number series for the collective requests must first be stored in the "Collective request number series" field on the "Number series" info tab.

### Procedure

If procurement planning is run for an article via the planning or order worksheet, it is possible to send price inquiries to various vendors for the respective proposal line via the "Generate collective inquiry" function.

To do this, the "Generate price inquiry" checkbox is first set for the corresponding proposal line. For the marked line(s), the desired vendors for generating the purchase requests can be stored via "Related" > "Price request" > "Selection for price request" > "Assignment for current data record" or for "Assignment for marked data record".

For the actual generation of the collective inquiry, subsequently execute the function "Create collective inquiry" under "Related" > "Other".

A subsequent message gives you the information how many inquiries have been created by the system. Furthermore, the order proposal line receives an identifier with the associated collective inquiry number in the "Collective inquiry no." field and the associated line number in the "Collective inquiry line" field.

### Collective request

Via the column "Collective request no." of the suggestion line, you have the possibility to get into the collective request by a lookup on the number. Otherwise, you can access the overview via the user search using the search term "Collective requests", from which you can also call up the desired collective request.

## Inforegister General

field	description
No.	Indicates the number of the collection request according to the defined number series.
Description	Gives a description of the collection request.
User ID	Indicates the user ID from which the collection request has been created.
Creation Date	Specifies the date when the collection request has been created.
Requested end date	Specifies a requested end date by which the request process should be completed.
Status	<p>Distinguishes between the following statuses:</p> <p><b>Requested:</b> A collection request has the status "Requested", if it is still in the editing process.</p> <p><b>Finished:</b> A collection request has the status "Finished", as soon as an order has been created from the collection request.</p> <p><b>Empty:</b> A collection request has the status "Empty", as soon as the collection request has been cancelled with the function "Cancel" in the matrix.</p>
Number of requests	<p>Indicates the number of requests associated with the collection request.</p> <p>A lookup on the number, you get to the purchase request overview, which is filtered to the associated requests of the collection request.</p>

## Inforegister Collective request lines

In the collective request lines you can see the article lines which have been requested.

<b>field</b>	<b>description</b>
Type	Indicates the type of the request line.
No	Indicates the number of the requested line item. This field is related to the "Type" field.
Quantity	Get the quantity that has been requested.
Quantity (base)	Indicates the quantity (base) that has been requested.
Order Quantity	Indicates the order quantity.
Order Quantity (Base)	Indicates the Order Quantity (Base).
Remaining order quantity	Indicates a possible remaining order quantity.
Remaining quantity (base)	Gives a possible remaining order quantity (base).
Unit Code	Indicates how a unit of the item or resource is measured (e.g. pieces or hours).
Variant code	Indicates the variant of an item (if applicable).
Work Type Code	Indicates a work type code.
Storage Location Code	Specifies a code for the storage location where the requested items will be registered.
Finished	The checkmark is set once an order has been created and there is no remaining order quantity.

## Matrix

The menu item "Display matrix" takes you to an overview that shows you the requested item(s) with the corresponding vendor requests summarized in one line.

Using the buttons on the "General" info tab, you can select which information is to be displayed in the rows.

In the matrix lines you have the possibility to store the confirmed prices of the suppliers and to compare them with each other.

Otherwise, you can also store the prices directly in the purchase request. The system transfers the prices from the purchase request to the matrix overview and vice versa, automatically.

## Create order

As soon as you have chosen a supplier, you can accept the quantity via the matrix by clicking on the quantity of the corresponding supplier.

The "Accept" screen will open where you can accept the quantity via the "Quantity to accept" field. The status for the creditor changes in the line to "Allocated" while the other one gets the status "Not allocated".

You can then use the "Generate purchase order" action in the ribbon to generate the desired purchase order. You will receive a message that the order has been created. The matrix then receives the status "Order/ Purchase order". The collective inquiry receives the status "Finished" and the associated order proposal line is deleted.

Via the "Cancel" function in the menu area of the matrix lines, you also have the option to cancel the process after a distribution. A query appears asking whether the associated inquiries should also be deleted. After confirming with "Yes", these are deleted and the collective inquiry receives the status "empty". The reference to the order proposal line is also deleted, so that it is possible to start the process from scratch.

#### Note

If the planning is recalculated a second time, all lines will be recalculated except for the lines that are in a collective request. The lines that are in a collective request remain unchanged in the planning/order worksheet.

### Purchase consignment processing

With the purchasing consignment processing you have the possibility to manage a supplier warehouse in KUMAVISION factory365 in order to map possible receipts/issues of consignment items.

#### Setup

#### Origin codes

In the origin codes, a corresponding code must be created by specifying a code (*abbreviation*) and a description. This origin code is then assigned in the origin code setup.

#### Origin code setup

In the origin code setup, you can store the origin code previously set up for consignment processing on the "Purchasing" info tab in the "Consignment withdrawal" field.

field	Description
	Specifies the origin code for the purchasing process during warehouse withdrawal.
Consignment Withdrawal	Setting up this origin code allows direct posting of purchasing deliveries when posting the purchasing document in conjunction with a "controlled" storage location.

#### Warehouse Setup

In the warehouse setup, first of all, the field "Einst.-Pr. (averages) Ber.-Art" on the info tab "General" for the cost price calculation must be mandatorily set to the option "Artikel Lagerort und Variante".



Furthermore, for consignment processing, the number series must be set on the "Numbering" info tab and the purchase order type must be set on the "General" info tab.

Field	Description
Consignment Withdrawal Numbers	Indicates the number series for the consignment withdrawal.
	Consignment Withdrawal Numbers
Purchase Order Type Consignment Withdrawal	Indicates the purchase order type for the purchase orders generated from consignment withdrawals.

#### Storage location

For the consignment storage location, the following fields must also be set up on the storage location card:

field	description
Consignment Withdrawal	Identifies the storage location as a "consignment warehouse" for purchasing.
	The indicator can only be changed if no "open item items" exist on the storage location. Furthermore, all item items must be settled and in a closed warehouse posting period.
	<b>Note:</b> Please note that the switch is only released for the DACH region.
Vendor No.	Indicates the vendor number of a consignment storage location.
	The field is a mandatory field if it is a consignment warehouse without storage bins.
	If the consignment warehouse is set up with storage bins, primarily the vendor number in the respective storage bins will be checked, if no unique assignment is found in the storage bins, the content of this field will be used.
	Please note:
	Please note:  The field is a mandatory field if it is a consignment warehouse without storage bins.

For consignment storage locations (*switch consignment withdrawal set*) the following has to be considered:

1. the "controlled logistics" as well as the "outgoing logistics documents" (goods issue, picking or warehouse picking) cannot be used and must be deactivated accordingly in the setup.
2. within the warehouse entries this indicator is checked in particular in connection with cost prices. No warehouse values may be posted to these marked storage locations.
3. within the function "Get items" of the Intrastat book sheet, the items on these storage locations will not be taken into account.
4. in all outgoing documents (sales, service, stock transfer order, production order, assembly order, projects as well as purchase credit note and purchase complaint) this storage location cannot be used. The use of consignment warehouses is also restricted in the book.sheets. In the Book.sheet article, a consignment warehouse cannot be used. In the article Stock transfer book. sheets, again, the consignment warehouse can also be used, but here only for internal stock transfers between consignment storage locations or storage bins.
5. Withdrawal from this storage location is only possible via the "Consignment withdrawal" document and the subsequent process. The inventory process is an exception here.
5. the receipt to this storage location can only be posted via a corresponding purchase order or invoice (without value). The inventory process is an exception here.
6. the function "cancel goods receipt" in the "posted purchase deliveries" is not available.

#### Storage bins

The storage bins can still be set up and used. It is also possible to assign the storage bins to a specific vendor via the "Vendor no." field.

#### Note

The "Vendor no." field can only be used for storage locations with the "EK consignment warehouse" indicator. It is only possible to change the field if there is no storage location content. If the field is not set up, then the vendor number must be stored in the storage location.

!!! Warning "Attention It is technically possible to set up storage locations with different vendor numbers, but special attention must be paid to this in the warehouse organization with regard to ownership. Basically, it is recommended to set up a separate storage location for each vendor.

#### Warehouse posting setup

Despite a general check that no warehouse values can be posted, it is recommended to set up appropriate separate G/L accounts that are not used in balance sheets or similar in the required "Warehouse posting setup".

#### Stock data

The following setups must be made for the items that will be handled through this process:

1. within the inventory data card used by a storage location with the "EK Consignment" indicator, the procurement method "Purchasing" must be set up.
2. Furthermore, a corresponding vendor number must be assigned to the inventory data card. In accordance with the Microsoft Dynamics 365 Business Central standard, this is adopted as a default within MRP via the purchase order and planning worksheets. The possible setup of a vendor number in the storage bins of the consignment warehouse have no direct influence within the planning and scheduling.
3. for the storage locations of the consumptions of the consignment articles must be furnished appropriate stockkeeping data with the procurement procedure "transfer" and the appropriate consignment stock as "transfer of warehouse orrcode".
4. the use of the replenishment procedures are not restricted in the inventory data and are basically supported according to Microsoft Dynamics 365 Business Central standard.
5. the inventory data card for the consignment warehouse can only be deleted if there are no "open" item items on this combination. Furthermore, all article items must be settled and in a closed warehouse posting period.

!!!Note "Note In connection with the stock issue method "Standard", the "Cost price (fixed)" is immediately set to 0 by the system within the corresponding stock data card and can also not be changed.

#### Report selection - warehouse

In the "Report selection - warehouse", the additional option "Consignment withdrawals" is available for customer-specific documents.

#### Carry out consignment processing

The processes for consignment processing are described below:

#### Receipts Consignment Stock

An addition for a consignment warehouse can only be made via the document types "Purchase order" or "Purchase invoice". Here, the basic rule is that the document lines with a consignment stock have a line amount of "0". Any article surcharge/discount allocations will be prevented.

Surcharges resulting from the "Metal taxation surcharge" module will only be transferred to the following documents in the purchase orders at the time of the consignment withdrawals.

Any checks regarding the line amounts are made during the document release.

In the lines of the purchasing and logistics documents, the vendor number from the storage location(s) is taken into account when assigning or selecting the corresponding storage bins.

Currently, the billing documents for deliveries to the consignment warehouse must be posted directly from the purchase order when posting, or via separate invoice runs when using logistics documents.

#### Consignment warehouse withdrawals

The withdrawal from the consignment warehouse is done via the consignment withdrawal card. To do this, first call up the "Consignment issue overview" via the user search. Via "New" in the menu ribbon you can create a new withdrawal using the table below.

Alternatively, you can create the withdrawal documents from the planning worksheets using the "Perform event notification" function.

#### Inforegister General

field	description
No.	Allocation of a consecutive document number from the number series defined in the warehouse facility.
Document date	Indicates the document date.
Assigned Date	Indicates the date when a user was assigned.  This field is used as an information field for the logistics processes and is automatically set when a user is assigned.
Assigned Time	Indicates the time when the assignment of a user took place.  The field serves as an information field for the logistics processes and is automatically set with the assignment of a user.
Assigned User ID	Indicates the warehouse employee who is processing this document.
Consignment Warehouse Location Code	Indicates the warehouse location of the withdrawals.  The selection is limited to the consignment warehouses set up in the system.

## Inforegister Lines

field	Description
Article No.	Indicates the article number of the item to be withdrawn.  To assign article tracking, a corresponding callout is provided in the document lines menu.
Variant Code	Indicates <i>(if available)</i> the article variant to be taken.
Description	Indicates the corresponding article description of the article to be withdrawn.
Vendor Code	Indicates the associated vendor from the storage location or bin.
Description 2	Indicates <i>(if available)</i> the additional related item description of the item to be taken.
Quantity	Indicates the total target withdrawal quantity.
Unit Code	Indicates the unit code.
Reserved Quantity	Indicates how many units of the item have been reserved in the row.
Purchased Movement Quantity	Indicates the actual quantity of the withdrawal posted.
Consignment Storage Location	Indicates the consignment storage location.  The field is pre-populated with the header information. A LookUp to other consignment warehouses for a manual change is possible.
Consignment storage bin	If the selected consignment warehouse is set up with storage bins, it will be specified in this field.
Storage location code	Indicates the destination storage location.
Storage bin code	Indicates the destination storage bin.
Takeout quantity	Actual takeout quantity <i>(partial quantity postings)</i>
can be set via functions and is automatically supplied with the target quantity when the document line is created.	
Date due	

**field****Description**

Is automatically taken from the planning worksheets during creation and represents the requirement date from planning.

**Note**

When withdrawal lines are entered, a check is made for the availability of the articles or variants. If the articles are subject to a serial or batch number obligation, the corresponding article tracking must be assigned for each line.

**Functions in the menu ribbon Post**

The function is used to post the consignment issue.

**Note**

Only the rows with a transaction quantity will be considered by the posting process.

**Fill movement quantity**

The field "Movement quantity" in the existing withdrawal lines will be filled with the remaining quantity (*Difference "Quantity" and "Geb. Quantity"*).

**Clear movement quantity**

Deletes the movement quantity in all withdrawal lines for manual entry by the user (*partial quantity withdrawals or similar*).

**Print**

If a document has been stored in the "Report selection - warehouse", it can be printed out here.

!!!Note "Note The document must be created and set up on a customer-specific basis.

**Posted purchase deliveries**

The function "Cancel goods receipt" for posted deliveries from a consignment issue, as well as for the consignment receipts, are not allowed and cannot be executed.

**Invoice consignment withdrawals**

The purchase orders posted through the consignment withdrawals can be identified through the "Purchase order type". Based on the "Purchase order" document, a new document "Display consignment withdrawal" is created. Based on this document, the withdrawal can be reported to the respective vendor and the invoice can be requested. The printing of this document completes the purchasing document and therefore no further lines are added to this document in the context of consignment withdrawals.

Billing is then done again in the Microsoft Dynamics 365 Business Central standard processes of the purchase invoice or directly in the purchase order.

**Planning / Disposition**

Via the setup of the respective replenishment procedures, consignment processing is also taken into account within the purchase order and planning worksheets.

If a proposal line is generated on the basis of an inventory data card with stock transfer from a consignment warehouse, the option "consignment withdrawal" is set instead of the procurement method "stock transfer".

By means of the function "Execute event notification" the order proposal lines with the procurement method "Consignment issue" will be transferred to it, if the option "Create stock transfer orders" is activated. Any reservations (*due to the set replenishment procedure*) are passed on from the order proposal line to the consignment issue line.

## Inventory

An inventory is also possible in principle within the consignment storage locations. However, only quantity corrections are possible here. However, it is not possible to post warehouse values

## Revaluation

The standard functionality "Revaluation book.sheets" is not available for consignment storage locations.

## Intrastat

The consignment warehouses are excluded in the "Get items" function of the Intrastat book.sheet.

There are two procedures to follow for Intrastat:

1. if the vendor has a domestic VAT ID, then he must report the intra-Community movement of goods to the consignment warehouse. In this case, the withdrawal is a domestic transaction, which is also defined in the creditor by setting up the booking groups and country codes.
2. however, if the vendor does not have a domestic VAT ID, the delivery (withdrawal from the consignment warehouse) must be included in the report as an intra-Community delivery of origin type "32". This is also demonstrably guaranteed due to the above-described accounting procedures.

## Attention

With Microsoft Dynamics 365 Business Central version 24.0, the previous Intrastat functionality is outsourced to a standalone app (must be activated via the function management). Within the new Intrastat functionality, deliveries to the consignment warehouse can be excluded via the switch "Skip zero amounts".

## Direct deliveries

Since storage locations marked "consignment warehouse" cannot be used in outgoing documents, direct deliveries must first be processed via consignment withdrawal to a sales warehouse. Direct posting out of the consignment warehouse is prevented.

## Quality Management Module

The [Quality Management Module](#) can be used within the consignment warehouses, provided that the storage location is managed with "storage bins". If the receiving inspections should already take place at receipt to the consignment warehouse, you can decide via the setup at the storage location whether a new receiving inspection should take place at the receiving warehouse or not when the items are removed from the consignment warehouse.



## Warehouse and Inventory

### Other line types in logistics

In Microsoft Dynamics 365 Business Central, in the following logistics documents:

- Warehouse Storage,
- Warehouse picking,
- Goods Receipt,
- Outgoing goods

only the processing for the line type "article" can be performed. This service area has been extended in KUMAVISION factory365 by the logistics documents for the processing of the other line types from purchasing and sales.

### Establishment

#### Logistics facility

In the logistics setup you have the possibility to set up whether additional line types are possible for the goods receipt and the goods issue.

First call up the "Logistics setup" via the user search.

On the "General" info tab via the "Additional types for receipt" and "Additional types for delivery" buttons you can activate the line types.

#### Storage location

The single-stage logistics process for goods receipt and goods issue must be activated on the storage location card.

#### Financial accounting

In Financial Accounting, the G/L accounts for the purchasing or sales process must be enabled for direct posting in the chart of accounts.

### General

After successful activation can now be used in the sales processes:

- Article,
- Article additions/deductions,
- Resources,
- G/L accounts

as well as in the purchasing processes:

- Article,
- Article Additions/Discounts
- G/L accounts

be processed via the logistics documents. This means that load carriers, freight services, handling costs, services and article-neutral expenses can be sent and collected via delivery bill.

All logistics documents and book sheets are extended by two new columns:

Field	Description
Document lines type	<p>The document line type knows the same option as in the document lines themselves: , G/L account, item, resource, WG/asset and addition/deduction (item).</p> <p>Depending on the type, the document line no. then corresponds to a G/L account, article, resource, WG/asset or article addition deduction.</p> <p>When creating logistics documents, not only the lines of type=article, but all lines - except text modules (type = empty) and the line types for document structuring (heading, From subtotal, End subtotal/bundle, Bundle) are then transferred.</p>
Document lines no.	This corresponds to the field number in the corresponding document

## Manufacturing

### Comfort navigation for production bill of materials and routings

This service area gives you direct navigation to the production bill of materials and routing from the parts card. This facilitates navigation to the production-related master data.

#### Note

For further information see [„comfort navigation for production bill of materials and routings“](#)

For further information, see "Convenient navigation for production BOM and routings".

In KUMAVISION factory365, the insight via the Assist call has been extended so that it can also be called at the following places in the system:

- From the E+D order line to the production bill of materials, routing with its versions
- From the design monitoring line to the production bill of materials, routing with its versions
- From the MRP monitoring line to the production bill of materials, routing with its versions

### Replace article in parts list Comfort

Using the "Replace article parts list comfort" function, you have the possibility in KUMAVISION factory365 to consider only active versions for the replacement of an article / parts list via the field "Consider only active versions".

## Secondary operations

### General

In Microsoft Dynamics 365 Business Central it is possible to assign tools and personnel to an operation. However, these assignments are only managed by the system for information purposes.

Through the secondary operations in KUMAVISION Factory, it is possible to manage the capacity and costs of the tools as well as the personnel assignments.

The superior, leading operation (primary operation) defines the main process of an activity. All assigned personnel or tool assignments dependent on it are defined as secondary operations. These are linked to the primary operation via permanently assigned fields. Dates and quantities are managed in the primary operation and automatically derived into the secondary operations. This means that the secondary operations always run in parallel and within the start and finish times of the primary operation.

It is possible to edit the secondary operations, for example, to load an assistant only 50% of the time (to be loaded at the same time = 0.5) in the case of multiple machine occupancy.

## Tool management

With this extension of the operation tool table it is possible to manage and post specific tools for a machine in terms of capacity and costing. Tools can thus be managed as an independent capacity in production planning (by work center or work center group), as an article in warehouse, logistics and disposition, as an asset in the financial area or also as a cost object for controlling.

## Detailed Personnel Planning

The extension of the operation personnel table enables employee-specific operation and capacity planning and management per operation. It is recommended to plan at the work center group level and confirm or schedule at the employee work center level. Each employee is then set up as a work center and the work center group as a consolidated calendar.

## Outlook Industry 4.0

The management of additional production factors such as energy or CO<sup>2</sup> certificates will become increasingly important in the future in order to describe the accompanying processes of production more comprehensively and transparently. With secondary operations, an approach has been found that plans and manages these in a capacity-relevant manner.

### Establishment

## Production facility

First, call up the production setup via the user search. On the "General" info tab, the fields must be set up according to the following table for the secondary operations:

Field	Description
Separator Work gang no. Personnel	Primary operation = prefix + separator.personnel + suffix (base operation no.personnel)
Basic operation no. Personnel	Suffix for operation personnel
Separator operation no. Tool	Primary operation = Prefix + Separator.Tool + Suffix (Base operation no.Tool)
Basic operation no. Tool	Suffix for operation personnel

## Work plan facility

To set up the secondary operations, call up the desired routing via the item card. If you have not yet created a task list, create one first.

### Note

Please note that the routing for the secondary operations must be defined "Type=Parallel".

Then select the operation line. Via the menu selection "Work operation" you can assign these to the work operation via the selection "Tools" or "Personnel".

## Tools

Field	Description
	This field defines the selection of the capacity. Depending on the assignment, a secondary operation is created
Type	<ul style="list-style-type: none"> <li>• Blank = Standard</li> <li>• Workstation group</li> <li>• Workplace</li> </ul>
No.	Depending on the type, the field is filled as follows: <ul style="list-style-type: none"> <li>• Blank (default): The field is not editable</li> <li>• Workstation group: Enter workstation group code</li> <li>• Workstation: Enter workstation code</li> </ul>

## Personal

Field	Description
	This field defines the selection of the capacity. Depending on the assignment, a secondary operation is created
Type	<ul style="list-style-type: none"> <li>• Blank = Standard</li> <li>• Workstation group</li> <li>• Workplace</li> </ul>
No.	Depending on the type, the field is filled as follows: <ul style="list-style-type: none"> <li>• Blank (default): The field is not editable</li> <li>• Workstation group: Enter workstation group code</li> <li>• Workstation: Enter workstation code</li> </ul>

On the routing, the secondary operations can be displayed by clicking on the "Display secondary operations" item in the line menu.

The secondary operations are inserted, the operation number of which is composed of the primary operation + separator for personnel, tool + current operation number personnel, tool.

The line values of the primary operation are copied to the secondary ones and can be edited here.

If you enter a routing separately from an article, the secondary operations are set up in the same way.

#### Standard catalog codes forms secondary operations

The attachment tables (-> secondary operations) for the operation can be preset by means of a standard catalog code (standard operation). As soon as a standard catalog code is inserted in the routing line, the operation attachment tables (tool, personnel, remarks, test specification) are updated.

This procedure can be used, for example, to preset tool sets as the standard catalog.

To set up a standard catalog, first call up "Standard catalogs" via the user search.

Via "New" in the menu ribbon you can create a new standard catalog under specification of a code and description.

Via the menu tab "Associated" > "Catalog" you have the possibility to assign tools / personnel to the standard catalog.

Then insert the standard catalog into a parallel routing on the desired line in the "Standard catalog" field. Secondary operations are created for the individual tools. Thus, capacity management and cost allocation can be tracked at the desired detail level for each individual tool.

#### Secondary operations in the production order

Secondary operations can also be edited directly in a production order. The individual secondary operations can be edited and fine-tuned by production planning. It is important that the scheduling lies within the start-end dates of the primary operation.

Using the example of a firmly planned production order, you have to call up the routings via the "Line" call in the info tab of the same name.

Execute the "Show secondary operations" function in the ribbon under the "Start" menu tab to display the secondary operations.

#### Deleting / inserting a secondary operation

To delete a secondary operation or add another one, first select the line of the primary operation.

Then select the "Tools" or "Personnel" menu item under "Associated" in the ribbon.

The Tools / Personal Edit card opens, where you can insert a secondary operation via "New" or delete an existing one via "Delete". Confirm your change with "OK".

#### Editing a secondary operation

If the capacity of a secondary operation is to accompany the process with a certain percentage, proceed as follows:

Change the field: "Simultaneously debit and debit the processing time with equal proportions."

As a result, the cycle time of the operation is maintained within the start-finish time of the primary operation, the Erw. capacity requirement is reduced and the target operation costs are reduced to the percentage share.

#### Note

Of course, the primary operations can still be processed in addition to the secondary operations. The secondary operations are then automatically assigned the default values of the primary operation.

#### Overproduction

With this functionality you can define which deviation of the target production quantities you want to allow in percentage.

To do this, call up the production setup via the user search. On the "General" info tab, activate the "Check overproduction" check box.

On the item card, you can then define the desired percentage of overproduction on the "Procurement" info tab in the "Overproduction %" field.

When this function is activated in the production setup, the system checks the Overproduction % field on the item card to see if the quantity completed is greater than the Maximum overproduction quantity. If this is the case, an error message appears.

#### Note

The check of the overproduction quantity is done per operation. Thus, a deposit of a work plan is a prerequisite.

Example With an FA quantity of 1000, a maximum overproduction quantity of 20% = 200 is calculated. This results in a tolerance quantity of 1000..1200 and from 1201 an error message of the finished quantity appears.

#### Capacity quantities in FA Overview

The following status fields have been added to the FA overviews:

- Allocated capacity requirements
- Actual time (according to workstation group filter)
- Remaining time (as the difference between the two fields)

These fields are in the overviews:

- Releasing production orders (Microsoft Dynamics 365 Business Central Standard)
- Releasing E+D order
- Releasing E+D order (costing)

#### Automatic article tracking upon release of the FA

By means of the functionality "Automatic article tracking when FA is released" the steps:

- Manually open the article tracing
- Calling the function for determining the serial number from the item-specific number series
- Closing the mask: Article tracing
- Repeat steps per actual message line determined automatically.

Triggers for automatic generation of item tracking are:

- Status change to Released FA, item tracking lines are created
- Update production order" function
- Erect the FA from planning proposal
- Establish the FA from sales order

#### Establishment

#### Article card

The items with stored item tracking can be set up for automatic assignment in the "Item tracking" info tab via the "Set up production autom. item tracking" field.

Field	Description
<empty>	No item tracking lines are generated.
Firmly planned	If the item is used in a FA line and the status of the FA is Fixed Scheduled, then when one of the events listed below is performed, the application will automatically establish item tracking lines to the FA line
Released	If the item is used in a FA line and the status of the FA is Released, then when one of the events listed below is performed, the application will automatically establish item tracking lines to the FA line

## Article pursuits

Item tracking is set up using the Microsoft Dynamics 365 Business Central Standard.

## Number assignment for automatic article tracking

The automatic assignment of the article tracking is only valid for "actual messages of production" and not for consumption messages. Thus, this assignment only affects output-side usage in the Production application area. Serial numbers If only serial numbers are ticked, an automatic generation of n item tracking line and quantity 1 will take place. Batch numbers If only batch numbers are checked, an automatic generation of an article tracking line with 1 batch and corresponding quantity will take place. Serial and batch numbers If both fields of the item tracking code are checked, n item tracking lines are created with serial numbers and quantity 1 and always the same batch numbers for all quantity = 1.

### Note

The serial numbers or batch numbers are always generated from the number series stored on the article card ("Serial number" or "Batch number" field). If the number series is missing there, a message is displayed.

### Procedure

The automatic generation of the article tracking lines takes place for all FA lines of the production order for which an automatic creation is set in the article. It is always filled up to the maximum possible FA line quantity.

It applies: n lines with serial number and quantity 1, or 1 line with batch number and quantity=maximum possible quantity or combination of both).

The user can manually change these automatically generated item tracking lines afterwards (if desired).

A new execution of one of the above events (e.g. a status change of the FA) will take into account any article tracking lines that have already been created, regardless of whether they were previously created manually or automatically. Then, if necessary, article tracking lines will be created automatically only up to the difference to the maximum possible quantity.

### Example:

The FA was created in Planned status. The FA line has the quantity 7 and an article with automatic serial number generation for status Fixed Planned. In the Planned status, the user already manually enters 4 serial



numbers for the FA line. After that, the user will change the status of the FA to Fixed Planned. The application will generate only the 3 missing serial numbers for the FA line.

#### Note

It should also be noted:

1. If the user manually changes the Quantity field in an FA line, this will not result in the automatic generation of item tracking lines.
  2. A manual reduction of the quantity in the FA line below the already deposited article tracking lines to the FA line is not allowed by default.
  3. A manual increase of the quantity in the FA line must be compensated by the user by manually entering item tracking lines (default behavior).
- (Therefore, the above function "Update production order" should be used if possible, because a manual change of the quantity in the FA line also affects other data, which are also not automatically trailed).

#### Optimized absenteeism management

For the recording of absences from machines for maintenance / repairs etc., the Microsoft Dynamics 365 Business Central process requires that you first register the absences, then transfer the registered absences as absenteeism items and update the calendar afterwards.

In KUMAVISION factory365, this process has been optimized so that the individual steps can be executed directly when the function is called. To maintain the absence times in KUMAVISION factory365, proceed as follows:

Call up the "Logged absences" via the user search.

Via the menu items "Reasonable. Absence time (workstation)" or "Appropriate absence time (workgroup)" in the menu ribbon. Absence time (work group) in the menu ribbon, you can enter the absence times for a work center or for a work group.

The entry screen opens, where you can enter the absences using the table below.

Field	Description
Start/end time	Enter the start/end time of the missing time
Start/End date	Enter the start/end date of the absence time  Note - The "End date" field must be filled in because the "Logged absences" table is used to calculate the resource calendar. If the absence time extends, you can change the end date later.
Capacity	Enter the capacity that cannot be used during the downtime. For example, if there are 3 production lines, there will not necessarily be downtime on all lines.
Description	Enter a brief description for the cause of the absenteeism
Overwrite	If this field is activated, the items for the respective time in this workstation group will be overwritten.
Apply	If this field is activated, the absence times are taken over as absence time items
Update calendar	If this field is checked, the calendar will be updated automatically

Confirm your entry with "OK". If the "Apply" and "Update calendar" fields have been activated, the registered absences have automatically been adopted as absence items and the calendar updated accordingly.

### Shipping units

When manufacturing complex articles, the situation can arise in shipping that the manufactured article must be broken down again into so-called shipping units that can be sensibly transported. In order to be able to map this process in Microsoft Dynamics 365 Business Central, this scope of services supports shipping units in manufacturing and logistics.

The shipping units can currently cover three different scenarios, which are described below.

### Establishment

#### Design & development facility

In the Design & Development setup, you have the option of using the "Use shipping units for logistical structure explosion" switch on the "Execution" info tab to control whether you want to visually display the logistical structure explosion divided into the corresponding shipping units in an E+D order. For this option you activate this switch. In the E+D order, the option "logistical" can then be selected in the process for the visualized representation via the "Structure resolution" field.

## Shipping units

Via the "Shipping units" you can define them in general by assigning a code (abbreviation) and an associated description.

### Assignment in the master data

Shipping units can already be preassigned in the planning phase. For this purpose, a shipping unit code can be entered in the lines of the production bills of material. This code does not yet have a fixed reference to a production order. When a production order is created, this shipping unit code is transferred.

### Assignment in process

If there is an existing production order, shipping units can be assigned in the components. This can be done in the component lines as well as in released and finished E+D orders in the lines. In addition, the project module has also been integrated so that the assignment from the project structure [Project structure](#) out of the project. For this purpose, the fields "Shipping unit code", "Project-specific shipping unit", "Component as shipping unit" and "Transfer quantity to shipping unit" can be displayed in the respective screens.

### Note

In the FA components list there is only the "shipping unit code" and "project specific shipping unit".

## Relocation of components

### Components combined to form a higher-level shipping unit

A production order is set up whose components are to be transferred to a production warehouse for assembly. The components are grouped into shipping units that are easy to transport. From a released (and a completed) E+D order, these components can be inserted into a stock transfer order.

To do this, first select the desired lines and then execute the "Transfer selected shipping units" function via Lines > Function.

It is checked that the components to be transferred have already been consumed. If the correspondingly marked components have been consumed, then a stock transfer order is created, which transfers the shipping units from the component storage location to the FA storage location. The information from the transfer route is used for the "In Transit Code". In the FA shipping units list you can now see that the "Quantity in Outbound Document" is changed.

In the drilldown the corresponding shipping unit item is displayed and via the function "Display document" it is possible to switch to the corresponding document. If the storage locations are subject to goods issue or goods receipt, these can be created and posted according to the standard.

No new item items are created in the background because the components have already been consumed. New shipping unit items are created by the postings. Via these, the status can be checked from the shipping unit overview (opens by the lookup on a shipping unit). After posting the receipt, the order is completed. The shipping unit can now no longer be shipped, as it has already delivered the complete quantity.

### Shipping individual components as a shipping unit

It may be necessary to create suitable logistics documents for the customer or the transport, for individual components of a production order. With the "Component as shipping unit" identifier in the E+D order lines (and the [Project structure](#)) you have the possibility to define a shipping unit that is specific for a single component in the production order. If the check mark is set, a shipping unit is automatically created that has the item number of the component as the shipping unit code and corresponds to the FA component line in terms of quantity, unit and description.

The "Transfer quantity to shipping unit" field can be used to control whether only a partial transfer of the component is to take place. The field is preset with the quantity available for stock transfer. This is the difference between the posted quantity and the quantities that are already in shipping or have been shipped. Therefore, it is necessary that at least the quantity of the component to be shipped is posted as consumption.

If the stock transfer is to take place, you can enter the corresponding lines in the E+D order or the [Project structure](#) and transfer them to a stock transfer order using the "Transfer selected shipping units" function. The rest of the procedure is the same as that described in the section "Components combined to form a higher-level shipping unit".

### Shipping units in sales

If a production item is sold, the shipping units stored in the production order can also be inserted in a goods issue that was created from a sales order. For this purpose, the function "Insert shipping units" can be used in the goods issue.

#### Note

The "Insert shipping units" function is only available once you have already inserted corresponding lines in the goods issue using the "Get origin documents / document lines" function.

If the sales line was reserved on a corresponding item line, then the shipping units from this production order will be automatically inserted. If there is no reservation, a selection of items is opened and the user can decide which item should be sold. After selection, the shipping units belonging to the item are inserted into the goods issue.

If the production order belonging to the item is not yet finished, the user must confirm that he wants to continue.

The original line remains, but the quantities are removed, since this item is automatically posted in the background after posting the shipping units. The posting of the goods issue with shipping units is now done as in the standard. After complete posting, the original item is also delivered and can be invoiced.

### Project-specific or cross-FA shipping units

In connection with the plant engineering solution, it is also possible to use shipping units across FAs within a project. For more information, see [Shipping preparation](#).

**Shipping units item**

When inserting a shipping unit into a document, items are written. These can have 4 statuses:

- Outbound (Shipment): a stock transfer was created or a goods issue was created from a sales order without anything being posted.
- In Transit: The goods have left the warehouse but have not yet arrived, i.e. the goods issue has been posted but the goods receipt has not.
- Receipt: The receipt of the goods has been recorded, but not yet booked.
- Delivered: The goods have been delivered completely. The items are used to track the quantities in the shipping units overview, even if the posted documents should already be deleted.

## External Production With Provision

### General

A work process that is outsourced (also called extended workbench) occurs particularly frequently in contract finishing processes and also in the assembly of subassemblies. Outsourcing is also a possible alternative to in-house processing when capacity bottlenecks occur in the company itself. Components are often provided that are required for further processing at the external manufacturer. In most cases, the product already machined is also provided.

In the case of external production with provision, the standard functionality of external production has been extended by a provision. The provision allows you to define the components that are sent along for external production or that are also provided by the external manufacturer. For logistical processing, a stock transfer order can be created for the purchase orders from the external work worksheets. The corresponding logistics documents can be printed out for the posted stock transfers.

When posting the external production order, depending on the setup of the components, the debit is made from the external production warehouse in the corresponding quantity.

### Establishment

The following sections describe how to set up external production with provision of materials. The basic facilities for manufacturing/production apply as a prerequisite for setting up external production with provision. For more information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

#### Production bill of material, version

In the following, only the special features of external production with provision are discussed. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

Infregister lines

In the production BOM (version), the fields "Connection code" (this field identifies the component as a raw material provision relevant to logistics) and "Provision type" must be set.

<b>Provision type option</b>	<b>Description</b>	<b>Note</b>
Empty	No provision (Business Central Standard)	
Order-related	the components are not sent via a stock transfer order until the external production orders are created.  The issue storage location in the FA components is set to the storage location of the external worker (entered at the work center group under origin storage locations) when the stock transfer order is created. Furthermore, the posting method is changed to "Reverse" in the respective FA component line.	Connection code must be maintained
Neutral	the external processor receives a certain quantity of goods in advance. The stock transfer order required for this must be created manually or via a planning worksheet. When a production order is created, the external processor only receives the order for external processing and, if necessary, a stock transfer of the product already processed. The components to be provided are already at the external processor. Here, too, the posting method of the FA components is changed to "backwards".  The issue storage location in the components is already set to the external processor when the production order is created or within the planning (is entered at the work center group under origin storage locations). When using this type of provision, it is recommended to set up storage data for the respective components at the storage location of the external processor.	Connection code must be maintained
Supplier	Here, the component is only in the production BOM for information ("info section"). The procurement is done by the external processor. This setting is also used when the customer provides parts. Here no stock or issue posting takes place.	No transfer to the FA

#### Note

A component defined on a production BOM of an item can be linked to a specific operation using connection codes. Thus, it can be defined at which operation an item is needed or consumed. In order to use the functionality of the provision, the connection code must be defined

The connection code must first be stored in the operation before the setting for the component can be made in the production BOM. Otherwise, an error message will be displayed when trying to certify the BOM.

**Work plan, versions**

In the following, only the special features of external production with provision are discussed. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

Information register: lines

Field	Description
Third party article	This field marks the operation as "Provision of semi-finished products" relevant to logistics. The external operation can be transferred to a stock transfer order. The registration takes place in the FA-operation or as booked capacity item with quantity without time and value.
Standard catalog code	The standard catalog code is used for external labor pricing
Connection code	Connection code selection

#### Note

The connection code must be maintained for the use of the provision in the operations.

**Workstation group**

In the following, only the special features of external production with provision are discussed. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

Usually, the following settings are made when creating a workstation group for external work:

#### Info register General

In the "Department code" field, the workstation group is assigned to a separate department (e.g. external work).

#### Information register booking

On the workstation group, the vendor must be stored in the "Vendor no." field that performs the external work.

The posting method must be set to "manual", as the postings are posted via the external labor order.

In the product posting group, a separate posting group for "external labor" should be set up and assigned to better distinguish the origin of non-cash items in accounting.

#### Note

The product posting group defines G/L accounts that are posted when sales and purchase postings are made.

The cost price calculation type is usually set to "piece" for external work. In this case, you should then also activate the "Special cost price" check box.



If you have agreed with the vendor on a different price for each process for external work, select the Special cost price check box.

#### Note

If you use the "special cost price" indicator, then you must enter the "Cost price per unit" field in the operations. The cost price in the "Posting" info tab of the work center group is then not taken into account.

#### Inforegister Planning

The "Unit code" field is usually set to days, since external processing is usually calculated in days.

As a rule, a separate company calendar is created for external processing.

#### Navigate menu tab

In addition, the external work prices and the origin storage location can be stored via "Belonging" > "Workplace group".

#### Determination of prices for external work

In Microsoft Dynamics 365 Business Central Standard, a price for the external work (i.e. the price that will later be used in the purchase order) can only be stored on the work center group card or the operation (if the work center group is set up with "special cost price"). Different prices per vendor, per scale quantity, per activity (standard catalog code) or period-dependent prices cannot be maintained.

In KUMAVISION factory365 you have your own price table for the external work orders. The prices for the external work can be stored in different places. Thereby the entries of the external work prices override the prices of the work group card or the work operation.

**Third-party work prices** Prices (with the option of graduated prices) can be stored for the following combinations via the external work prices:

- Workstation group (MUST)
- Article (MUST)
- Vendor (MUST)
- Standard catalog (external work activity)
- Start and end date
- Minimum quantities (graduated quantities)
- Price units (conversion factor weight share)

The external work prices can be called from the following masks with appropriate filtering:

- Article card/list
- Workplace group card / list
- Accounts payable card / list

!!!Note "Note If more than one operation of an item should be processed via external labor, then you must assign different standard catalog codes in the operations, so that you can also define different prices.

#### Origin camp location

With the origin storage locations you can control which storage locations should be used for the provided components. For external processing you must use the type "all items".

The call of the origin storage locations is made from the workstation group map/list.

- Type of origin: workplace group
- Origin code: which specific workstation group
- Type: All items or a specific item
- Code: for specific article: Item number
- Storage location code: which storage location is to be controlled

#### Relocation routes

With the help of the stock transfer routes you have the possibility to create the link between the vendor warehouse (i.e. the warehouse of the external processor) and your own warehouse.

To set up the stock transfer routes, call them up via the user search.

The stock transfer routes overview opens. In the info tab "Stock transfer route matrix" you can now make the assignment for your own warehouse (stock transfer from code = own warehouse (e.g. BLUE)) and the vendor warehouse (e.g. external).

By clicking on the Assist button you get to the transfer route specification on which you enter in the field "Transit Code = Own-LOG". This field must be filled with an appropriate code, the other fields can remain empty if no fixed deliverer is defined.

You can then close the Stock Transfer Route Specification and Stock Transfer Route Matrix windows.

#### Process of external production with provision

Initial situation: Production is planned and a released FA has been created.

#### Outside Work Worksheet

##### Calculate external labor

In the external worksheets it is possible to calculate which released production orders should be sent to the vendor. Here, it is possible to filter on the workstation group, the vendor or the FA number, among other things.

The external work sheet then lists the pending external work calculated according to the filtering.

The vendor is taken from the work center group, the price depending on the stored prices. If there is already an external work for a FA, it will not be charged twice.

##### Work in the external work worksheet

Change of the creditor: The vendor can be changed per line (order), thus the external labor price stored in the new vendor is also used.

##### Perform event reporting

With the function "Execute event message" and the activated check mark "Accept event message" the proposal line can be transferred into an order. The stock transfer order for the provision of the FA components

(provision type "order-related") or the processed product can be created via the "Create stock transfer orders to external manufacturers" button.

Proposal lines in which the "Accept event message" checkbox is not activated remain in the external work worksheet without a purchase order being generated.

!!!Note "Note In order to be able to subsequently generate the stock transfer order for the provisions, the external work order must be deleted again and recalculated.

#### Released production order

#### Pursuit of the foreign work

The tracking of external labor is done at the line level in the production order. To do this, select the corresponding line and call up the "External work tracking" via Line.

The linked documents can be viewed and called up via the window called up by this function.

#### Order

In the external work order, the activity or operation of the item is ordered. Accordingly, the description of the item line in the purchase order does not contain the name of the item, but the operation description.

The columns FA no., FA line no., work center group no. and operation no. should be shown, as they represent the reference to production.

In the respective order line, you can use the "Line" menu tab to call up the FA components assigned to the operation via the connection code.

Calling up the article tracking via the "Line" menu tab is only possible if it is the last operation. In this case, the article tracking of the respective FA line is then displayed.

The order type FREMD is automatically preset for orders from the external work worksheet, but can be changed manually. This can be used to preset certain data, such as payment terms and other fields.

If the purchase order is delivered, the operation is confirmed at the same time.

#### Note

If it is the last operation of a production routing, the receipt to stock (item actual message) is posted.

#### Book delivery

Depending on the setup of the storage location where the production order and thus the external production order was created, the delivery of the external production is to be posted directly via the purchase order or the corresponding logistics documents. The basic process of creating logistics documents or entering delivery quantities is no different for an external production order than for an order for articles.

An exception here is article tracking and putaway in two-stage logistics if the external production order is not the last operation on an article. In this case, no article tracking can be assigned or created and no putaways are created after posting the goods receipt, since this is not a stock movement of an article.

## Note

As already mentioned, external production is the ordering of activities or operations on an item. Therefore, only a capacity item is generated within the production order when posting. Only if it concerns the last operation an article item (item type "actual message") and thus a stock movement is generated additionally.

If FA components are assigned to the operation or order line as a provision via the connection code, they are automatically posted in the background when the delivery is posted in the corresponding quantity. A special feature here are FA components with article tracking, this must be assigned to the respective FA components. Due to this, as already mentioned, the call of the FA components is available in the purchase order as well as in the logistics documents.

!!!Note "Note If the provision type "order-related" is set in the FA components, the article tracking is automatically inherited when posting the stock transfers for the provision. If the provision type "neutral" is set, the supplier must report the article tracking used on his delivery documents and this must then be entered accordingly in the FA components before posting the external production.

### Stock transfer

In the stock transfer header, the field Stock transfer order type indicates that the stock transfer is for external production. If you do not receive a separate message from your external processor about the receipt of the provision at his storage location, you should set the switch "Outbound automatically posts inbound" in the stock transfer order, because otherwise the provision is in transit and you would have to post the stock receipt to the vendor again.

!!!Note "Note Alternatively, you can perform the setup globally on the corresponding storage location card for third-party manufacturers. To do this, activate the switch "Transfer order output posts automatic input". The switch in the stock transfer header is then preset according to this setup.

The posting of the stock transfer order issue is again done depending on the setup of the storage location either directly via the stock transfer order or the logistics documents (goods issue or warehouse picking).

For FA components with article tracking and the provision type "Order-related", the article tracking is automatically transferred to the article tracking of the FA components when the stock transfer issue is posted.

## Design And Development

### General

Design and Development extends the production processing of Microsoft Dynamics 365 Business Central in numerous places. The centerpiece is the new "article version" dataset with which the product life cycle of an article can be mapped. In addition, variant-specific production BOMs or routings can also be defined by overriding the production BOM or routing.

The following sections describe how to use and manage the "Design and Development" module of KUMAVISION factory365.

### Establishment

#### Design & development facility

The "Design & Development Setup" is the central place for the setup of the "Design & Development" module. Call up the "Design & development setup" via the user search and make the necessary settings with the help of the tables below.

Inforegister General

Field	Comment
Variant required	This defines whether in the design & development with article variants must be posted. (If the required article master has variants).
Usable status article version	<p>With this selection you can control which status article versions may be used in the design &amp; development processes.</p> <p>The following selections are available:</p> <p><b>All:</b> The article version can be used independent of the status.</p> <p><b>Certified only:</b> Only certified item versions can be used.</p> <p>Display FA in reservation structure Depending on the selection in this field, the E+D mask or the standard mask is called in the reservation structure in the FA.</p> <p>The following selections are available:</p> <p><b>Standard FA:</b> As soon as the "Display document" function is used in the reservation structure, the production order is called up in the standard mask.</p> <p><b>E+D Order:</b> As soon as the "Display document" function is used in the reservation structure, the production order is called up in the E+D order mask.</p>
Barcode separator	<p>The separator for the barcode in report 5500 - "FA component and routing" is hereby defined.</p> <p><b>Example:</b> <b>Barcode separator = \$</b></p> <p><b>Barcode in the "FA Component and Routing" report would be for released FA 101031, item 1000, operation 010:</b> <b>101031\ (1000\ )010</b></p>
Stepwise E+D Position no.	This facility is required for the determination of a unique E+D position. With this field you can define the step-by-step positioning in the E+D order lines of the "E+D position" field.
Position item separator	This setup is required for the determination of a unique E+D position. With this field you can define the separator for the items in the E+D order lines of the "E+D position" field.
Position phantom separator	This setup is required for the determination of a unique E+D position. With this field you can define the separator for the phantom BOMs in the E+D order lines of the "E+D position" field.

Field	Comment
Position operation separator	This setup is required for the determination of a unique E+D position. With this field you can define the separator for the operations in the E+D order lines of the "E+D position" field.
Position common part summary	This facility is required for the determination of a unique E+D position.
	This field specifies the character for the common parts grouping. If an article is used in several assemblies of a production order, the system combines them and generates a "collective FA line" for this.
	Such production order lines are marked in the E+D position with the defined character as suffix.  <b>Important:</b> The system only groups together non-variable parts if no item no. is maintained in the component.
Position Additional costs	Separator This facility is required for the determination of a unique E+D position.
	This field specifies the separator for the additional costs (only with the "Valuation & calculation" module) in the E+D order lines of the "E+D item" field.
Information register PDM	



The PDM setup fields are not explained here. These will be explained to you in more detail in the "Computer-Aided Design (CAD) Transfer" sections.

Field	Comment
Automatically transfer attributes to versions	Define here how the system should behave when assigning new attributes to an article:
	<p><b>Not:</b></p> <p>Entering new attributes at the article has no effect on the article version.</p>
	<p><b>New only:</b></p> <p>Newly entered article attributes are transferred to article versions with the status "New".</p>
	<p><b>to Certified:</b></p> <p>Newly entered article attributes are transferred to article versions with the status "New" as well as "Certified".</p>
	<p><b>to Certified and reset to New:</b></p> <p>Newly entered article attributes are transferred to article versions with the status "New" and "Certified". If the status of the article version is Certified, it is reset to "New".</p> <p><b>All:</b></p> <p>Newly entered article attributes are always transferred to the article versions.</p>
Item attribute functional structure resolution	If the same attribute is stored at the FA component, for the functional structure explosion the E+D order lines are categorized according to the article attribute values based on the specified article attribute.
Item attribute functional structure resolution Name	Specifies the name of the assigned value in the Item Attribute Functional Structure Resolution field.
Article attribute logistic structure resolution	If the same attribute is stored at the FA component, the E+D order lines are categorized according to the article attribute values for the logistical structure explosion based on the specified article attribute.
Item attribute logistic structure resolution Name	Specifies the name of the assigned value in the "Item attribute logistic structure resolution" field.

## Inforegister execution

Field	Comment
Precision duration	Presets the field of the same name in the E+D order with the option: "millisecond", "second", "minute", "hour" or "day".
Calculate times incl. secondary operations	With the activation of the switch, the secondary operations are taken into account for the calculation of times and completed quantities ("Planned time (ms)", "Consumed time (ms)", "Remaining time (ms)", "Planned time", "Consumed time", "Remaining time", "Consumed time %", "Completed quantity" and "Completed quantity (base)") in the E+D order lines.
Calculate routing in change message through comparison	For the "Reschedule" function in the production order, the planning direction is preset with Forward or Backward.
Shipping units for logistic structure resolution	<p>Specify here whether you want to have the logistic view or the shipping units displayed via an attribute assignment.</p> <p>For more information on this topic, see "Shipping units" and "Item attributes".</p> <p><b>Note:</b> If you activate the switch, the value in the "Item attribute logistic structure resolution" field will be cleared.</p>
Observance of the production type in the D+D order	<p>Use this field to define how the system should behave when calculating production orders with maintained E+D project no. in relation to multi-level production:</p> <p><b>Standard</b> The system checks whether the production order line is set to production type "make-to-order" and procurement method "production order".</p> <p><b>Always contract manufacturing</b> In principle, make-to-order production is implemented regardless of the parameterization to articles or inventory data.</p> <p><b>Contract manufacturing according to master data</b> The system checks whether the component is set to production type "make-to-order" and procurement method "production order".</p> <p>This setting is the default value. In the production order, the production type can again be adapted to the specific order using the function "E+D Change production type".</p>
Procurement type for quantity increase	<p>At this point, define how the system is to behave in the event of quantity changes in the FA:</p> <p><b>Enterprise Resource Planning</b></p>

Field	Comment
	<p>The system behaves as in the standard</p> <p><b>Project management and enterprise resource planning</b></p> <p>If component quantities in a production order are increased after they were originally procured, this setting does not include the requirement in the planning worksheet, but it is handled as follows during the FA update:</p> <p>The quantity deviation is implemented by duplicating the FA component with the deviating quantity in the system. In the background, a reserved purchase order is created directly in the purchasing case and a new FA line is created for the duplicated component in the production case.</p>
Autom. update after E+D planning	If the switch is active, the E+D order lines are automatically updated when the E+D order planning has been carried out.
Check status (finished parts list/ work plan)	<p>Define here whether the status of the routing and production BOM:</p> <p><b>Always</b></p> <p>Always be checked</p> <p><b>If E+D project no. empty</b></p> <p>Only if the field "E+D project no. " is empty should be checked.</p>
Find production data if empty in article version	<p><b>Article:</b></p> <p>If the article version does not have a finished parts list and routing and the "Article" option is set in this field, the production data (finished parts list, routing) of the article will be used.</p> <p><b>Article version:</b></p> <p>If no production data exists at the article version and the option "Article version" is stored in this field, the production data of the article will be ignored.</p> <p>Calculate available for stock transfer in E+D planning Define here whether the quantity should be calculated to other storage locations for information during (E+D) order planning.</p> <p>If the switch is active here, the information is not displayed.</p> <p>The field is especially useful for a large number of storage locations, as it can optimize the runtime.</p> <p>Planning - accept event message The "Accept event message" identifier is preset to "Yes" in the E+D planning if the Automatic option is selected. Otherwise, the "No" identifier is preset for Manual.</p>

## Information register monitoring

Field	Comment
Max. Finished parts list level	Specifies the maximum finished parts list levels for the plausibility check for design monitoring. If the system determines a higher vertical range of manufacture, the system terminates when the level is exceeded and shows this as a structural error in the result.

## E+D Cockpit

From the overview of released E+D orders the fields exist:

Field	Comment
Material consumption traffic light	Visual representation of material consumption.
% Material consumption	Percentage representation of material consumption.
Capacity consumption traffic light	Visual representation of capacity consumption.
% Capacity consumption	Percentage representation of capacity consumption.
Feedback traffic light	Visual representation of the feedback.
% Feedback	Percentage representation of the feedback.
Foreign. Fert. Orders traffic light	Visual representation of external work orders that already exist.
% Third party fert. Orders	Percentage representation of external work orders that already exist.
Foreign. Feedback traffic light	Visual representation of the feedback from the external work.
% Foreign. Feedback	Percentage representation of feedback from outside work.

The traffic light symbols are to be set up via Company data > Info tab "Documents" in the fields "Red traffic light", "Yellow traffic light" and "Green traffic light".

With the function "Update cockpit" in the "Released E+D order overview" the above mentioned fields are updated.

## Article version types

The article version types are used for the later classification of the article versions. To define them first, call up the "Article version types" via the user search.

Via "New" in the ribbon you can define a new article version type specifying the "Code" and the "Description".

**Article versions**

By means of the "Article version" you have the possibility to map the product life cycle of an article. The different versions can also be used to store different production bills of materials and routings. By assigning an "article version type", the article versions can be classified so that they can be easily distinguished from each other.

To define a new article version, call up the "Article versions" via the user search. Via "New" in the menu ribbon you can define a new article version with the help of the table below:

Field	Comment
Item no.	In this field, specify the item no. for which you want to create a version.
Variant code	If the selected article is variant-managed, you can define the variant of the article for which you want to create a new version at this point.
Version code	Specify an "abbreviation" for the article version you want to create.
Description	Specify a description for the article version you want to create.
Article version type	By assigning an article version type, you have the possibility to classify the article version.
Material	At this point you can assign a material to the article version.
Status	<p>Indicates the status of the article version. Three statuses are assigned at this point:</p> <p><b>New:</b> The article version is currently under construction.</p> <p><b>Certified:</b> The article version has a released status. No changes can be made in this status.</p> <p><b>Expired:</b> The article version is no longer valid.</p> <p>You can change the status via the menu ribbon by calling "New", "Certified" and "Expired".</p>
Version Start date	Specifies the start date of a version.
Drawing no.	Specify a drawing number (if available) for the version.
Drawing format	Specify a drawing format (if any) for the version.
Subscription index	Specify a drawing index (if any) for the version.
Manufacturer code	Specify a manufacturer code (if any) for the version.
Manufacturer Part No.	Specify a manufacturer part number (if available) for the version.
Delivery standard	Specify a delivery standard (if any) for the version.
Norm	Specify a standard (if any) for the version.
Finished parts list no.	Specify the finished parts list number.
Finished bill of material version code	Specify the fert. bill of material version code.



Field	Comment
Work plan no.	Specify the task list number.
Routing version code	Specify the routing version code.

In the procurement process, the article incl. article version can be specified. Via MRP (order planning, planning worksheet), the system proposes a production order taking the article version into account. The production data of the article version are hereby transferred to the production order.

The temporal determination of the article version takes place at

#### **Components, production lines:**

Due date

#### **Order lines:**

Expected goods receipt date

#### **Planning suggestion:**

When revising the start date, this otherwise the end date of the line.

If both are not maintained the order date

- Proposed change: due date of the order

Note

Please note that during the consumption posting, the system checks that the article version type of the consuming article matches the actual article version type to be reported.

The article version does not distinguish the stock on the article. If it is necessary to distinguish the stock on the article on the level of the article versions, the article variant can be managed in addition to the article version. In this way, the stock level is taken into account for the article variants and, consequently, also for the corresponding article version.

Functions in the ribbon New, Certified, Expired

These function buttons set the article version to the status of the same name.

Usage

This functionality is used to determine in which assembly/production article the component is located.

Structure

Microsoft Dynamics 365 Business Central uses this to display the production structure/tree structure of the production item based on the specified production BOM and routing.

Structure BOM

The structure BOM is output as a report.

Costs of the bill of materials

Based on the production bill of materials and the routing, the costs of the production item are calculated and output as a report.

#### Cost shares

The costs are mapped in a tree structure as in the standard Microsoft Dynamics 365 Business Central.

#### Detailed calculation

Costs are presented in the same way as in the standard Microsoft Dynamics 365 Business Central Detailed Cost Estimate.

#### Bill of materials - cost share distribution

The cost shares (material, capacity, external labor, capacity & prod. overhead) are shown graphically in a report.

#### Construction + development order (E+D order)

The design + development order is essentially a production order that is converted from a repetitive manufacturing order to a machine and plant engineering order - i.e.: design + development order - by means of a project number. The data from a production order is displayed in an E+D order as a structured BOM, which is supplemented by the following information fields:

- E+D Positions (Position Index),
- Quantities, deadline, status and change traffic light,
- Information about the demand cover and requester

Functions for the specific processing of the FA position round off the whole.

The E+D order masks exist as for a production order for the status (Simulated, Firmly planned, Released, Finished). There are separate menu items for the different statuses in the "Design & Development".

In summary, the E+D order is intended to provide a central information hub for reporting the status, processing the respective item and interacting with the upstream and downstream processes of design, work preparation, scheduling, purchasing and warehouse/logistics.

#### Attachment

There are two ways to create an E+D order:

1. You create a production order as usual, manually or via the planning worksheets. In the course of this, an E+D order is generated automatically by the system.
2. You create an E+D order manually. In the course of this, a production order is generated automatically by the system.

The status is always identical for the production order and the corresponding E+D order.

#### E+D Order card

The structure of the E+D job card is identical regardless of its status "Simulated", "Firmly planned", "Released", "Finished". Depending on the status, some functions cannot be executed.

## Inforegister screen

Field	Comment
Structure resolution	<p>The structure resolution controls the view of the E+D lines with the following options:</p>
	<p><b>constructive:</b> Depending on the due date, the valid master finished parts lists, routings and versions are displayed. In addition, phantom levels of the construction are displayed.</p>
	<p><b>dispositive:</b> Displays the current procurement-manufacturing structure of the FA. The constructive phantom levels are exploded, the FA lines, FA operations and FA components can be edited manually.</p>
	<p><b>functional:</b> Assembles the rows according to the functional characteristic (if available- from Design &amp; Development - Setup).</p>
	<p><b>logistically:</b> Assembles the lines according to the logistic characteristic (if available- from Design &amp; Development - Setup).</p>
	<p><b>dispositive total:</b> this view shows the entire FA order network (also the outsourced sub-Fas) dispositive.</p>
	<p><b>Calculate work plan No:</b> Only the structure BOM is displayed.</p>
	<p><b>Hide Sec.AG:</b> The primary operations and the structural BOMs are displayed.</p>
	<p><b>Show Sec.AG:</b>  In addition to the primary operations and the structured BOM, the secondary operations for other capacities such as "Tool" and "Personnel" are also displayed.</p>
	<p>Formats the duration of the E+D order line rounded up to millisecond, second, minute, hour, day.</p> <p>The value is suggested from the Design &amp; Development setup when you open the page. You can override the default setting.</p>

## Inforegister General

Field	Comment
No.	Document number - number range freely definable.
E+D Project no.	The project number can be entered manually from the project list. When executing the planning function "Project order" in the sales order, the project can be preset. Several FAs can thus be combined into one group.
Description	Description of the production order (e.g.: name of the commission or the customer).
Description 2	Additional description of the production order.
Type of origin	The origin type gives the user an indication of what the production order was created for.  <b>The following selection options are available:</b> - Article, - Manufacturing family, - Sell order, - Project
Origin no.	Number of the article / production family / sales order or "blank" to be produced.  This field is logically related to the origin type.
Search Keyword	Is formed automatically from the first 30 digits of the description and can be changed manually.
Quantity	Number of items to be produced with this production order.
Due date	Date by which the production order should be completed.
Assigned user	Entry of the responsible clerk.
Production order type	For classification of construction contracts.  Dimensions can be changed or added depending on the order type.  <b>Additional functions for the calculation:</b> The costing order type marks the FA as relevant to costing. The type: Basic order marks the costing FA as a copy template for the creation of another costing order.
Locked	If this identifier is active, postings (consumption and actual report) with the FA are not possible.
Corrected on	The date on which the FA was last modified.

## Inforegister lines E+D Position

The E+D position is formed for the unique identification of individual lines. Each position in a production order is uniquely defined by the E+D position and is thus very helpful for reconciliation or for the coordination of the different departments.

### Note

The E+D position has a maximum length of 30 characters, if this is exceeded, the last 3 characters of the 30 characters are displayed with "...".

### Note

To determine a unique E+D item, you must maintain the fields "Stepwise E+D item no. ", "Item item separator", "Item phantom separator", "Item operation separator", "Item common parts summary" and "Item additional costs separator" in the Design & Development setup.

## Determination of the E+D position no.

The E+D item number is determined by the system when calculating the production order or the planning worksheets as well as when maintaining the item number.

### **The system proceeds with the determination as follows:**

#### Production order line (producing article)

#### **The system fills the E+D position depending on the creation of the production order:**

- Manually or via the planning worksheets, the E+D item no. is preset with the value from the Design & Development setup of the "Stepwise E+D item no. " field.
- In order planning, the E+D item no. corresponds to the item no., the sales item to be covered.
- In project planning, the E+D item no. corresponds to the project task no. of the project plan line to be covered.

#### Component

The E+D item number corresponds to the E+D item number of the FA line + the item item separator defined in the Design + Development setup and the own item number.

#### Production order line (assembly)

The E+D position no. of the assembly corresponds to the E+D position no. of the component to be covered.

#### Operation

The E+D item no. corresponds to the E+D item no. of the FA line + the item operation separator defined in the Design + Development setup and the own operation number.

#### Additional costs

The E+D position no. corresponds to the E+D position no. of the FA line + the position additional costs separator defined in the design + development setup and the own position no.

## Equal parts summary

In the standard system, the same parts are grouped together depending on whether the following fields match:

- Variant code
- Connection code
- Position
- Position 2
- Position 3
- Length
- Wide
- Weight
- Depth
- Unit code

If an article is used in several assemblies of a production order, the system combines them and generates a collective FA component for this article.

The E+D item no. corresponds to the E+D item no. of the FA line + the item same-part summary separator defined in the Design + Development setup and its own item number.

## Fields

Field	Comment
E+D Position	<p>The E+D position should describe the exact installation position across all drawing levels. In the case of existing CAD integration, the position should match the designations on the CAD drawing and thus forms search information, e.g. for assembly drawings.</p>
	<p><b>E+D Position Initial value:</b></p> <p>In the "Order quantity" replenishment procedure, the E+D item is filled based on the item number of the sales line or based on the project task of the project plan line.</p> <p>If no entry is found here, the step size from the Design &amp; Development setup is assigned.</p>
	<p><b>E+D Calculate position:</b></p> <p>The calculation of the E+D position is already done in the planning worksheets and can be shown there in the field "E+D position". In addition, the field is also available in the standard FA documents.</p>
	<p><b>E+D Position manual change:</b></p> <p>A manual correction of the initial value is possible in the E+D order via Navigate\lines.</p> <p>All other manual changes are called from the E+D order component/FA component.</p>
E+D Position	<p><b>E+D Position Forms of presentation:</b></p> <p>In the FA components, as well as the E+D order components, the "E+D Position" is combined with the standard field "Position". Here, the field values "E+D Position" and "Position" are separated using the "Position item separator" from the "Design &amp; Development Setup".</p>
	<p><b>Phantom levels:</b></p> <p>Can be identified in the dispositive view with the "Position phantom separator" from the "Design &amp; development uni". In the constructive view, the phantom layer is unfolded with its component.</p>
	<p><b>E+D Contract Work Plan:</b></p> <p>In the E+D order routing, the E+D position is formed from the operation number. A change is made in the master data and can be updated via the E+D change synchronization. The "Position operation separator" can be defined via the "Design &amp; development setup".</p>
	<p><b>Tools and personnel:</b></p> <p>Can be managed in the secondary operations. For this purpose, the E+D position receives an additional suffix. The separator for tool and personnel is defined via the "Production setup" of the fields "Separator operation no. personnel" and "Separator operation no. tool". The numbering for personnel and tool is defined via the "Personnel basic operation no." and "Tool basic operation no." fields.</p>



Field	Comment
	<p><b>Additional costs:</b> In the E+D order, imputed additional costs can be stored for the FA line.</p> <p><b>E+D Position Representation of the outsourced substructure:</b> By means of the "E+D Planning" function, assemblies can be outsourced to another production order. The outsourced structure is marked in color and is dispositive or dispositive total depending on the structure explosion.</p> <p><b>E+D Position Lookup:</b> From the E+D position, you can branch directly to the edit mask via an AssistEdit call. Type = Windows Article = Show components Workplace /Workplace group = Show work plan Additional costs = Show additional costs</p>
Appointment traffic light	<p>Displays the scheduling situation of an item, starting from its due date as a requirement creator (level x+1) to its requirement date and due date of its requirement originator (level x).</p> <p>The icons are stored in the "KUMAVISION Bitmaps" facility.</p> <p><b>Green/OK:</b> Due date (level x+1) = Requirement date (level x)</p> <p><b>Red (right arrow)/Too Early:</b> Due date (level x+1) is before requirement date (level x)</p> <p><b>Red (left arrow)/Too Late:</b> Due date (level x+1) is after the requirement date (level x)</p>
Quantity traffic light icon	<p>Displays the stock situation of an item starting from its requirement cover (level x+1) to its requirement originator (level x).</p> <p><b>For type=article:</b> The icons are stored in the "KUMAVISION Bitmaps" facility.</p> <p><b>Green/OK:</b> Sufficient and in stock</p> <p><b>Yellow/disposed:</b> Reserved but not in stock</p> <p><b>Red (down arrow)/below:</b></p>

Field	Comment
	<p><b>Shortage in order production:</b> The reserved demand covers do not cover the demand.</p> <p><b>Shortage in make-to-stock production:</b> the available stock is not sufficient. The item availability is <math>&lt; 0</math>.</p> <p><b>Red (arrow up)/above:</b>  <b>Excess coverage in order production:</b> The reservable requirement cover exceeds the requirement (e.g. FA quantity <math>&gt;</math> reserved quantity in the requirement cover).</p> <p><b>Surplus cover for make-to-stock production:</b> The available stock is sufficient. The availability is <math>\geq 0</math>.</p> <p><b>For type=workstation(-group):</b>  Displays the capacity situation of the work center, work center group on the requirement date.</p> <p><b>Green/OK:</b>  Sufficient remaining capacity</p> <p><b>Red (down arrow)/below:</b>  Shortage, the remaining capacity is not sufficient. There is a capacity utilization of <math>&gt; 100\%</math>.</p>
Type	<p><b>Type of E+D line:</b>  Article, phantom bill of material, workstation group, workstation, functional level, logistic level</p>
E+D Production type	Specifies the production type of the item taking into account the master data and also stock card ( <b>options:</b> make-to-order, make-to-stock).
No.	Specifies the number depending on the type.
Description	Specifies the description of the line depending on the "Type" and "Number" fields.
E+D Proposed change available icon	<p>Indicates whether an E+D change proposal exists.</p> <p>The icon is assigned from the "KUMAVISION Bitmaps" setup from the "Default line Existing" field.</p>
Finished parts lists Status	<p>Displays the status of the finished parts list.  The options are "New", "Certified", "In Development" and "Expired".</p> <p>The icons are obtained from the "KUMAVISION Bitmaps" facility.</p>

Field	Comment
Routing status	<p>Displays the status of the task list status.</p> <p>The options are "New", "Certified", "In Development" and "Expired".</p> <p>The icons are obtained from the "KUMAVISION Bitmaps" facility.</p>
Component quantity	Required quantity to produce one unit of the parent component.
Requirement date	Indicates when the item of the parent level (x-1) is needed. E.g. from goods issue date of VK line, due date FA component.
Quantity required	Indicates the quantity required.
Reserved quantity	Indicates reserved quantity (if in stock or on order) for this line.
Residual requirement quantity	Indicates the demand of the quantities not yet withdrawn or produced.
Storage bin code	Specifies the bin code of the FA component.
Availability balance	<p>For items, the available quantity in stock and demand date is displayed.</p> <p>For work center/work center group the available capacity of the FA work operation from start date/time to end date/time is displayed.</p> <p>Via drilldown, the calculated items can be called up and analyzed.</p>
Reserved stock (base)	Indicates the reserved quantity (if in stock) for this row.
Due date	<p>Indicates the due date of the FA line when the assembly will be ready according to the FA work plan and calendar model.</p> <p>If an assembly is outsourced and scheduled, the due date of the FA line (level x+1) differs from the requirement date of the FA component (level x).</p> <p><b>Note</b></p> <p>The due date of the FA components can be over-scheduled by entering the lead time shift.</p>
Quantity	Specifies the number of items to be produced.
Finished quantity	Here you can see the already finished quantities.

Field	Comment
Quantity in proposal line	Indicates the quantity in the planning/purchase order worksheets. If the procurement documents are triggered from this, then (provided that with the reservation is worked) autm. the field "Reserved quantity" is adapted accordingly.
Duration	The duration is calculated from "End date/time" minus "Start date/time" of the FA operation and the FA line.  For FA components with procurement type = purchasing, the procurement time of the item is displayed from the inventory data.
Total duration	The total duration is the cumulative result of the operations sorted in chronological order for one FA line.
Supplied by	Indicates reserved demand deckers. If there is no reserved demand deck, the field is "empty".  In case of uniqueness the card is displayed directly and via lookup you can branch directly to the document.  If there are (several) demand coverers, you can branch to the reservation items via lookup. Alternatively, you can branch directly to the documents via the line function Requirement originator (component).
Remaining time	Indicates the remaining time. The output "hours", "minutes" or similar depends on the definition in the Design & Development Setup in the "Precision Duration" field.

#### Functions Menu selection function E+D Change production type

The production type of the selected item line is changed between make-to-stock production/order-related production. Substructures are set or deleted.

#### Outsourced manufacturing order

For an FA line with the E+D MRP type Production part, the option is offered to create a separate production order if the FA line is to be produced for the higher level on an order-related basis.

#### Create link to the production part

For a stock part a link to a FA line can be created. The FA line is thus the requirement cover of the component and the E+D MRP type is changed from stock part to production part.

#### E+D Order planning

Order planning is called up specifically for the selected E+D lines. In the course of this, the demand cover is reserved directly for the originator of the demand.

#### Reserve (line)

Calling the reservation functionality for the E+D line existing as FA line.

#### Reserve (components)

Calling the reservation functionality for the E+D row existing as FA component.

#### Demand originator (line)

Calling the demand originator functionality for the E+D line existing as FA line.

#### Requirement originator (component)

Calling the demand originator functionality for the E+D row that exists as an FA component.

#### Transfer marked shipping units

This function allows you to transfer the selected shipping units.

#### Show shipping units

With this call you can display the shipping units for the respective line.

#### Menu selection line Article availability

Displays item availability by event, period, variant, storage location or BOM level. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

#### Reservation structure

This function allows you to display the reservation structure of a selected document line.

#### Reservation item

Displays the items for each reservation made manually or automatically. For more information, see the [Microsoft Dynamics 365 Business Central Helpsite](#).

#### Dimensions

Display or edit dimensions. Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

#### Map

Depending on the line type: article, workstation, workstation group, the master data card is called directly.

#### Work plan

Displays the E+D order operations for the selected E+D line. It is also possible to call it up from the E+D position via the Assist button.

Field	Comment
Working aisle no.	See standard
E+D position	<p>The E+D position should describe the exact installation position across all drawing levels. In the case of existing CAD integration, the position should match the designations on the CAD drawing and thus forms search information, e.g. for assembly drawings.</p> <p><b>E+D Position Forms of presentation:</b>            In the FA routings, as well as in the E+D order routing, the "E+D position" is combined with the standard field "Operation no. ". The field values "E+D Position" and "Position" are separated using the "Position operation separator" from the "Design &amp; Development Setup".</p>
Type	See standard
No.	See standard
Workstation group no.	Here you can see the workstation group of the assigned no. (workstation, workstation group).
Description	See standard
Unit code (FA line)	Here you can see the unit code of the production item.
Quantity (FA line)	Here you can see the quantity of the production item.
Finished quantity	Here you can see the already finished quantity of the operation.
Rejects	Here you can see the quantity of the operation already reported as scrap.
Progress quantity	<p>Displays in a progress bar the percentage of completion based on the quantity.</p> <p><b>Please note</b> that in case of overproduction the system will continue to display 100%.</p>
Standard catalog code	See standard
Revised	See standard
Capacity	Here you can see the planned capacity for the work center (group) of the operation in the processing period.
Allocated capacity	Here you can see the allocated capacity for the work center (group) of the operation.
Utilization	Here you can see the utilization of the workstation(s) (group) in the period of the operation.

<b>Field</b>	<b>Comment</b>
Expected time requirement	Here you can see the planned time requirement in the unit from the production setup.
Unit production facility	In this field you can see the unit stored in the production setup.
Booking method	See standard
Start date/time	See standard
Start time	See standard
Start date	See standard
End date/time	See standard
End Time	See standard
End date	See standard
Setup time	See standard
Setup time unit code	Here you can see the assigned unit for the setup time.
Processing time	See standard
Processing time unit code	Here you can see the assigned unit for the setup time.
Waiting time	See standard
Transport time	See standard
Lot size	See standard
Fixed scrap quantity	See standard
Scrap factor %	See standard
Transfer quantity	See standard
To load at the same time	See standard
Cost price per unit	See standard
Target labor costs	See standard
Target capacity overhead	See standard
Routing status	See standard



Field	Comment
Location code	See standard
Off. Fert. ber. stock plan code	See standard
Finished ready storage bin code	See standard
Finished output bin code	See standard
Articles manufactured by others	Specify here whether this is an externally produced item.
Quantity in stock transfer order (base)	Here you can see, in case of external work, the quantity in a stock transfer order created for this purpose.
Quantity in transit (base)	Here you can see the transit quantity (goods on wheels) in the case of external work in a stock transfer order created for this purpose.
Input Quantity at third-party manufacturer (base)	Here you can see the transferred quantity in case of external work.
Recorded times	Here you can see the already booked times in the unit in the production facility.
Remaining time	Here you can see the time still to be completed in the unit in the production facility.
Time progress	Displays in a progress bar the percentage of completion based on time. <b>Please note</b> that if the planned time is exceeded, the system will continue to display 100%.
Indentation	Here you can see the production level of the production order.
FA no.	See standard
Work plan ref. no.	Here you can generally see the line no. of the production order item.
Work plan no.	Here you can see the no. of the applied work plan.
Manual planning	See standard
Previous operation no.	See standard
Next operation no.	See standard
Connection code	See standard

## Components

Displays the E+D order components for the selected E+D line. The call via the Assist button from the E+D position is also possible.

## Additional costs

Additional imputed costs can be entered for preliminary costing. This item is relevant for the "Valuation & Costing" module.

## Item tracking line

Displays the item tracking assigned to the document row. For more information, see the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Third-party work tracking

Document navigation to the external work documents "Purchase order" and "Stock transfer".

## Missing parts list

Call the missing parts list for the selected E+D line.

## E+D Proposed change

Call the pending proposed changes to the marked E+D line.

## E+D markup calculation

Call the markup calculation for the E+D line with level 0.

## Production book. sheet

Post consumption and expenses. Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Inforegister scheme

Field	Comment
Start date	Specifies the start date of the E+D order.
Start time	Specifies the start time of the E+D job.
End date	Specifies the end date of the E+D order.
End Time	Specifies the end time of the E+D job.
Planned time (Current order)	Specifies the scheduled time for the current job.
Planned time (Overall structure)	Specifies the planned time for the overall structure.
Time consumed (Current order)	Indicates the time spent on the current job.
Time consumed (total structure)	Indicates the time spent on the overall structure.
Remaining time (Current order)	Specifies the remaining time for the current job.
Remaining time (Overall structure)	Specifies the remaining time for the overall structure.
Time consumed % (Current order)	Indicates the time used for the current job in %.
Time consumed % (Overall structure)	Indicates the time spent on the overall structure in %.

## Information register Buchen

Field	Comment
Stock posting group	Indicates the stock posting group of the production item. This value is preset with the value from the article card.
Product posting group	Specifies the product posting group of the production item. This value is preset with the value from the article card.
Business posting group	Specifies the business posting group of the production item. This value is preset with the value from the article card.
Cost unit code	Specifies the cost carrier code of the production item. This value is preset with the value from the article card.
Location code	Specifies the storage location code.
Storage bin code	Specifies the storage location.

## Functions in the ribbon

## "Operation" menu selection Update structure

The structure of the E+D order lines is updated. This function is executed manually if required, for example, if the status tables of the E+D order lines are to be recalculated at the current time.

## E+D Order planning

The E+D order planning is called for the complete production order. In this overview a procurement is made order-related. The requirement originator receives a direct reservation with a requirement cover. Here the

requirement covers order, planned/released production order, transfer order, assembly order and external work order are possible.

Field	Comment
E+D Position no.	This field maps the E+D position from the E+D order.
E+D Planning line type	The following types are available: structure heading, stock section and external operation.
Type	The article and workstation group types are possible.
No.	Depending on the type, this field indicates the no. of the item or workstation group.
Description	Depending on the type, this field indicates the description of the item or operation.
Requirement date	Indicates the due date of the item/external operation.
Unit code	Informatively specifies the units from the FA component.
Planning quantity	The target quantity is shown here.
Planning completed	If this identifier is set by the system, this means for the user that the article or the external operation already has a reserved requirements cover.
Procurement quantity	This quantity defines the procurement quantity that is to be transferred to the requirements planner later in the process via the "Create orders" functionality.
Procurement method	Indicates the procurement method of the item. Situationally, the procurement method can be manually changed to purchase, production order, stock transfer or assembly.
Deliver from	Specifies the vendor from which the item/external work is to be obtained.
Reserve	The "Reserve" identifier defines whether the demand cover to be created is to be reserved for the demand originator.
Accept event message	Only E+D order planning lines that have this identifier set will be considered in the "Create orders" function.

#### Update E+D order...

Has the same functionality as "Update production order..." in FA.

#### Reschedule...

Reschedules the connected production order lines of the current FA. Other production orders connected to the FA lines are not updated.

If the lead time shift is changed in the FA components, a new due date of the reserved FA line follows.

### Perform change comparison...

With the "Perform change comparison" function, the production data comparison takes place taking into account the change flexibility parameter on the E+D order line. If the change flexibility of the E+D order line is set to "none", this line is ignored in the change comparison.

### Perform re-comparison...

The new comparison ignores the change flexibility parameter in the change comparison and thus takes all E+D order lines into account.

### Change status

This function allows you to change the status ("Firmly planned", "Released", "Finished" for this document.

### Copy E+D document

This function is similar to the conventional "Copy voucher" function. With this function you can copy the data from an already existing voucher into a new voucher to be created.

### E+D Statistics

Displays statistical data related to the E+D job.

### Missing parts list

Call the missing parts list as a table or also report.

### Reservation item (component)

Calling the reservation functionality for the E+D lines existing as FA component.

### Report menu selection

The following reports can be printed in this menu selection:

- Work ticket
- Material requirements list
- Missing parts list
- E+D Order

### Menu selection Email

With this menu selection, the following reports can be sent directly by e-mail (this requires the appropriate setup).

- FA work ticket
- FA material requirements list
- FA faulty parts list
- Production order

### Menu selection Actions > Function

**At this point, only the function calls that have not been described before will be discussed:**

### Cross country skiing articles overview

With this function the long run article overview for the referenced production order can be called. In the case of the E+D order, it is the production order that is listed in the header of the E+D order.

For more information, see "Long-run items: Call for a production order / E+D order".

#### Update cost prices

This function allows you to update the cost prices across all levels or one level.

#### Actions > Stock menu selection Create putaway / picking / stock transfer

With this function you can create picking and putaway / transfer.

#### Create bearing deposit request

This function allows you to request an internal putaway request.

#### Create picking

With this function you can create the picking.

#### Menu selection Belonging > Order Item

Via the selection "Items" you can view the following items:

- Article item
- Capacity item
- Value items
- Stockyard items

#### Comments

Via the "Remarks" you can store remarks for the order.

#### Dimensions

Displays the dimensions.

#### Third-party work tracking

The external work tracking is called up for the E+D order planning line. This shows all associated orders and stock transfers (provisioning).

#### Calculation proposal (E+D)

Opens the E+D calculation proposal.

#### Lines

Opens the E+D order line card for editing.

#### Shipping unit

Opens the shipping units map.

**E+D Proposed change**

KUMAVISION factory365 offers the functionality E+D Change Proposal to compare the manufacturing data (FA routings and FA components) of the E+D order with the master data (routings and finished parts lists). If the data of the E+D order differs from the master data, the E+D change proposal suggests a change in the E+D



order. The mask can be called up both via the user search and directly via the E+D order using the functions "Execute change proposal" and "Execute new comparison".

Field	Comment
E+D Position	Position number of the line in the structure of the assemblies.
Type	<p>Definition of the line, the options are:</p> <ul style="list-style-type: none"> <li>• Article,</li> <li>• Phantom Bill of Materials,</li> <li>• Workstation Group,</li> <li>• Workplace</li> </ul>
No.	The number is dependent on the type.
Working aisle no.	Number of the operation, if the type is "work center group" or "work center".
Event message	Indicates the corresponding event message.
Accept event message	The "Accept event message" identifier is preset to "Yes" in the E+D planning if the Automatic option is selected. Otherwise, the "No" identifier is preset for Manual.
Detail. Change notification	Shows the description of the change.
Description	Description depending on the type. (e.g.: article description, operation description)
Age value	Displays the value from the production order.
New value	Displays the value from the finished parts list or routing.
Area	Displays the area where the change is to be made.
FA status	Displays the status of the production order in which the change is to be made.
FA no.	Displays the production order number in which a change is made.
FA line no.	Displays the line no. of the production order in which a change is made.
Change flexibility	<p>Identifier, which allows a line to be excluded from the proposed change.</p> <p>The available options are "Unlimited" and "None".</p> <p>This parameter is set manually by the production management per FA line and FA component.</p>
Comparison date	Displays the date of the comparison.
Variant code (to be manufactured)	Specifies the variant to be manufactured.

<b>Field</b>	<b>Comment</b>
Version code (to be fert.)	Specifies the version to be manufactured.
Proposal version code (to be fert.)	Version that would have to be made if the proposed change is executed.
Change notification	Marks the line as a change and the type of change -. <ul style="list-style-type: none"> <li>• New,</li> <li>• Change,</li> <li>• Remove,</li> <li>• Empty</li> </ul>
Accept change message	Here it can be decided line by line which change is accepted by the user.  The program will suggest you changes.
Item no. (component)	If the change concerns a component, its article number is displayed here.
Variant code (component)	If the change concerns a component and this has a variant, the valid variant of the article number is displayed here.
Work plan ref. no.	Line number of the production order to which the routing is assigned.
Work plan no.	Displays the job number of the FA line.
Routing version code	Displays the version of the routing assigned in the production order.
Proposal work plan ref. no.	Displays the line number of the production order in which the routing is to be assigned.
Proposal Work plan no.	Displays the task list number that is entered after the change adjustment.
Proposal routing version code	Displays the new valid version of the task list number entered after change matching.
Proposal work plan status	Displays the status that the routing assumes in the FA when the change proposal is executed.
Finished parts list no.	Indicates the production BOM found.
Finished parts list version no.	Indicates the found valid version of the production BOM.
FA- Component line no.	Specifies the component line number in the found production BOM.
Proposal Finished parts list no.	Displays the found and valid production BOM.

Field	Comment
Proposal Fert. version code	Displays the valid BOM version that is transferred to the FA during a change comparison.
Proposal Finished BOM status	Displays the status found with the current production BOM.  The change proposal lines only have an influence on the E+D order as soon as the Execute change message function is carried out for the selected proposal lines (Accept change message = YES).

#### Execution supervision

Execution monitoring is used to get a quick overview of the execution status of the design and development process.

For this purpose, there is the design monitoring for the master data view and the disposition monitoring for the design + development order view (E+D orders). In both monitoring functions, the scope of monitoring can be defined specifically according to articles, sales orders and E+D orders and projects in the case of MRP monitoring.

The MRP monitoring also lists the finished parts lists and operation lines, but compares these with the components and operations of the E+D order or production order. Additionally, information regarding date and quantity as well as procurement is displayed.

#### Design monitoring

Design monitoring allows you to monitor the status of your production master data. Design monitoring lists the finished parts lists and operation lines and displays their processing status.

#### Note

Please note that the system takes into account the inventory data, if available, when determining the data.

You can call up the "Design monitoring" via the user search.

#### General

In the "General" area, you can first define what should be checked and how.

Field	Comment
Sales order filter	If you want to check the production data for an entire sales order, maintain the order number here. The system determines all articles entered in the order.
Article filter	Enter here the article no. of the article to be checked.
Calculate work plan	Use this field to specify how the system should take the routings into account:
	<b>No:</b> Routings are not taken into account in the calculation and are therefore not included in the result.
	<b>Hide sec AG:</b> Routings are included in the calculation, but secondary operations are not shown.
	<b>Sec. AG Ads:</b> Routings are fully considered in the calculation, primary as well as secondary operations are shown.
Structure check only	Activate the switch if you only want to see items with notes in the result. This means that you will only see lines whose BOM levels are greater than the value in the "Max. finished BOM level" field in the Design and Development setup.
Lines	

The main fields of the display lines are explained in more detail below:

Field	Comment
E+D position	This field displays the E+D position.
	The top level is filled with the "Order position no. " in case of an order reference. Otherwise, the value is initialized according to the Design & Development setup in the "Step size E+D item no. " field.
	The other levels are calculated according to their definition in Design & Development.
Level	Represents the BOM level.
Sales order no.	In this field the possibly passed order no. is displayed.
Type	<b>This field shows the type of line:</b>
	<b>(blank):</b> It is a comment line
	<b>Article:</b> It is an item, the sources are production order line and components.
	<b>Note:</b> Please note that the variant code is maintained when displayed in blue.
	<b>Phantom Bill of Materials:</b> The component is defined as a phantom.
	<b>Workstation Group:</b> This is an operation of the "workstation group" type.
	<b>Workplace:</b> This is a "workstation" type operation.
	<b>Additional costs:</b> This is an additional cost item from the calculation.
	<b>Functional Level:</b> It is an attribute value according to your attribute definition in the Design & Development setup in the "Item attribute functional structure resolution name" field.
	<b>Logistical level:</b> It is an attribute value according to your attribute definition in the Design & Development setup in the field "Item attribute logistic structure resolution name".

Field	Comment
	<b>Notice:</b> Please note that the types Additional costs, Functional as well as Logistical level are not used in construction monitoring.
No.	In this field, depending on the "Type", the "No. " field of the respective master data record is displayed.
Description	Depending on the "Type" and "No. ", the description of the source data set is displayed here.
Finished parts lists Status	For the types "Article" and "Phantom BOM", the status of the stored production BOM is displayed here.
Finished parts list no.	For the types "Article" and "Phantom BOM" the production BOM no. of the stored production BOM is displayed here.
Routing status	For the types "Article", "Workstation" and "Workstation group", the status of the stored production parts list is displayed here.
Work plan no.	For the type "Article", the routing no. of the stored routing is displayed here.
Procurement method (master data)	Here you are shown the procurement method from the article master for type=article.
	For type=workstation group, depending on whether it is external work, at
	<b>Outside work:</b> Purchasing <b>Internal:</b> Production order
	set.
	In the case of type=phantom bill of materials, "Stock transfer" is displayed.
Production type (master data)	Here with kind=article with the procurement type "production order" the production type from the stockkeeping data is represented to you.
	<b>For items with the procurement type "Purchase", a reference to the re-procurement procedure, whereby:</b> <ul style="list-style-type: none"> <li>• (empty) is displayed with " ".</li> <li>• Order quantity with order production</li> <li>• the others are shown with make-to-stock production.</li> </ul>
	For type=phantom BOM, " " (empty) is always displayed here. Comment Here the system shows you irregularities of your master data.

#### Functions Calculate

With this action you perform the calculation according to your calculation settings.



## Work plan

Use this action to open the displayed routing(s).

## Finished parts list

With this action you open the displayed production BOM (version).

## Article

With this action you open the article card for articles.

### Disposition monitoring

The MRP monitoring offers a resolved tree structure of the production order. The required quantity and the availability balance of the components and capacities can be viewed here.

A visual representation is created via the deadline & quantity traffic light.

If there are reserved requirements coverers available for the requirements originators, these can be called up using the info box.

## General

In the "General" area, you can first define what should be checked and how.

Field	Comment
Sales order filter	A sales order filter can be specified. If there are sales lines for the sales order that are reserved with a production order, the reserved production orders are listed and resolved in the MRP monitoring.
Project filter	The project filter acts here analogously to the sales filter. If production orders are reserved for project task lines, the production orders are listed in the MRP monitoring.
Article filter	If an article filter is specified, the MRP monitoring searches over all production orders for the specified article filter and lists the production orders found in the MRP monitoring.
Production application filter	Enter here a production order no. of the item to be checked.
Calculate work plan	<p>Use this field to specify how the system should take the routings into account:</p> <p><b>No:</b> Routings are not taken into account in the calculation and are therefore not included in the result.</p> <p><b>Hide sec AG:</b> Routings are included in the calculation, but secondary operations are not shown.</p> <p><b>Sec. AG Ads:</b> Routings are fully considered in the calculation, primary as well as secondary operations are shown.</p>
Overall structure	Activate the switch if you want to display the overall structure in the result.

Lines

Field	Comment
E+D position	This field displays the E+D position.
	The top level is filled with the "Order position no. " in case of an order reference. Otherwise, the value is initialized according to the Design & Development setup in the "Step size E+D item no. " field.
	The other levels are calculated according to their definition in Design & Development.
Level	Represents the BOM level.
FA Status	Indicates the status of the stored production order.
FA no.	Indicates the number of the stored production order.
Sales order no.	In this field the possibly passed order no. is displayed.
Project no.	In this case, the corresponding project number is displayed.
Procurement method (master data)	Here you are shown the procurement method from the article master for type=article.
	For type=workstation group, depending on whether it is external work, at
	<b>Outside work:</b> Purchasing <b>Internal:</b> Production order  set.  In the case of type=phantom bill of materials, "Stock transfer" is displayed.
Production type (master data)	Here with kind=article with the procurement type "production order" the production type from the stockkeeping data is represented to you.
	For items with the procurement type "Purchase", a reference to the re-procurement procedure, whereby: <ul style="list-style-type: none"> <li>• (empty) is displayed with " ".</li> <li>• Order quantity with order production</li> <li>• the others are shown with make-to-stock production.</li> </ul>
	For type=phantom BOM, " " (empty) is always displayed here.
Appointment traffic light	Displays the scheduling situation of an item, starting from its due date as a requirement creator (level x+1) to its requirement date and due date of its requirement originator (level x).
Quantity traffic light icon	Displays the stock situation of an item starting from its requirement cover (level x+1) to its requirement originator (level x).

Field	Comment
	<p><b>This field shows the type of line:</b></p> <p><b>(blank):</b> This is a comment line.</p> <p><b>Article:</b> It is an item, the sources are production order line and components.</p> <p><b>Notice:</b> Please note that the variant code is maintained when displayed in blue.</p> <p><b>Phantom Bill of Materials:</b> The component is defined as a phantom.</p> <p><b>Workstation Group:</b> This is an operation of the type work center group.</p>
Type	<p><b>Workplace:</b> This is a "workstation" type operation.</p> <p><b>Additional costs:</b> This is an additional cost item from the calculation.</p> <p><b>Functional Level:</b> It is an attribute value according to your attribute definition in the Design &amp; Development setup in the "Item attribute functional structure resolution name" field.</p> <p><b>Logistical level:</b> It is an attribute value according to your attribute definition in the Design &amp; Development setup in the field "Item attribute logistic structure resolution name".</p> <p><b>Note:</b> Please note that the types Additional costs, Functional as well as Logistical level are not used in construction monitoring.</p>
No.	In this field, depending on the "Type", the "No. " field of the respective master data record is displayed.
Description	Depending on "Type" and "No. " the description of the source dataset is displayed here.
E+D Proposed change available icon	Indicates whether an E+D change proposal exists.

Field	Comment
Finished parts lists Status	For the types "Article" and "Phantom BOM", the status of the stored production BOM is displayed here.
Routing status	For the types "Article", "Workstation" and "Workstation group", the status of the stored production parts list is displayed here.
Requirement date	Indicates when the item is needed.
Quantity required	Indicates the quantity required.
Reserved quantity	Indicates the reserved quantity if in stock or on order for this line.
Residual requirement quantity	Indicates the demand of the quantities not yet withdrawn or produced.
Requested from	Specifies the demand originator for this line.
Availability balance	For items, the available quantity in stock and demand date is displayed.
	For work center/work center group the available capacity of the FA work operation from start date/time to end date/time is displayed.
Reserved stock (base)	Indicates the reserved quantity if in stock for this line.
Due date	Date by which the production order should be completed.
Quantity	Specifies the quantity of this line.
Finished quantity	Here you can see the already finished quantities.
Duration	The duration is calculated from "End date/time" minus "Start date/time" of the FA operation and the FA line.
Supplied by	Specifies the demand cover for this line.
Comment	Here the system shows you irregularities of your master data.

#### Functions Calculate

With this action you perform the calculation according to your calculation settings.

#### Production order

With this action you open the associated production order.

#### Work plan

Use this action to open the displayed routing(s).

#### Component

Use this action to open the FA component row overview.

#### E+D Order

With this action you open the corresponding E+D order

#### E+D Contract Work Plan

With this action you open the E+D order routing.

#### E+D order components

Use this view to open the E+D order component overview.

#### Article

With this action you open the article card for articles.

#### E+D Proposed change

Opens the E+D change proposal.

## Article Attributes

### General

Item attributes are used to classify and retrieve articles based on their characteristics. Characteristics can be assigned to each article. Either individually or via the characteristics preassigned to the article category.

In the following, the functional enhancements of the item attributes in KUMAVISION factory365 are explained in more detail. Basic information on this area is provided in the [Microsoft Dynamics 365 Business Central Online Help](#).

### Establishment

Before you can define the article attributes and assign them accordingly, the following setups must be made in the system:



**Units**

For the later creation of the article attributes, the creation of the required units must be defined in advance. To set up the units, call up the "Units" via the user search. Via "New" in the menu ribbon you can create a new unit with the help of the table below.

Field	Description
Code	<p>Assign a unique abbreviation of the unit.</p> <p>If you are working with eCl@ss, enter the eClass identifier for the unit here.</p>
Description	<p>Enter a description of the unit here.</p> <p>For example, "kilogram" for kilogram.</p>
International Standard Code	Enter the international standard code here.
Short name	<p>Enter a short name for the unit here.</p> <p>This can be the common abbreviation for a unit, e.g. "kg" for kilograms. The abbreviation is displayed in the info boxes.</p>
SI Dimension name	<p>Maintain the SI dimension name for the base unit here.</p> <p>In the list you see the dimension name and in brackets the unit:</p> <ul style="list-style-type: none"> <li>• "None-SI Dimension" = No SI Dimension</li> <li>• "Time" = Time (second)</li> <li>• "Length" = Length (meters)</li> <li>• "Mass" = mass (kilogram)</li> <li>• "electric current" = current intensity (ampere)</li> <li>• "thermodynamic temperature" = Thermodynamic temperature (Kelvin)</li> <li>• "amount of substance" = amount of substance (mole)</li> <li>• "luminous intensity" = luminous intensity (candela)</li> </ul>
Is base unit	Specify here whether the unit is a base unit. For example, set the check mark for meters and make sure that no check mark is set for centimeters.
Quantity per unit	In the Quantity per base unit of measure field, enter how many of the base unit's units the new unit of measure contains
Base unit code	Assign the base unit for the unit here. For example, for centimeters, maintain the unit code of meters.
Base potency	Define here, for an administration the base power for the conversion. For example, maintain the power of ten for centimeters.
Exponent	Define here, for an administration the exponent for the conversion.
SI Notation	Specify the SI notation here.
SI Name	Enter the SI name here.
DIN notation	Enter the DIN notation here.
ECE Name	Enter the ECE name here.
ECE Code	Enter the ECE code here.

Field	Description
NIST Name	Enter the NIST name here.
IEC classification	Specify the IEC classification here.
Parent size DIN	Enter the parent size DIN here.

#### Note

If you work with the eCl@ss import, you can import the units via this. Further information can be found in the section "Importing eCl@ss 7.0".

#### Item Attribute Map

Before you can work with the article attributes, you have to set up the required characteristics and their attributes. To do this, call up the "Article attributes" via the user search. Via "New" in the menu ribbon you can define a new article attribute with the help of the tables below.

#### Note

If you work with the eCl@ss import, you can import the article attributes via it. For more information, see the section "Importing from eCl@ss 7.0".

## Inforegister General

Field	Description
Code	Here you can define a unique code for the attribute, by using codes as unique keys you prevent input errors.
Name	Assign a name for the attribute
Type	<p>Specifies the type of attribute. You can choose from the following:</p> <ul style="list-style-type: none"> <li>• Option</li> <li>• Text</li> <li>• Integer</li> <li>• Decimal number</li> <li>• Date</li> </ul> <p><b>Note</b> Please note that by assigning the type, the "Data type" field is automatically pre-populated by the system.</p>
NAV data type	This field is updated when the "Type" field is maintained and sets the data type defined in the database. *
Constant	<p>Set the switch in the Constant field if you want to define a constant for the formula calculation.</p> <p>In the Default value field, you define the value to be used for the formula calculation. For example, for PI you create 3.14 or the number of decimal places you want.</p>
Default value	Define the value of the constant in the "Default value" field. This value will always be output when the attribute is assigned. This makes sense for the formula calculation, for example.
	Indicates that the item attribute cannot be used for the processes.
Locked	The system sets the locked indicator if you have not maintained the code and name. When the locked indicator is released, the system also checks that both fields have values.
Duty	Marks the attribute as a "mandatory attribute".
Sorting	Set the sorting criterion for tabular display here. If you leave the field empty, sorting will be done according to the Name attribute.

**Info register option**

Depending on the type=option, the "Option" info tab is displayed with the following fields:

Field	Description
Attribute selection expandable	Allows to expand the attributes selection. The system automatically sets a check mark.
Values	Specifies the values of the attribute.

Furthermore, the following function calls are available in the menu ribbon:

Field	Description
Article attribute values	Opens the item attribute value card where you can define the values for the item attribute.
Update attribute values	Use this call to transfer the data records from the reference table to the article attributes.
Update reference table	Use this call to transfer the data records from the article attribute values to the reference table

**Information register unit**

Field	Description
Unit code	Here you can assign a unit code, by the assignment the field unit is assigned in the background and possibly also overwritten.  Only for numeric types, and for option if integer or decimal was assigned here.
Unit	Specifies the base unit in relation to the unit code.

## Inforegister Formula

Field	Description
Formula	In the "Formula" field you can define a formula for determining a value.
	The formula is composed of already created attributes and the mathematical operator.
	The following mathematical operators are supported:
	'^' Potentiation: Specify the value to be exponentiated on the left and the power on the right
	'%' Percentage calculation
	'/' Division
	'*' Multiplication
	'+' Addition
	'-' Subtraction
	'<' Less thanThe value returns a one if the result is positive, and a zero if the result is negative
	'>' Greater thanThe value returns a one if the result is positive, and a zero if it is negative
	'=' EqualThe value returns a one in the case of a positive result, and a zero in the negative case
	<b>Example:</b> You want to show the formula for area calculation in the attribute. Here, the predefined attribute "Length" * the predefined attribute "Width" is specified in the field as follows: Length*Width
Minimum value	Here you can define a minimum value in the case of a numeric attribute when defining default attributes for article categories. This is checked when entering attribute values for articles, variants as well as article versions.
Minimum value	Here you can define a minimum value in the case of a numeric attribute when defining default attributes for article categories. This is checked when entering attribute values for articles, variants as well as article versions.

## Inforegister Factory eClass

In the "Factory eClass" info tab, you can assign the standardized eClass data to the article attribute in the fields provided. Alternatively, this data can be imported via the eCl@ss import. You will find further information on this topic in the section provided for this purpose.

## Inforegister Factory Article Synchronization

For a simple and unambiguous recording, values of the article card can be synchronized with the article attributes, so that the data must be maintained only in one place. The necessary setups are made on the

"Factory article synchronization" info tab of the respective article attribute. The synchronization setup is described below:

#### Note

Please note that you can only synchronize fields of the article map that are linked to only one field value on external tables. Normally, these are all fields of the article card.

## Note

Please note that you set the field Type=Option, so that the system has the possibility to provide the selection values of the source table as an option as well

Field	Description
Target field ID	Specify here the field of the item that contains the assignment.  For example, the field ID 47 if you want to synchronize data about the customs position.
Field name	Specifies the name of the assigned field in "Target Field ID".
NAV Tables ID	In this field you specify which table should be synchronized to the options table.  For example, the table ID 260 for synchronization of data from the table Customs position.
Table designation	Specifies the name of the assigned field in "NAV Table ID".
NAV Key Field ID	In this field you specify the primary key of the source table, these are usually "Code" or "No.". This value is transferred to the code field of the item attribute values table.  For example, the field ID 1 for the field No. of the table Customs item.
Field name	Specifies the name of the assigned field in "NAV Key Field ID".
NAV Description Field ID	In this field you specify the information field of the source table that you want to synchronize.  This value is transferred to the value field of the item attribute values table.  For example, the field ID 2 for the Description field of the Customs Item table.
Field name	Specifies the name of the assigned field in "Description field name".  After the field assignment, the system automatically determines the "Data type" field.

## Assignment synchronization

The synchronization is finally assigned with the following functions in the menu ribbon:

## Update attribute values

Use this call to transfer the data records from the reference table to the article attributes.



If changes are made in the article attribute values table, the new data records or corrections are transferred to the target table.

#### Note

A maintenance in the reference table does not lead to an automatic update of the article attribute values, these must be taken over via Update attribute values.

#### Update reference tables

Use this call to transfer the data records from the article attribute values to the reference table.

#### Synchronization logic

When synchronizing, note the following:

##### Article

If a field defined in the article attribute card is changed on the article card, this value is transferred to the article attributes; if the article attribute is not yet assigned, the assignment is made by the system.

##### Article variant

If the affected article has article variants, the changes are also transferred there. Deviating from this are fields that can be maintained in the tables themselves. These are for article variants:

- Description
- Description 2
- Sale locked
- Purchasing locked
- Service locked
- Production locked

##### Article version

If the affected article has article versions, the changes are also transferred there. Deviating from this are fields that can be maintained in the tables themselves. These are for article versions

- Material
- Drawing no.
- Drawing format
- Manufacturer code
- Finished parts list no.
- Work plan no.

Please note that expired article versions will not be updated.

#### Attributes maintenance

If you maintain the assignment of the attributes, these changes are transferred to the articles as well as to any existing article variants and article versions in the case of defined synchronization.

**Call Usage**

The "Usage" call in the ribbon displays the records that currently have the corresponding item attribute assigned in the system. The fields of the "Usage" table are explained below:

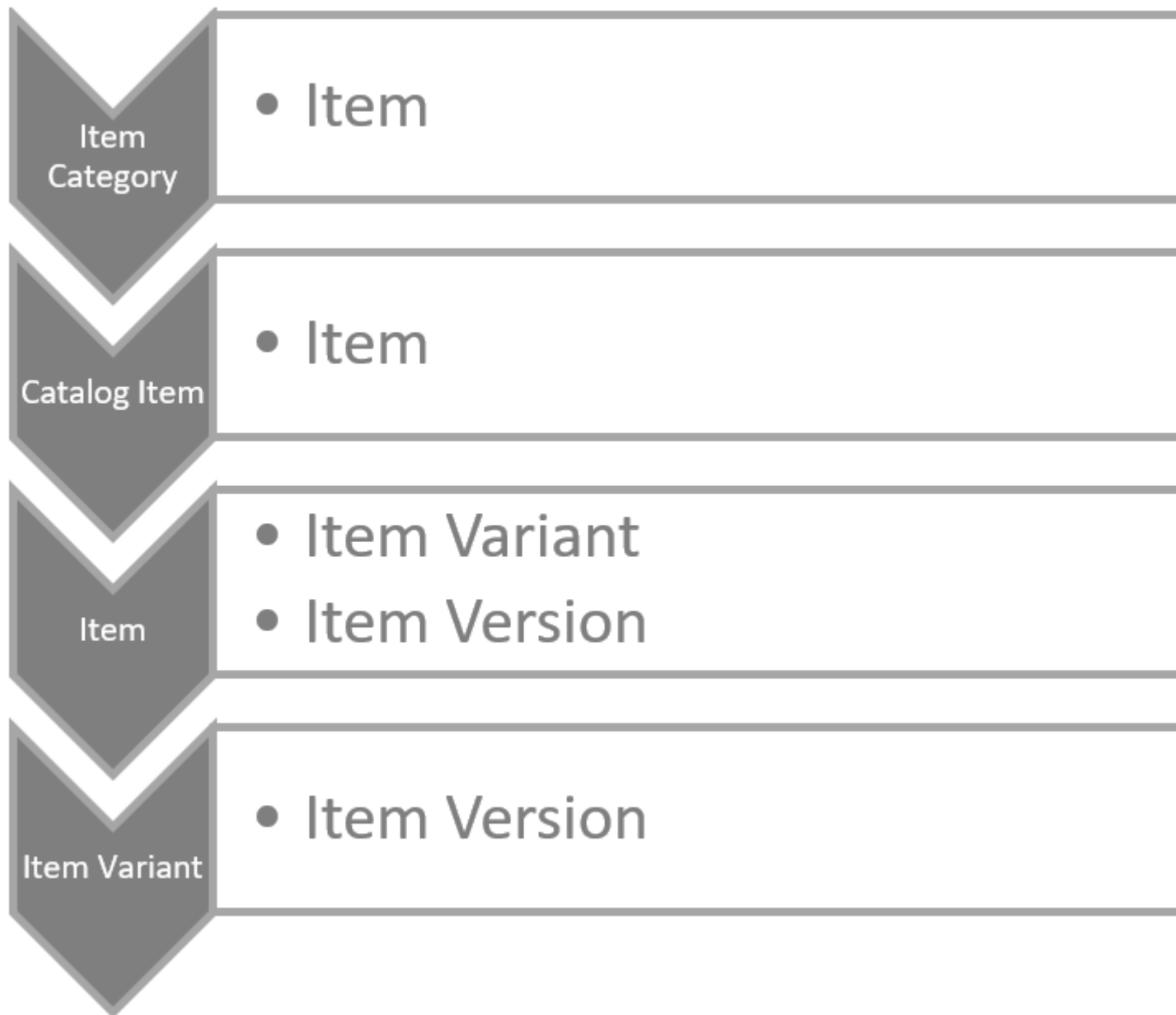
Field	Description
Table	The table ID of the item, item category and item variants or version used by the system. This field is not displayed to you.
No./Code	Indicates the article no. from the article, article variant or article version as well as the code from the article category and the Lfd. No. from the catalog article.
Variant code	The variant code from the article variant or article version. The field remains empty for articles and article categories.
Article version code	Specifies the item version code from the item version. For article, article category, article variant the field remains empty
Description	Specifies the description.

Via the menu ribbon - Navigate, the call "Show map" is additionally available, with which you can display the corresponding map.

**Article attributes assignment**

KUMAVISION factory365 allows you to use article attributes not only for the article, but also for catalog articles, article variants and article versions and provides the full range of functions here.

The following inheritance logic must be observed:



The diagram shows you horizontally what can be derived from which element and vertically how it is inheritable in itself.

#### Article

On the article card, you can assign the attributes for the article via the "Attributes" call in the menu ribbon. In the "Article attributes" info box on the article card, the data of the assigned attributes are displayed directly.

#### Article category

On the article category card, you can use the "Attributes" call in the ribbon to assign the attributes for the article category. In the "Article attributes" info box on the article category card, the data of the assigned attributes is displayed directly.

If you assign this article category to an article, the attributes from the article category are transferred to the article.

If changes are subsequently made to the attributes of the article category, they will be inherited by the assigned articles.

#### Note

Please note that the attributes of the parent article categories are inherited by the child article categories. However, the inherited attributes cannot be changed in the subordinate article categories. Per article, article variant as well as article version these can always be adapted individually.

#### Catalog items

On the catalog item card, you can use the "Attributes" call in the ribbon to assign the attributes for the catalog item. In the "Article attributes" info box on the catalog article card, the data of the assigned attributes are displayed directly.

If an article is created from a catalog article, the attribute definitions are taken from the catalog article.

#### Note

Please note that after the article creation, no more maintenance of the attributes via the catalog articles is possible, but only on the corresponding article card.

If you subsequently assign an article category to the created article, any article attributes stored will be inherited by the article.

#### Article variant

When creating new article variants, the attribute assignments of the article are transferred one-to-one to the variant and can be adjusted there according to your requirements.

To do this, call up the "Attributes" callup in the ribbon in the article variant in order to assign the type attributes for the variant. The data of the assigned attributes are displayed directly in the "Article attributes" info box.

#### Note

Changes to the values of the article attributes are not transferred to the variants.

#### Article version

When creating new article versions, the attribute assignment of the article or variant is transferred one-to-one and can be adjusted there according to your requirements.

To do this, call up the "Attributes" callup in the ribbon in the article version in order to assign the attributes for the article version. In the "Article attributes" info box on the article version, the data for the assigned attributes are displayed directly

### Note

In the article version, you cannot define print control for sales.

The transfer of new attributes from the associated article or variant is performed depending on the definition via the "Automatically transfer attributes to versions" field in the Design & Development setup:

Field selection	Description
Not	No attributes are transferred.
New only	New attributes are only transferred to the versions in New status.
Until Certified	New attributes are transferred to the article versions with the statuses New and Certified.
until Certified and reset to New	New attributes are transferred to the article versions with the statuses New and Certified. If the article version has certified, this is reset to New, so that manual editing or checking becomes necessary.
All	Basically the attributes are transferred.

### Note

Changes to the values of the article attributes for the article and the article variant are generally not transferred to the article version. There is no provision for transferring attributes from an old article version to a new article version; the attributes from the master record of the article or article variant are always transferred.

### Attribute search

The standard allows to control the overview in the article overview via attribute filters. The extension of the attribute usage to article variant as well as article version make this filter possibility incomplete, because it is not usable for article variant, article version as well as catalog articles, for this reason there is the article attribute search.

You can call the attribute search directly via the user search or accordingly from the documents listed below:

- Assembly parts list
- Assembly order
- Project plan line
- Production parts list
- Request
- Frame order
- Order
- Invoice
- Return
- Purchase credit
- Offer
- Framework order
- Order
- Blanket order
- Take back
- Credit

When calling from the documents, the data of the source line are determined and maintained as header data. If you have not yet made any selection other than setting the type to article, no initialization is performed either.

#### Note

In the listed documents, you can use the attribute search, filter by article and transfer directly to the document. Please note that the article version is not taken into account for consuming documents.

If you want to transfer a catalog article, you must first create it as the correct article via the catalog article. Afterwards, please start the search again or enter the newly created article directly.

In the header area of the attribute search, you can have the search lines suggested via the fields Article category, Article, Article variant as well as Article version by maintaining the fields.

The maintenance of the fields should be done hierarchically from article category to article version. According to the hierarchy, the sequence selections are restricted.

If you do not enter data hierarchically, the higher data will be determined and filled in by the system. For example, if you start with the article version, the system determines and maintains the article category, article and article variant as defined in the article version.

**Import from eCl@ss 7.0**

The system allows you to import the entire eCl@ss master into the system. The eCl@ss structure with its classification (Classification CC), property (Property PR) and value (Value VA) is implemented in the factory as follows:

<b>eCl@ss structure</b>	<b>KUMAVISION Factory</b>
Classification	Article category
Feature	Article attribute
Value	Item attribute value

To import the eCl@ss master, first call up the "Import eCl@ss structure" via the user search.

The import mask opens on which you can select the import file in the respective fields via the Assist button [...].

The following selections are available:



Field	Description
	Use the Assist button to specify the unit import file.
	The units (Units UN) are imported into the Units table, for this the following mapping is made.
Units (UN)	<p>Column heading = Field unit</p> <p>StructuredNaming = Structured name</p> <p>ShortName = Short name</p> <p>Description</p> <p>Definition = Record note</p> <p>Source = Record note</p> <p>Comment = Record note</p> <p>SINotation = SI Notation</p> <p>SIName = SI Name</p> <p>DINNotation = DIN notation</p> <p>ECENAME = ECE Name</p> <p>ECECode = ECE Code</p> <p>NISTName = NIST Name</p> <p>IECClassification = IEC classification</p> <p>IrdiUN = IrdiUN</p> <p>The characters 11 to 16 in code</p> <p>NameOfDedicatedQuantity = Parent size DIN</p> <p>The primary key thus corresponds to the characters 11-20 of the IrdiUN (unique identifier plus version status)</p>
	Use the Assist button to specify the classification import file.
	The classifications (Classification CC) are imported into the Article Category table, for this the following mapping is made:
Classification (CC)	<p>Column heading = Item category field</p> <p>Supplier = Supplier ID</p> <p>IdCC = Identification + version number</p> <p>Identifier = Identification</p> <p>VersionNumber = Version</p> <p>VersionDate = Publication date / version date</p> <p>RevisionNumber = Revision</p> <p>CodedName = eClass Coded name</p> <p>Code</p> <p>PreferredName = Description</p> <p>Definition = Record note</p> <p>ISOLanguageCode = ISO language code</p> <p>ISOCountryCode = ISO country code</p> <p>Note = Record note</p> <p>Remark = Record note</p>

Field	Description
	<p>Level = Indirect indentation  Indentation = Level - 1  FMD subclass = Is not imported  MKKeyword = Is not imported  MKBSA = Base attribute yes, if the MKBSA is not equal to 2.  IrdiCC = IrDiCC</p> <p>The primary key thus corresponds to the CodeName.</p>
Features (PR)	<p>Use the Assist button to specify the feature import file.  The characteristics (Property PR) are imported into the article attributes.</p> <p>Supplier = Supplier ID  IdPR = No takeover  Identifier = Identifier  Code  VersionNumber = Version  VersionDate = Publication date  RevisionNumber = Change number of the feature  PreferredName = Name  ShortName = Short name  Definition = Record note  Note = Record note  Remark = Record note  FormSymbol = No takeover  IrdiUN = The characters from 11<sup>th</sup> position in unit code  ISOLanguageCode = ISO language code  ISOCountryCode = ISO country code  Category = Type class  AttributeType = No takeover  Reference = Record note  DefinitionClass = Assignment ICS subject group classification  DataType = Data type  Here also the data type and NAV data type are determined  DigitsBeforeComma = Number of digits before the decimal point  DigitsAfterComma = Number of decimal places  NumberOfCharacters = Length string  IrdiPR = IrdiPR  CurrencyAlphaCode = Currency code</p>
Classification Feature (CC_PR)	<p>Use the Assist button to specify the classification feature import file.</p> <p>The assignments of the characteristics (Property PR) to classifications (Classification CC) are stored in the assignment table.</p>

Field	Description
Characteristic values VA	<p>Use the Assist button to specify the characteristic values VA import file.</p> <p>The values (Values VA) are first temporarily imported by the system into the article attribute values and not directly stored in the database, here the following mapping is made:</p> <p> Supplier = Supplier ID  IdVA = Is not imported  Identifier = Identifier  Code if short name Blank.  VersionNumber = Version  RevisionNumber = Revision  VersionDate = Publication date  PreferredName = Value  ShortName = Short name  Definition = Record note  Reference = Record note  ISOLanguageCode = ISO language code  ISOCountryCode = ISO country code  IrdiVA = IrdiVA  DataType = Data type </p> <p>The primary key is assigned by Microsoft a consecutive number, the factory has added a code field for better manageability, with which the selection is simplified. This is normally filled with the short name, otherwise the system uses the identifier.</p>
Characteristic values fixed (PR_VA_restricted)	<p>Use the Assist button to specify the feature values fixed import file.</p> <p>The assignment of the values (Values VA) to the attributes (Property PR) can only be imported if the value definitions have been read in and the attributes have been read in beforehand.</p> <p> IrdiPR = Based on the value, the system determines the article attribute that was previously read or processed.  IrdiVA = Based on the value, the system determines the temporarily imported value definition and writes the record with the attribute ID and the data from the value definition to the database. </p>
Characteristic values extensible (PR_VA_suggested)	Use the Assist button to specify the feature values fixed import file.
Error behavior	Select here how the system should react in case of an import error. You can choose from the following:

Field	Description
	Protocol message: All import messages will be displayed in an error message.
	Error: An error message appears.
Sort interval	Enter a sort interval if you wish for the import.
Purchasing Print ID Sale Print ID Service Print ID	Enter the print control before importing so that the data is already entered in the item attributes on the item attribute card in the "Print control" info tab.

Confirm your selection with "OK" to start the import.

## Computer-Aided Design (CAD) Transfer

### General

The Computer-Aided Design (CAD) Transfer allows you to import data from the PDM system into KUMAVISION factory365 as article as well as production BOM. Each imported file is saved in KUMAVISION factory365 as a PDM process and in a second step created as article as well as parts list(s). A readout of the articles to the PDM system is also possible. The solution serves as a basis for the customer-specific definition of the interface.

### Prerequisite

The following Microsoft Dynamics 365 Business Central license extensions are required for this credit:

- KUMAVISION factory365
- Anveo EDI Connect Business or higher,

### Establishment

Before you can use the data exchange from a PDM system in KUMAVISION factory365, some settings have to be made in the system, which are explained in the following.

### Design & development facility

Call up the design and development facility via the user search. On the setup card on the "PDM" info tab, the following fields must be set up for data transfer:

Field	Description
Ignore New PDM Articles	If the switch in this field is activated, newly imported articles (marked by the article field "New PDM article") are excluded from the planning.
PDM connection code	<p>You can use this value during mapping to assign a connection code to the components. This is helpful if you are already working with connection codes in the routing</p> <p>For more detailed information on connection codes, please refer to the <a href="#">Microsoft Dynamics 365 Business Central Helpsite</a>.</p>
Last Lfd. No. Change log	Used internally by the system. Represents the last Lfd. No. processed from the system.
PDM Base Hyperlink	<p>The hyperlink for the PDM system call is stored in this field.</p> <p><i>Note:</i>In the hyperlink, %1 must be entered at the point where the hyperlink expects the article number.</p>
PDM separator multiple articles	Specifies the separator for separating the articles to be displayed in the PDM system by calling "Call PDM" via the article overview.

### Article categories

Via the article categories you have the possibility to define or group articles that are relevant for the PDM exchange.

To do this, call up the "Article categories" via the user search.

You can create a new article category via "New" in the ribbon or edit an existing article category via "Edit". For further information on the topic of "Article categories", please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

Via the field "PDM exchange" you can define for which, and if a data transfer for the corresponding article category should take place. The following selection options are available:

Selection option	Description
No	No data exchange between KUMAVISION factory365 and PDM system
In-depth	Inbound data exchange from PDM system to KUMAVISION factory365.
Based on	Outgoing data exchange from KUMAVISION factory365 to PDM system.
Both	Inbound and outbound data exchange between KUMAVISION factory365 and PDM system.

Finally, the item category is assigned to the corresponding items in the "Item category" field on the item card.

### Change log setup

To define the PDM relevant data, the change log has been extended to use it for the PDM interface. This means, in the log setup fields can be marked as "PDM change" for the tables listed in the subchapters. These fields are analyzed by the system to determine which records are PDM relevant, have been updated and need to be exported.

To set up the change log, first access the change log setup via the user search and activate the "Activate change log" field.

The "Tables" menu item in the ribbon takes you to the "Edit - Proto. settings (Tab.) - Trans.

In the table definition, the "PDM Logging" column can be used to specify whether all field changes or only certain field changes are relevant for the PDM interface.

The change log can be used to specify the article fields from which the data record is to be transferred in the event of changes in the following tables.

- Article (table no. 27)
- Article version (table no. 5026352)
- Material (Table No. 5026357)
- Finished parts list header (table no. 99000771)
- Finished parts list line (table no. 99000772)
- Finished parts list version (table no. 99000779)

Selection	Description
Some fields	Selecting "Some fields" logs certain field changes that are relevant to the PDM interface.
	The field list of the specified fields can be viewed via the Assist button [...].
All fields	By selecting "All fields", all field changes in the table are logged.
	The change log items have the "PDM Entry" flag, which indicates that PDM relevant data has been adjusted.

PDM status

Via the "PDM Status" you can define if the corresponding locked fields should be set on the article card during the later transfer to KUMAVISION factory365. The definition is done once in the "PDM Status".

To do this, call up the "PDM status" via the user search. Via "New" in the menu ribbon you can define a new PDM status using the table below.

By selecting "Yes" or "No" you determine whether the fields in the article are to be set during transfer. If the selection "Yes" is set, then the current status of the field remains, this means, a locked indicator cannot be

changed by transmission. Exception here is the field "New PDM article", which can remove a lock again, here it is to be noted that with New PDM article no, as well as Set locked, the lock indicator is set.

Field	Description
Code	Indicates the "code" (abbreviation) of the PDM status. <i>Note:</i> For the assignment of the locked license plates, the code must be identical to the code in the transmitting PDM system.
Description	Indicates the description of the PDM status.
Set Locked	If activated, the fields "Locked" and "Locked (user)" are automatically set on the respective item card during transfer. As a result, the item is locked for the processes in the system.
Set Locked Sale	When activated, the "Sale locked" field is automatically set on the respective item card during the transfer. As a result, the item is blocked for the sales process in the system.
Set locked purchase	When activated, the "Purchasing blocked" field is automatically set on the respective item card during the transfer. As a result, the item is blocked for the purchasing process in the system.
Set Locked Production	When activated, the "Production locked" field is automatically set on the respective item card during transfer. As a result, the article is blocked for the production process in the system.
Set Locked Service	When activated, the "Service locked" field is automatically set on the respective item card during transmission. As a result, the item is blocked for the service process in the system.
Set Locked Production Consumption	If activated, the field "Blocked prod. consumption" is automatically set on the respective article card during the transfer. As a result, the item is blocked for production consumption in the system.

#### Materials

Via the table "Materials" you can create the materials your articles consist of. During the later transfer to KUMAVISION factory365 these materials will be transferred directly on the respective article card.

To create the materials in the system, call up the "Materials" via the user search.



Via "New" in the ribbon you can define a new material using the table below.

Field	Description
Code	Indicates the "code" (abbreviation) of the material. <i>Note:</i> For the assignment of the materials, the code must be identical to the code in the transferring PDM system.
Description	Indicates the description of the material.
Specific gravity (g/m <sup>3</sup> )	Indicates the specific gravity of the material.

## Article map

For the PDM transfer, the following fields are available on the article card on the "Article" info tab:

Field	Description
Material	The "Material" field identifies the item, from which material it is made.
	The information can be transmitted via the PDM system.
	Further information on the subject of materials can be found in the section of the same name.
PDM status	The "PDM Status" field indicates the status of the article in the PDM system.
	At the same time, the system sets the defined blocked indicators on the respective article card.
	For more information on PDM status, see the section with the same name.
PDM Status Description	Indicates the description of the respective PDM status set.
New PDM article	If the field "Ignore new PDM articles" is activated in the Design & Development setup, the switch is set here when an article is created for the first time.
	If the switch is set, the article will be ignored in the planning worksheets and order worksheets
	<b>Note:</b> If you deactivate the switch, no locked indicators will be removed if work is being done without PDM status. The system does not know at this time whether none, only one specific or all processes must be unlocked. For a deliberate control of the locked indicators refer to the use of the PDM Status.
Ignore for PDM Export	If the switch is set, the data of the respective article will be ignored for the export.

## PDM Call

From the article map and the article overview you have the possibility to call up the PDM system directly via the call "Call up PDM" in the menu ribbon. The PDM system is called directly with the corresponding article information from which you have started the call.

*Note:* Please note that this functionality is only available to you if the fields "PDM Base Hyperlink" and "PDM Separator Multiple Items" are set up in the Design & Development setup.

## Task maintainers

For a periodic execution of the readings in and out, the mappings are defined in the queue items.

To do this, call up the task queue items via the user search.

The following facilities are to be made for this purpose:

<b>Field name</b>	<b>Import</b>	<b>Export</b>
Type of object to be executed	CodeUnit	CodeUnit
ID of the object to be executed	5327312	5327312
Labeling of the object to be executed	EDI Job Handler	EDI Job Handler
Description	PDM Import	PDM Export
Task queue - category code	PDM	PDM
Recurring task	Yes	Yes
Number of minutes between executions	240	240
Parameter string	RECEIVE(Folder=210, ProcessFollowing=True)	RUN(ProjectFilter=PDM,FormatFilter=NAV,CodeFilter=EXPORT 10 SURFACE, ProcessFollowing=True)

The number of minutes between executions can be customized, as well as the definition of the days of the week.

For more information for the task queue, see the [Microsoft Dynamics 365 Business Central Helpsite](#).

#### Anveo EDI

For completeness, the EDI setup is described below. Further information can be found in the manual provided by the Anveo Group.

#### EDI setup

Via the EDI setup you can import the bitmaps, for example. To do this, call up the "EDI setup" via the user search.

Via the call "QuickInstall" in the menu ribbon, you can import the essential facilities, such as the bitmaps.

#### Note

Running Quickinstall is a must. This will import the QuickInstall.nav file.

#### Import EDI configuration data...

In the next step the essential mappings for the PDM connection are read in. To do this, call up "Import EDI configuration data..." via the user search.

#### Note

The mapping is provided by KUMAVISION AG and is parameterized together with a KUMAVISIONS employee.

#### EDI formats

The basic processing types are mapped in Anveo EDI via the EDI formats. To do this, call up the "EDI formats" via the user search.

For the interface to the PDM system, the formats 020 XML files and 100 NAV processing are used.

#### EDI value translations

The translation tables are maintained in Anveo EDI via the EDI value translation. By calling up "EDI Value Translations Overview" via the user search, you can access the overview of the same name.

#### Note

The translation tables are used individually for each project and are not part of any installation package.

#### EDI project

The grouping of the interface as well as processes are realized via the EDI projects.

The PDM project is used to group all mappings to the PDM system.

#### File directories

The file directories are defined via the EDI communication channels.

#### Data exchange directories

The following directory structure is generally defined for file exchange with a PDM system:

```
\ExchangeDir\ERPRequest
\ExchangeDir\ERPRequestResponse
\ExchangeDir\PDMRequest
\ExchangeDir\PDMRequestResponse
```

#### EDI communication channel overview

For each of the data exchange directories an EDI communication channel must be created. To do this, call up the "EDI communication channel overview" via the user search. Via "New" in the menu ribbon you can define a new EDI communication channel.

### EDI Transmissions Folder Overview

An EDI transfer order must also be defined for the exchange. To do this, call up the "EDI transmissions folder overview. Via "New" you can define a new EDI transmission folder.

The transmission folder is assigned to the communication channel in the Folder Code field.

Via the function call Set up you reach the EDI data transmission setting.

Here you define the read-in or read-out directory as well as the file extension.

It is recommended to archive the imported files. The archive directory is also to be maintained in the EDI file transfer settings card in the Archive folder field via the Action field to be activated after reading in.

### Mapping

An operation record is created for each import. This is done by an inserted element Operation. The operation record is initialized by filter values.

The import can contain several data sets, in this respect it is important to keep the file as a reference in Microsoft Dynamics 365 Business Central. The referencing corresponds to the element. To store the information, the PDM Process table is now set as a loop before the element.

The element Part is imported into the article PDM Item. For this purpose, a loop item for the table PDM Item is integrated before the element .

### Processing

#### In-depth

### EDI processing queue

The processing queue is the log of Anveo. All processes are logged in this table.

### PDM operations

The read-in data is stored in the PDM operation card. The operation forms a bracket over the different components of the import. The data to be processed in Microsoft Dynamics 365 Business Central are then stored in the PDM table and PDM link.

#### Based on

### Processing stack

On the basis of a batch processing

## Scheduling Agreement Management

The module "Delivery schedule management" includes the areas: "Sales delivery schedule" and "Purchasing delivery schedule".

### Note

The scheduling agreement management is an unlock module, the use of which is only possible with additional licensing and [activation](#).

### Sales delivery schedule

For series production, delivery schedules with preview quantities and production-related JIT delivery schedules are sent to the suppliers, mostly electronically. On the other hand, the suppliers send delivery note data to the manufacturers, which in turn are already available to the customer at the time of physical goods receipt. Payment can then be settled either via invoices or via the credit memo procedure.

Delivery schedules serve as the central core for processing. They form a symbiosis between sales orders and sales planning. Together with master scheduling agreements, they also form an extension of order control. They offer similar functions to orders, but when order quantities and deadlines change dynamically, special functions come into play. The dynamics results from the so-called delivery schedules or JIT delivery schedules, which are usually received periodically.

The quantities and dates mapped in the scheduling agreements are taken into account in inventory planning and logistics for shipping. The quantities and dates are entered in the scheduling agreements via the "Incoming documents". All group-wide scheduling agreements with price information can be displayed in the outline scheduling agreements.

### Purchasing delivery plan

With the "purchasing scheduling agreement" a functional extension of the procurement process in Microsoft Dynamics 365 Business Central was realized.

While the standard of Microsoft Dynamics 365 Business Central knows the processing of purchase orders with or without recourse to blanket purchase orders, it does not know the processing of scheduling agreements (*often also known as "call orders"*) so.

In the case of scheduling agreements, a framework agreement is agreed between the customer and the supplier for each article. Based on a fixed framework agreement, which describes the general contract modalities and must not be confused with the framework order in Microsoft Dynamics 365 Business Central, the current date and quantity information is exchanged between the customer and the supplier in day-to-day business. Here, an essential difference to the "normal" purchase orders is that the latest transmission of date and quantity information always replaces the last information and only the latest information is valid. All known date and quantity information is also always exchanged, so that, as a rule, dates from today to dates that are only several years away can be transmitted.

In order to be able to map this process in Microsoft Dynamics 365 Business Central, the "purchasing scheduling agreement" has been created. With this, the so-called scheduling agreements can be defined and managed. There is always exactly one valid purchasing delivery schedule in Microsoft Dynamics 365 Business Central for each master agreement. The recurring transmission of the date and quantity information is called a

forecast delivery schedule. The "Purchasing scheduling agreement" can be used to generate and send these forecast delivery schedules.

As described before, the schedule and quantity information is updated and transmitted from time to time and then the current delivery schedule always applies. Due to the usual transport times in goods traffic, it can happen in practice that deliveries from the supplier still refer to the previous delivery schedule, but the new delivery schedule is already active at the customer. For a correct allocation of quantities on the schedule line, the management of cumulative quantities is used. A cumulative delivered quantity is managed on the supplier side and the cumulative received quantity is managed on the customer side. The "purchasing scheduling agreement" supports users in managing these cumulative quantities.

#### **Sales delivery schedule**

##### **Establishment**

#### **Roll Center**

A corresponding role center was designed for managing the scheduling agreements. This gives users a direct overview of their worklist and allows them to conveniently navigate to the corresponding overviews.

The role "Delivery schedule editor" can be assigned via "My settings". The role center is available after confirming with "Ok".

#### **Scheduling Template**

Using the scheduling template, it is possible to define which type of call-off quantities are to be taken into account in logistics or production.

## Note

The combination of JIT delivery schedule with preview or delivery schedule is not possible. JIT delivery schedules dominate over delivery schedules and preview quantities. JIT call quantities within the same date range replace preview quantities.



Field	Description
	<p>The following selections are available:</p> <p><b>Planning code</b></p> <p>With the selection "Planning code" you define a scheduling template for production. You use the selection in the "Production Code" field in the scheduling agreement to control which quantities in the scheduling agreement are relevant for production.</p> <p><b>Logistics code:</b></p> <p>With the selection "Logistics code" you define a scheduling template for logistics. You use the selection in the "Logistics code" field in the scheduling agreement to control which quantity in the scheduling agreement is relevant for logistics.</p>
Type	
Code	At this point, assign a meaningful abbreviation for the scheduling template.
Description	Provide a brief description for the scheduling template. Planned Check the box if you want the planned quantities ("Quantity preview" field) to be included in the delivery schedule.
Retrieval	Place a check mark if the released quantities ("Delivery schedule quantity" field) are to be taken into account in the scheduling agreement.
Daily call-off	Place a check mark if the quantities finely called off (field "Quantity finely called off") are to be taken into account.
	<p>You use the MRP method to specify how "Floating Goods" (goods that are on their way to the customer) are determined when a new forecast delivery schedule is copied into a scheduling agreement. The following options are available:</p> <p><b>Empty</b></p> <p>This option only applies to the production code. For logistics code, one of the other three options must always be selected.</p> <p><b>Date basis without residual quantity allocation:</b></p> <p>The quantities of the new delivery schedule replace the previous values. Quantities already delivered on a date are not taken into account and are omitted.</p> <p><b>Date offset with residual quantity offsetting:</b></p> <p>The quantities of the new delivery schedule first the previous values. But delivered quantity to a date remain and are added to the new delivery schedule quantities corresponding.</p> <p><b>Cumulative Quantity:</b></p> <p>The quantities of the new forecast delivery schedule replace the previous values. The difference between own cumulative quantity and customer cumulative quantity is considered as "floating goods" and is deducted from the first forecast delivery schedule quantity accordingly.</p>
Disposition method	

## Article reference

The customer article numbers are mapped via the article references. Under Reference type referring numbers for vendor as well as customer can be entered. The reference type barcode can be used to define barcodes, e.g. for the EAN number.

To set the article references, call up the desired article card. You can access the article references via the ribbon by selecting "Related" > "Articles". For more information on article references, see the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Delivery schedule facility

In the "Delivery schedule setup" the basic setup of the delivery schedule management is made, which will be explained to you in more detail below:

### Inforegister General

Field	Description
Min. diff. Cumulative quantity for zero setting	Specifies the minimum difference that must be reached for zeroing the cumulative quantities.
Progress ct. Proposal Name for zero position	In this field you define a default sheet, which will be preset for zeroing in the cumulative quantities proposal.
Default In Transit Code	In this field, a transit storage location must be specified as the default for consignment processing.
Hierarchy type code Group assignment	Defines a hierarchy type code for the group assignment.
Mandatory field check	The use of the mandatory field check for scheduling agreements can be activated separately at this point. Further information on setting up mandatory field checks can be found <a href="#">here</a> .

## Numbering

The number series for the delivery schedule management are defined on the "Numbering" info tab.

## Group hierarchy

The master scheduling agreement is primarily used for a corporate group and the conventional scheduling agreements for plants. Therefore, it is essential for the system to know which customer (as a plant) belongs to which customer (as a group).

For this purpose, a group hierarchy is used via the hierarchies in the system. Which hierarchy type is used for the group assignment. Specify in the Hierarchy Type Code Group Assignment field in the scheduling agreement setup. A hierarchy type can be used with the customer as the origin and destination.

The group assignment itself is made via the customer and the [herearchie relationship](#).

## Scheduling Agreements

Contrary to a sales order, a scheduling agreement always refers to a customer and an article or an article variant. Therefore, the article number is not in the lines, but in the header.

To create a new scheduling agreement, call up the "Scheduling agreements" via the user search. The following table explains the fields of the scheduling agreement in more detail.

## Inforegister filter representation

Using the filter area, you can change the display of the delivery schedule for clarity:

Field	Description
Display details	The quantities preview, forecast delivery schedule, JIT delivery schedule, PUS are displayed summarized in the lines as daily, weekly, monthly, quarterly or annual quantities, depending on the selection.
Preview / Retrieval	<p>You can filter the display to a specific version of the type=preview.</p> <p><b>Note</b> Only the versions of the type=preview are available in the selection.</p>
Daily call-off	<p>You can filter the display to a specific version of the type=fine call.</p> <p><b>Note</b> In the selection, only the versions of the type=fine call-off are available.</p>
PUS	<p>You can filter the display to a specific version of the type=PUS.</p> <p><b>Note</b> Only the versions of the type=PUS are available in the selection.</p>
Rounding factor	<p>This allows you to display the quantities (preview, forecast delivery schedule, JIT delivery schedule and PUS) rounded. The following selection options are available:</p> <p><b>None:</b> The quantities are displayed without rounding</p> <p><b>1</b> The quantities are displayed rounded to whole numbers</p> <p><b>1000</b> The quantities are displayed to you /1000.</p>
Optimized display	<p>Activate the switch if you only want to display lines with actual quantity values. Otherwise, depending on the display details filter, you will also be shown days, weeks, months, quarters or years for which no requirement quantities are available.</p>

## Inforegister General

Field	Description
No.	This field is used to identify the scheduling agreement. The number must be unique and can be up to 20 characters. The number field can be set to the default value by using the number series option in the delivery schedule setup. However, it can also be created manually.
Sales to customer no.	This field contains the customer number that you have assigned for it in your system.
Delivery to code	Indicates the address to which the products will be delivered. With this field you can enter a different delivery address.
Item no.	This field contains the article number of the customer article that you have assigned for it in your system.
Variant code	This field contains the code of a variant of the item, if any.
Article description	Indicates the description of the selected item.
Item description 2	Specifies an additional description for the selected item.
Customer item no.	This field contains the customer item number. For this purpose, it must be created as an article reference beforehand in order to be selected here (see Setting an <a href="#">Article reference</a> ).
Supplementary part number	Indicates a supplementary part number. This field serves only as an information field.
Customer item no. export option	Indicates the customer item no.
Accept incoming document	<p>Use this field to specify how Incoming Receipts can be accepted. You can choose from the following options:</p> <p><b>Manual</b></p> <p>The incoming receipts must be accepted manually. Typically, when an electronic processing is newly set up, and each receipt must be tested again beforehand to be on the safe side.</p> <p><b>Automatic</b></p> <p>Incoming documents are processed automatically when they are processed electronically. Typically, when the electronic processing is running securely and user intervention is no longer required.</p> <p><b>Locked</b></p> <p>An incoming document cannot be accepted and leads to an error message there. Typically, when there are problems in the delivery schedule and further reading of incoming documents must be prevented.</p>

Field	Description
Locked	<p>This field controls the possible use of the scheduling agreement in stock planning (also called MRPII run) or logistics. This can prevent further processing in the event of incorrect data within the scheduling agreement. The following options are available:</p>
	<p><b>Empty</b></p> <p>This option is the default value. Here the scheduling agreement is visible and usable in the inventory planning as well as in the logistics.</p>
	<p><b>Inventory planning</b></p> <p>The scheduling agreement is not visible in inventory planning (both purchasing and production) and no longer triggers any requirements there. However, stocks can still be delivered via logistics.</p>
	<p><b>Logistics</b></p> <p>This option is the strongest lock. The scheduling agreement does not trigger requirements in stock planning, nor can stock be delivered via logistics.</p>
Status	<hr/> <p>A scheduling agreement can assume the following statuses:</p>
	<p><b>New</b></p> <p>Is the initial status for new scheduling agreements. It indicates that not all fields are correctly defined yet. Therefore, it is neither demand-triggering nor can a logistics document be created for it. Likewise, no incoming documents can be accepted yet.</p>
	<p><b>Open</b></p> <p>After a scheduling agreement has been completely set up, this status is necessary for each change of modifiable fields. As with a sales order, this only affects the creation or posting of logistics documents. For this, the status must be set to Released.</p>
	<p><b>Share</b></p> <p>In this status, the delivery schedule is read-only.</p> <p><b>Ends</b></p> <p>Once a scheduling agreement has been completed, it can be archived via this status. It then also no longer triggers any requirements, no logistics document can be created for it, and no incoming documents can be accepted.</p>
	<p>If the status of a scheduling agreement is changed from "New", a check is carried out to see whether an incomplete scheduling agreement already exists for the uniqueness criteria. This is important so that only one scheduling agreement can be found via the incoming documents. The criteria are thereby:</p> <ul style="list-style-type: none"> <li>- Sales to customer no.</li> </ul>

Field	Description
	<ul style="list-style-type: none"> <li>- Delivered to code</li> <li>- Item no.</li> <li>- Variant code</li> <li>- Usage key</li> <li>- Status [Open to Released]</li> </ul>
Outline delivery schedule no.	If the scheduling agreement was created from an outline scheduling agreement, this field contains the outline scheduling agreement number.
Logistics code	This field is used to define a scheduling template for logistics. It controls which quantities are relevant for logistics.
Production code	This field is used to define a scheduling template for production. It controls which quantity is relevant for production.
Cost center code	Specifies the code for the cost center (dimension 1) that you have set up in the "Financial accounting setup".
Cost unit code	Specifies the code for the cost object (dimension 2) that you have set up in the "Financial accounting setup".
Plant	Indicates a possible plant at the customer. This field is an information field.
Unloading point	Indicates a possible unloading point. This field is an information field.
Point of consumption	Indicates a possible consumption point. This field is an information field.
Storage location at customer	Indicates the storage location at the customer. This field is an information field.
Usage key	<p>This field is used to define which use the item has. It is used to distinguish uniqueness when the same item is sent to the same customer to the same delivery address, e.g. once as serial parts and once as spare parts. The following options are supported:</p> <ul style="list-style-type: none"> <li>- blank</li> <li>- Series</li> <li>- Replacement general</li> <li>- Series and use</li> <li>- Try</li> <li>- Pilot</li> <li>- Additional requirements</li> <li>- Initial sample</li> <li>- Pattern</li> <li>- Other</li> </ul> <p>This field is an information field.</p>

Field	Description
Contract/Order No.	This field corresponds to the document or order number. It is entered in the "External document number" field in the created sales order when a delivery is made.
Inforegister lines	



The lines of a scheduling agreement do not really exist. Rather, the different quantity types from the items are displayed to the user at runtime similar to the sales lines. However, there is not only one quantity column, but four and the actual quantity field, which represents the relevant quantity depending on the logisitkcode.

Field	Description
Delivery date	Specifies the date on which the goods are to be delivered.
Planned goods issue date	Specifies the date when the goods are to be shipped from the warehouse.
Goods issue date	As in the sales order, this date corresponds to the due date in the warehouse as a requirement and is therefore relevant when creating the logistics documents.
Outgoing Stock cycle time	Specifies the time needed to prepare the goods from the storage location for goods issue.
Transport time	Specifies the time required for delivery of the goods to the customer.
Quantity preview	These quantities are used as preview e.g. in monthly rhythm.
Quantity delivery schedule	These quantities correspond to a finer subdivision of preview quantity. Therefore, they replace preview quantity within the same date period. E.g.: this quantity is made on days.
Quantity JIT call-off	These quantities are usually sent on a daily basis. They do not replace any preview or delivery quantities, but exist in parallel.
Quantity PUS	This quantity is filled in the special call-off PickUp Sheet. For this purpose, sales order lines already exist before delivery in exactly the same quantities. PUS quantities do not replace each other in new call-offs, but are always additive.
Target cumulative quantities	Starting from the cumulative quantity received from the customer, the target cumulative quantity is determined here using the relevant forecast delivery schedule quantity.
Quantity	This quantity depends on the logistics code and shows the actual relevant quantities.
Quantity supplied	This field indicates the quantity delivered from the set.
Remaining order quantity	This field displays the remaining delivery schedule quantity as the difference between the quantity and the quantity delivered.

#### Note

If an overdelivery takes place, this is offset in the remaining delivery schedule quantity and the next quantity is already reduced.

## Inforegister delivery

<b>Field</b>	<b>Description</b>
Delivered to code	Specifies the address to which the products will be delivered. With this field you can enter a different delivery address.
Delivered to Name	Specifies the name of the recipient of the delivery.
Delivered to name 2	Specifies additional name information of the recipient of the delivery.
Delivered to address	Specifies the delivery address.
Delivered to address 2	Specifies additional address information.
Delivered to zip code / city	Specifies the postal code of the associated city of the delivery address.
Delivered on site	Specifies the location of the associated delivery address.
Location code	Specifies the storage location from which stock items are to be delivered to the named customer by default.
Storage bin code	Specifies the bin location from which stock items are to be delivered to the named customer by default.
Delivery code	Specifies the code for the delivery agent transport type used for this customer.
Carrier transport type code	Specifies the code that represents the default carrier shipment type code that you use for this delivery schedule.
Transport time	Indicates the time between the delivery of goods from the warehouse to the delivery.
Outgoing Stock cycle time	Specifies a date formula for the time required to make items from this storage location ready for delivery.
Ames-T	This switch serves as information. With the help of AMES-T (Advanced Mobility Engineering and Services for Transportation), the procurement process within the Volkswagen Group is improved. You receive this information from your customer via the incoming documents.
Consignment processing	Specifies that the scheduling agreement is consignment processing.

**Framework delivery schedule**

Outline scheduling agreements are a combination of several scheduling agreements. Therefore, it is well suited for later evaluations, since all existing scheduling agreements with the respective plant are mapped for one article. For this reason, an outline delivery schedule is primarily created for corporate groups.

The master scheduling agreement takes on another important meaning when the agreed prices and planned quantities are determined. Therefore, one and the same scheduling agreement can occur several times in a master scheduling agreement with different prices and planned quantities. The fields "From date" and "To date" are used to determine which line is then valid.

To create an outline delivery schedule, call it up via the user search. Via "New" in the menu ribbon you can define a new framework scheduling agreement with the help of the table below.

## Inforegister General

Field	Description
No.	This field is used to identify the framework delivery schedule. The number must be unique and can be up to 20 characters. The number field can be set to the default value by using the number series option in the scheduling agreement setup. However, it can also be created manually.
Customer no. (Group)	This field contains the customer number that you have assigned for it in your system.
Delivered to Name	Specifies the name of the recipient of the delivery.
Item no.	This field contains the article number of the customer article that you have assigned for it in your system.
Variant code	This field contains the code of a variant of the item, if any.
Article description	Indicates a description of the item.
Item description 2	Indicates a further description of the item.
Customer item no.	This field contains the customer item number. For this purpose, it must be created as an article reference beforehand in order to be selected here (see <a href="#">Setting an Article reference</a> ).
Status	<p>A master scheduling agreement can assume the following statuses:</p> <p><b>New</b> Is the initial status for new framework scheduling agreements. It indicates that not all fields are correctly defined yet.</p> <p><b>Open</b> After a master scheduling agreement has been completely set up, this status is required each time modifiable fields are changed.</p> <p><b>Share</b> In this status, the delivery schedule is read-only.</p> <p><b>Ends</b> Once an outline delivery schedule is complete, it can be archived using this status.</p>
Logistics code	This field is used to define a scheduling template for logistics. It controls which quantities are relevant for logistics.
Production code	This field is used to define a scheduling template for production. It controls which quantity is relevant for production.

Field	Description
Cost center code	Specifies the code for the cost center (dimension 1) that you have set up in the "Financial accounting setup".
Cost unit code	Specifies the code for the cost object (dimension 2) that you have set up in the "Financial accounting setup".
Inforegister lines	
Field	Description
Delivery schedule no.	Specifies a scheduling agreement number associated with the master scheduling agreement.
Customer no. (plant)	Specifies the customer number (plant) defined in the associated scheduling agreement.
Delivered to code	Specifies a possible alternate address for the associated scheduling agreement.
From date	Specifies the date from which the plan line is valid.
Until date	Specifies the date until when the plan line is valid.
Planned quantity	Specifies the agreed quantity for the framework scheduling agreement line.
	Which price is actually used for the scheduling agreement is determined by the Field Price origin fixed:
	<b>Invoice to debtor</b> The standard pricing for the invoice debtor from the Delivery schedule.
Price origin	<b>Sales to debtor</b>  The standard pricing for the sales debtor from the scheduling agreement applies.
	<b>Framework delivery schedule</b> The price from the Price (MW) field is valid, for the from date and Until date valid frame delivery schedule line.
UK price (MW)	Indicates the determined sales price.

## Inforegister delivery

Field	Description
Delivered to Name	Specifies the name of the recipient of the delivery.
Delivered to name 2	Specifies an additional name of the recipient of the delivery.
Delivered to address	Specifies the delivery address.
Delivered to address 2	Specifies additional address information.
Postcode code / place	Specifies the postal code of the associated city of the delivery address.
Delivered on site	Specifies the location of the associated delivery address

## Creation of scheduling agreements via master scheduling agreements

To create a scheduling agreement from an outline scheduling agreement, call up the "Create scheduling agreement" function in the menu ribbon of the outline scheduling agreement.

### Note

The system determines all plants and their delivery addresses via the group hierarchy. In the "Unloading point selection", all combinations of these are displayed for which there is not yet a scheduling agreement.

## Assignment of existing scheduling agreements to master scheduling agreement

To assign an existing scheduling agreement to a framework scheduling agreement, first call up the corresponding framework scheduling agreement. Enter the scheduling agreement number in a new line in the "Scheduling agreement no." field. This assigns the scheduling agreement.

### Incoming documents (Incoming call-off)

The incoming documents are transferred to the concrete documents, the scheduling agreements, in this area. They can be transferred manually or directly via EDI interface. EDI is the technical Basis for the transfer of incoming documents. Since setting up the EDI interface is not part of this section, the manual transfer of the documents is explained here. In this process, the delivery schedules are transferred to the scheduling agreements and scheduling agreement items. The document for the Pick Up Sheet (PUS) is the sales order. Credit memos and stock reports can be processed without documents. The shipment data represents the entry of consignment material.

Incoming documents are:

- Call-offs
- Daily call-offs
- "PICK UP SHEET" (PUS)
- Credit note display
- Transport data.

After receipt of a forecast delivery schedule, it must be entered in the system. For this purpose, you have on the one hand the possibility to enter the entry directly via the scheduling agreement using the function "Item

direct entry" or usually to generate a corresponding incoming document (forecast delivery schedule / JIT delivery schedule etc.).

#### Incoming call off

In the incoming call-offs, you are informed of the customer's requirement quantities over a longer period of time, so that you can plan these requirements accordingly in your procurement / production.

Via the user search, you can call this up by entering "Incoming call-off" and manually enter a new one or, if you are working with an interface, open a call-off transmitted by the interface.

#### Note

A forecast delivery schedule always refers to a scheduling agreement. The delivery schedule concretizes the delivery plan.

The fields of the call-off card are explained in more detail below:



Inforegister General

Field	Description
No.	This field is used to identify the incoming call-off. The number must be unique and can be up to 20 characters. The number field can be set to the default value by using the number series option in the delivery schedule setup. However, a manual number can also be created.
Delivery schedule no.	Selection of the associated scheduling agreement. In this view, only the scheduling agreements with the status "Open" and "Released" are displayed. However, you can only select scheduling agreements with the status "Released".
Debtor no.	This field contains the customer number that you have assigned for the customer in your system. Usually this data is filled automatically from the related scheduling agreement.
Delivered to code	Specifies the address to which the products will be delivered. You can use this field to enter a different delivery address. As a rule, this data is automatically filled from the associated delivery schedule.
Delivered to Name	Specifies the name to which the products are to be delivered.
Item no.	This field contains the article number of the customer article that you have assigned for it in your system. As a rule, this data is filled automatically from the associated scheduling agreement.
Variant code	If necessary, this field contains the code of a variant of the item. As a rule, this data is automatically filled from the associated scheduling agreement.
Article description	Specifies the description of the selected item. As a rule, this data is automatically filled from the associated scheduling agreement.
Item description 2	Specifies an additional description for the selected item. Usually this information is filled automatically from the related delivery schedule.
Customer item no.	This field contains the customer item number. For this purpose, this must be created beforehand as an article reference. As a rule, this information is automatically filled from the associated scheduling agreement.
Error description	If you execute the "Change status" or "Complete and check" function and the document contains incomplete or incorrect data, these errors will be displayed in the text field.
My supplier no.	Indicates the supplier number that your customer has assigned for you. This information is communicated to you via the incoming documents. This field serves only as an information field.
Call-off no. New	Specification of the current forecast delivery schedule. This field must be filled for the transfer of the delivery schedule into the scheduling agreement.
Call date new	

Field	Description
	Specification of the current call-off date. This field must be filled for the transfer of the delivery schedule into the scheduling agreement.
Plant	Indicates a possible plant at the customer. This field is an information field.
Unloading point	Indicates a possible unloading point. This field is an information field.
Point of consumption	Indicates a possible consumption point. This field is an information field.
Warehouse customer	Indicates a possible customer warehouse. This field is an information field.
Usage key	<p>This field is used to define which use the item has. It is used to distinguish uniqueness when the same item is sent to the same customer to the same delivery address, e.g. once as serial parts and once as spare parts. The following options are supported:</p> <ul style="list-style-type: none"> <li>- blank</li> <li>- Series</li> <li>- Replacement general</li> <li>- Series and use</li> <li>- Try</li> <li>- Pilot</li> <li>- Additional requirements</li> <li>- Initial sample</li> <li>- Pattern</li> <li>- Other</li> </ul> <p>This field is an information field.</p>
Contract/Order No.	This field corresponds to the document or purchase order number. It is entered in the "External document number" field when a delivery is made in the created sales order.
Status	<p>An incoming call can take the following statuses:</p> <p><b>Open</b> The incoming call-off can be edited / recorded.</p> <p><b>Accepted</b> The incoming call-off is confirmed. With the status change, the requirements are taken into account in the associated scheduling agreement.</p> <p><b>Rejected</b> The incoming call-off is not confirmed and is deleted with the status change.</p>

Field	Description
Incorrectly documented	If you execute the "Change status" or "Complete and check" function and the document contains incomplete or incorrect data, the switch is activated and you can get detailed error information from the "Error description" field.
Inforegister lines	
Field	Description
Type	Specifies the type "item" of the demand. The selection "empty" is not accepted.
Quantity	Indicates the number of demand.
Requirement type	<b>blank</b> The quantity is regarded as a call-off quantity and is transferred to the Delivery call-off quantity column in the scheduling agreement.
	<b>No need</b> This is an informational quantity only and will no longer be included in the delivery schedule.
	<b>Backlog</b> If no requirement date is entered, the current date is used as the requirement date.
	<b>Instant demand</b> If no requirement date is entered, the current date is used as the requirement date.
	<b>Preview</b> The quantity is viewed as a preview quantity and transferred to the Preview quantity column in the scheduling agreement.
Requirement date	Specifies the date when the customer needs the goods. KW call-off Specifies a call-off period from which calendar week the goods are required.
Call off until KW	Specifies a call-off period by which calendar week the goods are required.
Demand month	Indicates the month when the goods are needed.
Demand year	Indicates the year in which the goods are required.
Requirement status	The status "B" indicates that FAB data must be taken over from previous transfers as constant from you as supplier until this date. This field is an information field.

Inforegister delivery

Field	Description
Delivered to code	Specifies the address to which the products will be delivered. You can use this field to enter a different delivery address. As a rule, this data is automatically filled from the associated delivery schedule.
Delivered to Name	Specifies the name of the recipient of the delivery.
Delivered to name 2	Specifies an additional name of the recipient of the delivery.
Delivered to address	Specifies the delivery address.
Delivered to address 2	Specifies additional address information.
Zip code / Place	Specifies the postal code of the associated city of the delivery address.
Delivered on site	Specifies the location of the associated delivery address.
Delivered to country/region codes	Specifies the country code of the associated delivery address.
Delivery interval	<p>Specifies a possible interval for the delivery. This field is an information field and has no effect in the system.</p> <p>The following options are available:</p> <ul style="list-style-type: none"> <li>-blank</li> <li>- According to expiration date</li> <li>- Daily</li> <li>- Weekly</li> <li>- Monthly</li> </ul>
Appointment key	<p>Specifies a possible appointment key. This field is an information field and has no effect in the system. The following options are available:</p> <ul style="list-style-type: none"> <li>- blank</li> <li>- Arrival date customer</li> <li>- Shipping date supplier</li> <li>- Arrival date PAB</li> <li>- Planning preview</li> <li>- Daily scheduling</li> <li>- Short term information</li> </ul>
Kanban no.	Indicates a possible Kanban number. This field is an information field.
Production release	Specifies a date for the production release. This field is an information field and has no effect in the system.

Field	Description
Production release end date	Specifies an end date for the production release. This field is an information field and has no effect in the system.
Material release	Specifies a date for the material release. This field is an information field and has no effect in the system.
Material release end date	Specifies an end date for the material release. This field is an information field and has no effect in the system.

#### Information register cumulative quantity

Field	Description
Progress number customer	Indicates the cumulative quantity that the customer has listed for this transaction.
Last delivery quantity customer	Indicates the last delivered quantity that the customer has listed with him for this operation.
Last delivery note no. Customer	Indicates the last delivery note number that the customer has listed for this transaction.
Date last delivery bill customer	Specifies the date of the last delivery bill that the customer has listed for this transaction.
Arrival date customer	Indicates the arrival date that the customer has listed for this transaction.
Zeroing date cumulative quantity received	Specifies the zeroing date of the cumulative quantity received, which the customer has set for this operation.
Cumulative quantity reached for zeroing	Indicates the number of cumulative steps reached, which the customer has listed for this transaction.

With the accept the lines are taken over into the scheduling agreement and become scheduling agreement items. The function call offers two further functions, on the one hand the call can be checked for completeness and on the other hand there is the possibility to have a suitable scheduling agreement identified. After acceptance, the delivery schedule with quantities and dates is available to logistics and production for further processing.

#### Incoming daily call-off

The entry of a daily call-off is analogous to the incoming call-off. JIT delivery schedules dominate call-offs and previews. The JIT delivery schedule must be set in the logistics code and/or production code. The codes are stored in the scheduling agreement.

Via the user search, you can call this up by entering "Incoming daily call-off" and manually enter a new one or, if you are working with an interface, open a daily call-off transmitted by the interface.

The fields are analogous to those of the "Incoming call-off".

## Note

Depending on the base calendar, the individual JIT delivery schedule quantities are combined in the date. This always ensures timely demand triggering and delivery.

### Incoming Pick Up Sheet (PUS)

The "Pick Up Sheet" (PUS) is also recorded in the same way as a call-off or JIT delivery schedule. In contrast to the call-offs, each PUS is a separate binding order, i.e. a PUS does not replace a previous PUS, but supplements the whole. Pick up sheets may not be combined. Only the notified quantities in the corresponding packaging are picked up at the time of collection or delivery.

Therefore, when accepting incoming PUS, not only the delivery schedule is updated, but also a corresponding sales order is created.

To create a Pick Up Sheet, call up the "Incoming PUSes" via the user search. Via "New" in the menu ribbon you can create a new PUS.



Inforegister General

Field	Description
No.	This field is used to identify the incoming PUS. The number must be unique and can be up to 20 characters. The number field can be set to the default value by using the number series option in the delivery schedule setup. However, a manual number can also be created.
Delivery schedule no.	Selection of the associated scheduling agreement. In this view, only the scheduling agreements with the status "Open" and "Released" are displayed. However, you can only select scheduling agreements with the status "Released".
Debtor no.	This field contains the customer number that you have assigned for the customer in your system. Usually this data is filled automatically from the related scheduling agreement.
Delivered to code	Specifies the address to which the products will be delivered. You can use this field to enter a different delivery address. As a rule, this data is automatically filled from the associated delivery schedule.
Delivered to Name	Specifies the name of the recipient of the delivery.
Item no.	This field contains the article number of the customer article that you have assigned for it in your system. As a rule, this data is filled automatically from the associated scheduling agreement.
Variant code	If necessary, this field contains the code of a variant of the item. As a rule, this data is automatically filled from the associated scheduling agreement.
Article description	Specifies the description of the selected item. As a rule, this data is automatically filled from the associated scheduling agreement.
Item description 2	Specifies an additional description for the selected item. Usually this information is filled automatically from the related delivery schedule.
Item code	Specifies the unit code used when selling the item.
Customer item no.	This field contains the customer item number. For this purpose, this must be created beforehand as an article reference. As a rule, this information is automatically filled from the associated scheduling agreement.
Error description	If you execute the "Change status" or "Complete and check" function and the document still has incomplete or incorrect information, the error descriptions will be displayed in this field.
My supplier no.	Indicates the supplier number that your customer has assigned for you. This information is communicated to you via the incoming documents. This field serves only as an information field.
Call-off no.	

Field	Description
	New Specification of the current PUS. This field must be filled for the document to be accepted.
Call date new	Specification of the current call-off date. This field must be filled for accepting the document retrieval.
Plant	Indicates a possible plant at the customer. This field is an information field.
Unloading point	Indicates a possible unloading point. This field is an information field.
Warehouse customer	Indicates a possible customer warehouse. This field is an information field.
Point of consumption	Indicates a possible consumption point. This field is an information field.
Usage key	<p>This field is used to define which use the item has. It is used to distinguish uniqueness when the same item is sent to the same customer to the same delivery address, e.g. once as serial parts and once as spare parts. The following options are supported:</p> <ul style="list-style-type: none"> <li>- blank</li> <li>- Series</li> <li>- Replacement general</li> <li>- Series and use</li> <li>- Try</li> <li>- Pilot</li> <li>- Additional requirements</li> <li>- Initial sample</li> <li>- Pattern</li> <li>- Other</li> </ul> <p>This field is an information field.</p>
Contract/ Order No.	This field corresponds to the document or order number. It is entered in the "External document number" field when a delivery is made in the created sales order.
Status	<p>A PUS can assume the following statuses:</p> <p><b>Open:</b></p> <p>Is the initial status for new PUS. It indicates that not all fields are correctly defined yet. Therefore, it is neither demand-triggering nor can a logistics document be created for it.</p> <p><b>Accepted:</b></p> <p>By changing the status to "Accepted", the incoming requirements are accepted. The status change creates the corresponding sales order.</p>

Field	Description
Document incorrect	<b>Rejected:</b> Changing the status to "Rejected" deletes the incoming document.
	If you execute the "Change status" or "Complete and check" function and the document still has incomplete or incorrect information, the switch is activated. Further information is displayed in the "Error description" field.

## Inforegister lines

Field	Description
Type	Indicates the type of demand.
Quantity	Indicates the number of demand.
Requirement type	<p><b>blank:</b> The quantity is considered as a release quantity and is transferred to the quantity PUS column in the scheduling agreement.</p> <p><b>No need:</b> This is an informational quantity only and will no longer be included in the delivery schedule.</p> <p><b>Backlog:</b> If no requirement date is entered, the current date is used as the requirement date.</p> <p><b>Immediate Need:</b> If no requirement date is entered, the current date is used as the requirement date.</p> <p><b>Preview:</b> The quantity is viewed as a preview quantity and transferred to the Preview quantity column in the scheduling agreement.</p>
Requirement date	Specifies the date when the customer needs the goods.
KW call-off	Specifies a call-off period from which calendar week the goods are required.
Call off until KW	Specifies a call-off period by which calendar week the goods are required.
Demand month	Indicates the month when the goods are needed.
Demand year	Indicates the year in which the goods are required.
Requirement status	The status "B" indicates that FAB data up to this date must be taken over from previous transfers as constant from you as supplier. This field is an information field.

## Proposal Incoming call-off documents

The proposal incoming call-off documents shows you all call-off documents of the type "Incoming call-off", "JIT call-off" as well as PUS in an overview. By means of the filters you can filter this overview individually.

Field	Description
Status filter	This filter allows you to filter on a specific status of the documents. You can choose from the following:
	<b>blank</b> All document statuses are displayed
	<b>Open</b> All documents of the "Open" status are displayed to you
	<b>Accepted</b> All documents of the status "Accepted" are displayed to you
Document filter	<b>Rejected</b> All documents of the "Rejected" status are displayed to you
	This filter allows you to filter on a specific document type. You can choose from the following:
	<b>blank</b> All document types are displayed
	<b>Retrieval</b> All documents of the "Incoming calls" are displayed.
	<b>Daily call-off</b> All documents of the "Incoming JIT delivery schedules" are displayed to you
	<b>PUS</b> All documents of the "Incoming PUS" are displayed to you
Debtor filter	With this filter you can filter on documents of a specific customer.

#### Document actions

With the "Voucher actions" function, you can quickly process incoming vouchers by accepting or rejecting them via the action. To do this, first check the "Selected document" box in the lines for which the function is to be executed. Then execute the desired action.

#### Open

With the action "Open" the respective document is opened

#### Incoming credit advice

The credit advice note is a possible settlement type to settle delivered quantities from scheduling agreements. Here, no invoice is sent to the customer (manufacturer), but the manufacturer creates a so-called credit advice

based on all delivery bills. This is entered in the system in the same way as the other documents against the corresponding delivery bills, scheduling agreements and completed by setting the status to Accepted.

#### Note

Please note that the self-billing document in the system is a kind of "information document" and does not replace the billing document of the traditional sales process. Nevertheless, the posted sales amount should match the credit advice amount.

### Incoming transport data

This area is used to enter the documents for consignment material. The following document types are available:

- Incoming message
- Damage/Loss
- Return
- Stock
- Departure notification
- Delivery notification

A corresponding scheduling agreement number is recorded as a reference. If a document Incoming transit data is accepted, the system creates a new sales invoice for delivery of the quantity from the consignment warehouse and later billing.

### Delivery schedules and logistics

Deliveries cannot be made directly from a scheduling agreement as in a sales order. Logistics documents are always necessary for this. Normally, however, these are not posted directly either, but are transferred to a shipping order. There, the packaging regulations come into play and, depending on the delivery quantity, the number of load carriers and packaging materials is shown as a regulation.

### Shipping & Load Carrier

The Shipping & Load Carrier Management module in KUMAVISION factory365 provides the possibility to process packaging. The packaging can be recorded unspecifically or specifically in the shipping processing order. In addition to the logistics documents warehouse picking, goods issue and / or picking, posted documents such as posted sales delivery bills, posted stock transfer outgoing goods and posted return delivery bills can also be transferred to the shipping processing order. When posting a shipping order, the logistics documents are posted and the interfaces are addressed, e.g. a sales order is automatically generated by the posting. The load carriers themselves can be disposable or reusable packaging and can therefore be managed with or without inventory management. In addition, the load carriers can be stored as packaging instructions for the articles. The packaging instructions are transferred to the shipping orders.

#### Note

Please note that the Shipping & Load Carrier Management module is an activation module that requires additional licensing.

### Establishment

For the scope of functions, some settings must first be made in advance, which will be discussed in more detail below.

### Shipping & Load Carrier Setup

The number series must be stored in the shipping & load carrier setup. To do this, call up the "Shipping & load carrier setup" via the user search.

Field	Description
Shipping order number	In this field, a series is entered from the number series for the numbers of the dispatch processing orders.
Output existing shipping	Activate this switch if you want to receive a message when selecting a logistics document in a shipping order if it already exists in a shipping order. Otherwise nothing will happen.

### Shipping processing parameters



The dispatch processing parameters are used to decide which interface is used with which deliverer or their transport type. In addition, other important control parameters can be set here.

Field	Description
Interface	This field defines which interface is addressed during shipping. For scheduling agreements only the option "EDI" is to be used.
	This field defines the deliverer to which the parameters and interface apply.
Delivery code	<b>Note</b> The delivery agent and the delivery agent transport type are used to define the shipping processing parameters and thus the interface together with all other sterilization parameters.
Carrier transport type code	If different transport types are used, these can be specified here.
Sticker only	After booking, the shipping label is generated. (Only possible in conjunction with a shipping cut).
Do not create file	No file should be created when posting the delivery.
Invoice	After posting the delivery, invoicing is also carried out immediately.
Print deliveries	When sending, not only the sales order or stock transfer order is created, but also the document is printed after posting the delivery.
Print invoices	After invoicing, the receipt is also printed.
DHL Product ID	Parameterization DHL as a deliverer.
DHL Services	Parameterization DHL as a deliverer.
DPD Services	Parameterization DPD as a deliverer.
DPD export parcel type	Parameterization DPD as a deliverer.
DPD Collection type	Parameterization DPD as a deliverer.

#### Note

From version 14.0 on, all interfaces are delivered without additional licensing, but are not further supported or updated. This is due to the fact that the interfaces were changed spontaneously in the past and KUMAVISION was often not informed about this change on the part of the deliverer. In order to be put into operation, each feeder is now tested individually and project-specifically. This may require some effort in terms of customization. A project-specific connection to Beo or MHP (Vlog) is possible.

Thanks to these control parameters, employees in the shipping department no longer need to worry about how the posting is to take place. They simply select the carrier and, if necessary, the mode of transport and press "send".

## Load carrier

Load carriers are all packages in which articles can be shipped. Via the user search you can call up the "load carriers" and define them.

### General

Field	Description
Code	Enter a code for a load carrier here. A number series is not available.
Description	Enter the description of the load carrier here.
Load carrier type	Specify a type of load carrier. You can choose from: - Single - Master - Addition single - Addition master
Reusable load carrier	Activate the switch as soon as a returnable load carrier (e.g. Euro pallet) is involved.
Label ID	This field is the same as the report selection in sales or purchasing. It controls which report will be printed for the load carrier.
Stock	Indicates, if the load carrier is inventory managed, the current stock level of the item.
Item no.	Indicates the article number, if the load carrier is inventory-managed.
Item Template Code	Specifies, if the load carrier is inventory managed, the appropriate configuration template for the associated item.
Unit	Specifies the unit of the charge carrier.

### Dimensions

Field	Description
Length	Specifies the length dimensions of the load carrier
Wide	Indicates the width dimensions of the load carrier
Height	Indicates the height dimensions of the load carrier
Weight	Indicates the weight of the load carrier

### Inventory managed load carriers

Load carriers that are inventory managed must be created as articles. To create a load carrier as an article, select the appropriate article category code and unit and then execute the "Create article" function in the ribbon.

### Packing instruction group

Similar to the suppliers of an item, several different packing instruction groups can also be defined for the instruction types:

- Internal
- Debtor
- Vendor

To define the packing instruction group, call it up via the user search. Via "New" in the menu ribbon you can create a new packing instruction group with the help of the table below.

Field	Description
Packaging specification group	This field defines the code for the group.
Packing instruction type	There are the options:
	<b>Internal</b> This group is used internally. There is currently no use for it.
	<b>Debtor</b> This group is used for debtors.
	<b>Vendor</b> This group is used for creditors
Packaging instruction code	Depending on the packing instruction type, this field defines a concrete customer or vendor.
Item no.	This field defines the article for the regulation group.
Start date	This date can be used to define from when this group is valid.
End date	This date can be used to define until when this group is valid.
Standard	One group per packing instruction type can be defined as the default. This is then automatically used when transferring logistics documents to a shipping processing order.
Description	Here the group can be described.

### Packing instruction

The actual regulations, i.e. which load carriers are to be used in what quantity, are defined in the packaging regulations.

To define the packing instructions, call them up via the user search.

The "General" area initially contains, among other things, filter options which you can use to filter for specific packaging regulations.

Field	Description
Item no. Filter	This filter allows you to filter on a specific item number.
Packing prescription type filter	<p>This filter allows you to filter on a specific packaging prescription type. You can choose from the following options:</p> <ul style="list-style-type: none"><li>- Internal</li><li>- Debtor</li><li>- Vendor</li><li>- None</li></ul>
Packing instruction code filter	This filter allows you to filter on a specific packing instruction code.
Packing instruction group	This filter allows you to filter on a specific packing instruction group

According to the filtering in the "General" section, the corresponding records will be displayed in the rows.

Field	Description
Packing instruction type	<p>Specifies the packing instruction type. The following are available for selection:</p> <p><b>Internal</b> This group is used internally. There is currently no use for it.</p> <p><b>Debtor</b> This group is used for debtors.</p> <p><b>Vendor</b> This group is used for creditors</p>
Load carrier type	<p>Specifies the type of load carrier. The following option types are available:</p> <p><b>Single</b> Corresponds to a charge carrier and is used either individually in a group or several times in combination with a master.</p> <p><b>Master</b> Corresponds to a load carrier that represents the lowest unit, such as a pallet. Is defined only once for a group.</p> <p><b>Addition single</b> Corresponds to additional packaging for a single such as a lid on a KLT (small load carrier).</p> <p><b>Addition master</b> Corresponds to additional packaging for a master such as a false bottom or wrapping the entire pallet.</p>
Quantity	<p>This field contains the quantity of the charge carrier for the group.</p> <p>This field can be used to round the load carriers.</p>
Rounding factor quantity	<p><b>Example:</b> The quantity is 4, because 4 singles are placed on one pallet. However, up to three levels can be placed on one pallet. To ensure that each level is always filled with 4 load carriers (and possibly also empty load carriers) for stacking, the rounding factor Quantity is also set to 4. This means that there are either 4.8 or 12 single load carriers on a pallet.</p>
Item quantity per load carrier	<p>This field defines the quantity of items that a load carrier contains.</p>
Label ID	<p>This field can be used to define the report for the label for exactly this regulation, in contrast to the "Label ID" field of the load carrier.</p>

## Consignment processing

If the "Consignment processing" field is set on a scheduling agreement, a transfer order is created instead of a sales order when a delivery is made via Logistics. The following facilities are required in advance for this:

### Delivery schedule facility

For this purpose, a transit storage location must be specified as a default in the "Default in Transit Code" field in the scheduling agreement setup. Call this up via the user search.

### Origin storage locations

Origin storage locations define different storage locations such as consignment stores. They are defined for debtors, creditors and possibly for work center groups for external work and articles for the different business transactions.

### Create logistics documents

Logistics documents are always required for an outbound delivery on scheduling agreements. Depending on the settings of the storage location, these are:

- Warehouse picking
- Outgoing goods
- Outgoing goods and picking

The only difference from the standard is that the scheduling agreement is another source document for selecting origin documents.

### Shipping processing order

The shipping order does not replace the logistics documents goods issue and warehouse picking, it supplements them. It primarily serves to enable a clean recording and presentation of the load carriers for a goods issue. Different load carriers can be recorded and displayed for each item listed.

A new shipping order is entered by calling up "Shipping order" via the user search. After creating a new order, the logistics documents can be transferred either via the function "Get goods issue" or "Get warehouse picking".

Then the delivery condition code is entered. The "Delivery code" and "Delivery transport code" selections are used to define the shipping processing parameters. The "Pickup date" and the "Pickup time" can be entered under the "Additional information" info tab.

### Note

The field "Pickup date" is used on the EDI labels for the goods tag. If this field is empty, it will also be empty on the labels.

If the quantity of the articles is corrected here again, the packing instructions must be recalculated and taken over via the function "Determine packing instructions".

The actual dispatch then takes place via "Send order". The system first checks whether all requirements have been met. With the EDI interface, the necessary numbers of package tracking numbers are now drawn from

the number series for each load carrier. If a label has a label report stored in the "Label ID" field, the label is printed out.

The logistics documents are then posted. If the source origin is still a scheduling agreement, either a sales order or, in the case of consignment processing, a stock transfer order is created and posted as a delivery.

Finally, the shipment processing order itself is archived and, if necessary, the reports for the goods receipt/issue slip and bill of lading/shipping order are printed.

#### **Cumulative Quantity Management**

Cumulative Quantities Management is used to manage cumulative quantities and thus extends the scope of delivery schedules. The cumulative quantity management enables a transparent display of the current processing status of scheduling agreements. Logistics can thus be controlled on the basis of the difference between the company's own cumulative quantity and the customer's cumulative quantity. A reset or correction can be made at any time or periodically.

#### **Progress figures Proposal**

The cumulative quantities proposal shows the current statuses of scheduling agreements. The displayed scheduling agreements can then be corrected or zeroed out. You can limit the display accordingly by using appropriate filter criteria. You can call up the cumulative quantities proposal using the search term of the same name via the user search.

You can assign your own proposal names to indicate what type of proposal it is. The name will appear later in the journal. After selecting the template, the actual proposal window appears.

Using the "Generate proposal" function, you can now filter out the scheduling agreements that need to be corrected. For this purpose, another window is available in which you can set defaults accordingly.

On the "Options" tab, you can set a date filter. This takes into account all customers who have entered a zero date cumulative quantity on the customer card under the "Scheduling agreement" info tab in the period entered.

After corresponding input and acceptance with "OK", the scheduling agreements are displayed.

After editing the scheduling agreements, they must be registered. You can perform the registration via the menu item "Register".

#### **Progress Notes Journals**

All registered cumulative quantities are listed in the journals. You can access the individual cumulative quantity items by using the LookUp function in the "From current no." and "To current no." fields.

#### **Purchasing delivery schedule**

##### **Setup**

#### **Purchasing delivery schedule setup**

In the Purchasing Supply Schedule Setup, the basic setups are made.



## General

<b>field</b>	<b>description</b>
Plant	In this field the plant number of the client can be stored. The value is used as default for the new creation of a purchase delivery schedule.
Unloading point	In this field the unloading point of the client can be stored. The value is used as default for the new creation of a purchasing scheduling agreement.

## Information register numbering

<b>Field</b>	<b>Description</b>
Supply plan numbers	This field can be used to store the number series for the supply plans on the purchasing side.
Delivery schedule numbers	This field can be used to store the number series for the delivery schedules on the purchasing side.

## User setup

In the user setup, the following settings related to the purchasing delivery schedule can be maintained per user:

## Inforegister General

<b>field</b>	<b>description</b>
Purchasing delivery schedule changed reset	If this facility is activated for a user, the user can manually override the "Changed" check mark in the purchasing scheduling agreement.
Delete active purchase scheduling agreement items	In the purchase scheduling agreement, the function "Delete purchase scheduling agreement lines" can be used to control whether all active purchase scheduling agreement items for this purchase scheduling agreement should be deleted. This function can only be executed by users who have been authorized to do so at this point.

## Master data

## Vendor

On the vendor card, the following must be defined for the processing of purchase scheduling agreements on the "Purchase scheduling agreement" info tab:

field	description
Purchasing scheduling agreement preview quantity week	<p>In the standard of Microsoft Dynamics 365 Business Central, requirements are always defined exactly to one day. In the preparation of delivery schedules, it is common to provide more distant requirement dates with the specification of calendar weeks or month specifications. In the field can be defined therefore with a classical date formula, starting from which date the requirements are represented summarized on week level in the forecast delivery schedule.</p> <p>The value of the field is inherited with the new creation of a purchase scheduling agreement after selection of the vendor number and can be changed in the purchase scheduling agreement, if desired, manually.</p>
Purchasing Scheduling Agreement Preview Quantity Month	<p>In the standard of Microsoft Dynamics 365 Business Central, requirements are always defined exactly to one day. In the preparation of delivery schedules, it is common to provide more distant requirement dates with the specification of calendar weeks or month specifications. In the field can be defined therefore with a classical date formula, starting from which date the requirements are represented on month level summarized in the forecast delivery schedule.</p> <p>The value of this field is inherited with the new creation of a purchase scheduling agreement after selection of the creditor number and can be changed in the purchase scheduling agreement, if desired, manually.</p>
Production release period	<p>When delivery schedules are transmitted to a supplier, a so-called production release period is specified.</p> <p>The specification in Microsoft Dynamics 365 Business Central can be defined with a classic date formula.</p> <p>The value of the field is inherited when a new purchase scheduling agreement is created after the vendor number is selected and can be changed manually in the purchase scheduling agreement if desired.</p> <p>The value of the field is inherited when a new purchase scheduling agreement is created after the vendor number is selected and can be changed manually in the purchase scheduling agreement if desired.</p> <p>The value of the field is inherited when a new purchase scheduling agreement is created after the vendor number is selected and can be changed manually in the purchase scheduling agreement if desired.</p>
Material release period	<p>When transmitting delivery schedules to a supplier, a so-called material release period is included.</p> <p>The specification in Microsoft Dynamics 365 Business Central can be defined with a classic date formula.</p>

**field****description**

The value of the field is inherited when creating a new purchasing scheduling agreement after selecting the vendor number and can be changed manually in the purchasing scheduling agreement, if desired.

The value of the field is inherited when creating a new purchasing scheduling agreement after selecting the vendor number and can be changed manually in the purchasing scheduling agreement, if desired.

The value of the field is inherited when creating a new purchasing scheduling agreement after selecting the vendor number and can be changed manually in the purchasing scheduling agreement, if desired.

**Item**

On the item card, the following must be defined on the "Stock" info tab for the processing of purchase scheduling agreements:

**field****description**

Quantity in  
Purchase  
Scheduling  
Agreement

In this field it is possible to see on the item card if there are purchase scheduling agreement lines for this item. The field displays the total of all purchase scheduling agreement lines with a view to the "Remaining scheduling agreement quantity" field.

**Purchasing scheduling agreement**

When creating a purchasing scheduling agreement, the following fields can be maintained or are visible.

## General

<b>field</b>	<b>description</b>
No.	The number for a purchasing scheduling agreement is taken from the stored number series when it is created. If it is defined in the facility, the number can also be entered manually or overwritten manually.
Depos. from credit no.	In this field the vendor number is selected, with which a corresponding contract is defined.
Article no.	This field is used to select the article number for which a corresponding contract is defined.
Article Description	This field displays the article description from the article card.
Article Description 2	This field displays the article description 2 from the article card.
Article No. 2	If a second article number is maintained for the article, this number will be displayed here.
Purchase unit code	The purchase unit code from the article card is displayed in this field.
Variant Code	If variants are defined for the article, the appropriate variant for this purchasing delivery schedule can be selected in this field.
Credit item no.	In this field, the vendor article number required for this purchasing supply plan can be stored. In this case it is necessary to refer to the article reference overview. I.e. only numbers defined in the table can be selected.
Storage location	In this field, the storage location can be stored for which the determined requirement is to be assigned.
Storage bin code	In this field the storage bin code can be stored, on which the goods receipt or the stock placement is to be booked in. This value is only a template and can be overwritten in the respective logistics documents.
Vendor Order No.	The order number of the scheduling agreement on the supplier side can be stored in this field.
Plant	The field "Plant" is preset when creating a purchasing scheduling agreement based on the purchasing scheduling agreement setup. The value can be changed manually.
Unloading point	The "Unloading point" field is preset based on the purchasing delivery plan setup when a purchasing delivery plan is created. The value can be changed manually.
Status	<p>A purchasing delivery plan can have the following statuses:</p> <p><b>New</b></p> <p>The status "New" is automatically preassigned if a new purchasing delivery plan is created.</p>

field	description
	<p><b>Open</b></p>
	<p>The status "Open" must be selected manually using the "Change status" function. This is necessary, for example, if subsequent changes are to be made to the purchasing scheduling agreement.</p>
	<p><b>Released</b></p>
	<p>The status "Released" must be selected manually via the "Change status" function. This is necessary because only purchasing scheduling agreements with the "Released" status are processed.</p>
	<p><b>Note:</b></p>
	<p>In the "Released" status, the fields in the purchasing scheduling agreement cannot be changed. Two exceptions apply here. The "Locked" and "Problematic" fields can also be changed in the "Released" status.</p>
	<p><b>Exited</b></p>
	<p>Purchasing scheduling agreements that are no longer to be processed by the system can be set to the "Exited" status.</p>
Language Code	<p>In the field, the language code "DEU" or "ENG" can be used to control whether the report for the forecast delivery schedule is to be output in German or English.</p>
Blocked	<p>A purchasing scheduling agreement can be manually set to "Blocked".</p> <p>A purchasing scheduling agreement that is marked as blocked will not be considered in the order proposal.</p> <p>No forecast delivery schedule can be generated for a purchasing scheduling agreement that is marked as blocked.</p> <p>Requirements from a purchasing scheduling agreement that is marked as blocked will not be included in the item availability.</p>
Changed	<p>This field keeps track of whether there has been a change in the requirements after the last delivery schedule creation. If so, the field is enabled.</p> <p>This field can be manually changed, provided that a corresponding facility is enabled for users in the user facility.</p>
	<p><b>Note:</b></p>
	<p>Manually overriding the field should only be done in exceptional cases and with caution.</p>
Changed by	

field	description
	This field keeps track of which user created a change for this purchasing scheduling agreement.
Changed on	This field keeps track of the day on which a change was created for this purchasing scheduling agreement.
Problematic	<p>A purchasing scheduling agreement can be flagged as problematic.</p> <p>A purchasing scheduling agreement marked in this way will also receive a corresponding marking in the processing in the order worksheet.</p>
Production Release Period	<p>The value of the field is inherited when a new purchasing scheduling agreement is created after the vendor number is selected and can be manually changed in the purchasing scheduling agreement, if desired.</p> <p>It is specified in Microsoft Dynamics 365 Business Central using a classic date formula.</p>
Material Release Period	<p>The value of the field is inherited when a new purchasing scheduling agreement is created after the vendor number is selected and can be manually modified in the purchasing scheduling agreement, if desired.</p> <p>The specification in Microsoft Dynamics 365 Business Central is made with a classic date formula.</p>
Date of Last Outbound Delivery Schedule	<p>This field records the date when the last delivery schedule was changed from "Shipped" to "Shipped" status.</p> <p><b>Note:</b> A field is also available in the background in which the time is also recorded.</p>
Purchaser Code	The value of the field is inherited when a new purchasing supply plan is created after the vendor number is selected and can be manually changed in the purchasing supply plan, if desired.
Assigned User ID	The value of the field is filled with the user ID when a new purchasing supply plan is created and can be changed manually in the purchasing supply plan if desired.
Preview quantity (week)	<p>The value of the field is inherited when a new purchasing supply plan is created after the vendor number is selected and can be manually modified in the purchasing supply plan, if desired.</p> <p>It is specified in Microsoft Dynamics 365 Business Central using a classic date formula.</p>



field	description
Preview quantity (month)	<p>The value of the field is inherited when a new purchase delivery plan is created after the vendor number is selected and can be changed manually in the purchase delivery plan, if desired.</p> <p>The specification in Microsoft Dynamics 365 Business Central is done with a classic date formula.</p>
Creation Date	This field records when the purchasing scheduling agreement was created.
Valid until	<p>In this field, a date can be stored until which the corresponding contract is valid.</p> <p><b>Note:</b> This field has only an informative character. I.e. as long as the status is set to "Released", the purchase scheduling agreement would continue to be considered in the purchase order worksheet, even if this date has been exceeded.</p>
Target Quantity	This field can be used to store the target quantity for this contract.
Automatic release of outgoing delivery schedules	This field can be used to define whether a created delivery schedule should be released automatically.
Lines	

## Note

The lines in the purchasing scheduling agreement are for user information only. Manual creation of lines is not provided for in the purchasing scheduling agreement. Also a change on field level in the lines is not intended. The lines are created or updated, if necessary, by processing in the purchase order worksheet.

Field	Description
Expected Goods Receipt Date	This field displays the expected goods receipt date. The date will be passed from the purchase order worksheet line to the purchase delivery schedule line.
Desired Goods Receipt Date	This field displays the desired goods receipt date. The date will be transferred from the purchase order worksheet line to the purchase scheduling agreement line.
Quantity	This field displays the quantity. The quantity is transferred from the purchase order worksheet line to the purchase delivery plan line.
Quantity collected	The goods collected via goods receipt or stock placement with reference to the purchasing delivery plan are offset against the purchasing delivery plan lines and displayed per line. Thus it can be recognized per line whether the respective line was not delivered at all, partially or completely.
Remaining order quantity	This field displays the remaining delivery schedule quantity. The field is calculated by the formula "Quantity - Quantity delivered"
Target cumulative quantity	This field displays the expected target cumulative quantity. This field is calculated line by line. The first purchase scheduling agreement line calculates the value "Act. Cumulative Quantity + Remaining Scheduling Agreement Quantity". In the following lines, the field is calculated as follows: "Target cumulative quantity previous line + remaining delivery plan quantity".
Manually Created	<p>This field indicates whether the line has been created manually in the purchase order worksheet.</p> <p><b>Note:</b> For lines that have been created automatically by the purchase order worksheet, this field will also be checked if a manual correction has been made in the "Quantity" field.</p>

## Delivery

field	description
Incoming. Stock lead time	This field is used to define the existing stock lead time.
	The value of the field is inherited when a new purchasing delivery schedule is created after the storage location code has been selected and can be changed manually in the purchasing delivery schedule if desired.
	The value of the field is inherited when a new purchasing delivery schedule is created after the storage location code has been selected and can be changed manually in the purchasing delivery schedule if desired.
	This field is used to define the procurement time.
Procurement time	The default value of the field is inherited after updating the fields: Item number, storage location, variant and can be modified manually if desired.
	This field is used to define the safety surcharge procurement period.
Sec.-Zuschl. Beschaff.	The value of the field is inherited when a new purchasing scheduling agreement is created after the article number has been selected and can be changed manually in the purchasing scheduling agreement if desired.
	The value of the field is inherited when a new purchasing scheduling agreement is created after the article number has been selected and can be changed manually in the purchasing scheduling agreement if desired.

These fields are required for scheduling due dates in the purchase order worksheet. The calculation is done as usual in the standard of Microsoft Dynamics 365 Business Central.

## Infoboxes

The following infoboxes are available for a purchasing delivery schedule:

**Purchase cumulative quantities.**

The following fields are displayed in the infobox:

Field	description
Last Delivery No.	This field displays the last delivery note number ( <i>posted purchasing delivery</i> ) that has been posted to this purchasing scheduling agreement.
Last Ext. Delivery No.	This field displays the last external delivery note number that has been posted to this purchasing scheduling agreement.
Last Delivery Date	This field displays the posting date from the associated posted purchasing delivery.
Last Delivery Quantity	This field displays the last delivery quantity.
Current cumulative quantity	This field displays the current cumulative quantity. This is the total of all quantities received for this purchasing scheduling agreement, taking into account any manually maintained cumulative quantity corrections.
Last cumulative quantity sent	This field displays the cumulative quantity that was sent to the vendor with the last forecast delivery schedule.

### Price Information

The following fields are displayed in the info box:

Field	Description
EK-Price	The EK-price is displayed.
Line discount %	The percentage line discount is displayed.
Currency Code	The currency code is displayed.
Stock	The stock for the combination item/variant/storage location is displayed.

### Note

For the determination of the values, the system creates a temporary purchase order for the combination vendor/article/variant with the quantity 1 and on the work date.

!!!Note "Note The calculation or update is always done when the purchasing scheduling agreement is released.

### Storage data

The following information of the inventory data card is displayed in the info box:

field	description
Storage Location	The stored storage location for this purchasing supply plan.
Stock level	The stock level for this item or variant at the respective storage location.
Safety Stock	The stored safety stock on the inventory data card.

Management purchase delivery schedule

Status change

A status change can be called up via the "Change status" function in the menu ribbon. A purchasing scheduling agreement has different statuses:

status	description
New	A newly created purchasing delivery plan is initially given the status "New".
Open	If a change is to be made to a purchasing scheduling agreement that already has the status "Released", the status must be reset to "Open". Only then can changes be made.
Released	<p>In the "Released" status, the purchasing scheduling agreement is active. On the one hand, this means that no changes can be made to the fields in this status. Two exceptions apply here. The fields "Blocked" and "Problematic" can also be changed in the status "Released".</p> <p>Further, the status "Released" is important for the interaction with the logistics documents. As with conventional purchase orders, only purchasing scheduling agreements can be brought into a goods receipt or warehouse putaway if the status is "Released".</p> <p>The "Released" status is also important for requirements determination. Requirements determination in the Purchase Order Worksheet only checks against purchasing scheduling agreements with the status "Released". If no suitable purchasing scheduling agreement with the status "Released" is found for the lines created in the purchase order worksheet, the requirements are not created as forecast delivery schedules, but as "normal" purchase orders.</p>
Finished	<p>If a purchasing scheduling agreement is no longer needed, the status can be set to "Finished".</p> <p><b>Note:</b> A created purchasing scheduling agreement for which items already exist cannot be deleted. I.e. also such purchase scheduling agreements must be set to the status "Finished".</p> <p>Once a purchase scheduling agreement has been set to the status "Finished", the status can no longer be changed back to one of the other statuses.</p>

#### Uniqueness of scheduling agreements

When the status changes to "released", a uniqueness check is performed. According to the rule for forecast delivery schedules, a forecast delivery schedule must refer to the following order terms

- plant customer
- Customer part number
- Contract/order number
- unloading point

be clearly identifiable.

### Note

The closing/order number is the number of the purchase scheduling agreement.

If an error is detected during this check, the following note message is issued: "Purchasing scheduling agreement xxxxx already exists with the same uniqueness criteria. Finish the other one first."

### Note

Since requirements determination in Microsoft Dynamics 365 Business Central takes place on a storage location basis, if there are different storage locations, there may be corresponding purchasing scheduling agreements for which the previously mentioned ordering terms are identical.

### Delivery schedule text

A delivery schedule text can be defined for a purchasing delivery schedule using the "Purchasing delivery schedule text" function in the menu ribbon.

### Note

Further processing or output of these texts is not provided for the time being.

### Delivery schedule text

For the delivery schedules generated from a purchasing scheduling agreement, a delivery schedule text can be defined using the "Delivery schedule text" function in the menu ribbon.

This text will then be printed on the paper document "Purchasing delivery schedule".

### Note

A transfer of these texts to the EDI message "Delivery instruction" is not provided in the solution.

### Purchasing Delete scheduling agreement lines

Requirements are only ever transferred to the purchasing scheduling agreement via the purchase order worksheet. There is no provision for manual editing at line level in the purchasing scheduling agreement.

In rare cases, it may happen that the requirements are no longer needed. Provided users have the appropriate authorization, the "Delete purchasing scheduling agreement lines" function can be used to delete all active scheduling agreement lines for this purchasing scheduling agreement. The authorization can be controlled via the button "Delete active purchasing scheduling agreement items" in the user authorization.

### Outgoing documents

Via the call "Outgoing documents" in the menu ribbon, all created purchase delivery schedules for the respective purchase delivery schedule can be displayed.

### Dimensions

If dimensions are to be used on the purchasing side, the desired dimensions for the respective purchasing scheduling agreement can be viewed or maintained via "Dimensions".

## Change cumulative quantities

In some cases, it may be necessary to manually adjust the cumulative quantity of a purchasing scheduling agreement. For example, a running cumulative quantity must be predefined if a purchasing scheduling agreement is newly created in the system but has already been delivered to. Or a manual correction of the cumulative quantity must be made if incorrect purchasing deliveries are made. The correction or pre-entry can be made using the "Change cumulative quantities" function.

## Open purchase orders

The "Open purchase orders" call displays all purchase orders that have not yet been deleted and that exist for the selected purchasing scheduling agreement.

## Deliveries

The call "Deliveries" displays all posted purchase deliveries that exist for the purchase delivery plan.

## Invoices

The call "Invoices" displays all posted purchase invoices that exist for the purchase delivery plan.

## Active purchasing scheduling agreement items

The "Active Purchasing Scheduling Agreement Items" call can be used to view detailed information about the current purchasing scheduling agreement lines.

## Non-active scheduling agreement items

The "Inactive Scheduling Agreement Items" call can be used to view all historical scheduling agreement items for the selected purchasing scheduling agreement.

## Purchase prices

The call "Purchase prices" displays the stored prices for the combination vendor/article/variant.

## Purchasing line discounts

The call "Purchase line discounts" displays the stored line discounts for the combination vendor/article/variant.

## Item availability by

From the purchasing delivery schedule, the "Article availabilities by" known from the standard of Microsoft Dynamics 365 Business Central can be called up.

### Manage cumulative quantities

## Cumulative quantity management

The cumulative quantity in Microsoft Dynamics 365 Business Central is automatically managed for each purchasing delivery schedule. With each posted purchase delivery that references a purchase delivery plan, a cumulative quantity item is automatically created for that purchase delivery plan. The total of all cumulative quantity items is displayed in the "Cumulative quantity" field on the information page for a purchasing supply plan.

## Corrections to cumulative quantities



From time to time, the cumulative quantity of a purchasing scheduling agreement may need to be adjusted. For example, because the current cumulative quantity needs to be carried forward for an ongoing purchasing delivery schedule that is created in Microsoft Dynamics 365 Business Central. Or for a purchasing scheduling agreement that has been running for a long time, the cumulative quantity is to be zeroed out on a key date.

#### Note

A manual correction of the cumulative quantity is also necessary for an accidentally posted purchasing delivery bill with reference to a purchasing scheduling agreement. Even if it is still possible to cancel the line or lines in the posted purchasing delivery, the cumulative quantity items formed are not automatically corrected.

#### Transfer of cumulative quantities

When a forecast delivery schedule is created for a purchasing scheduling agreement, the cumulative quantity valid at that time is transferred to the forecast delivery schedule. The cumulative quantity is then *(along with some other information)* sent to the vendor on the printed or EDI delivery schedule. The supplier then uses this information to determine the "goods in transit" and can use the information to allocate the requirements in his ERP system.

#### Transfer requirements to the purchasing scheduling agreement via the purchase order worksheet

#### Determining requirements for the purchasing scheduling agreement via the purchase order worksheet

To determine current requirements, the purchasing scheduling agreement uses the standard purchase order worksheet. This means that the determination is used via the replenishment procedures or replenishment parameters of the articles or the inventory data card known in the standard system.

When calculating the current requirements, Microsoft Dynamics 365 Business Central takes into account the existing requirements planners. The existing purchasing scheduling agreement lines naturally also represent requirement coverers. Therefore, the calculations of the requirements have been changed so that the existing active purchasing scheduling agreement items are also included in the calculation as requirement coverers.

However, since the standard of Microsoft Dynamics 365 Business Central does not recognize purchasing scheduling agreements, the function has been extended in such a way that after the determination of the requirements per line, it is checked whether a released purchasing scheduling agreement exists for the combination "vendor/article/variant/storage location". If this is the case, a reference to the respective purchasing scheduling agreement is created for the line.

When the "Execute event notification" function is executed, no new purchase order is created or existing purchase order lines are changed or deleted for this line; instead, new or changed lines are created for the specified purchasing scheduling agreement.

#### Enhancements to the purchase order worksheet for the purchasing scheduling agreement.

The purchase order worksheet has been enhanced with respect to purchasing scheduling agreements as follows:

field	description
Purchasing Scheduling Agreement No.	The purchasing scheduling agreement number is displayed in the field if a purchasing scheduling agreement is found for the line.
Ref. Order Type	The field Reference Order Type has been extended by the entry "Purchasing Scheduling Agreement", so that it can be recognized in the field whether the line is a purchasing scheduling agreement.
Problematic	If the line refers to a purchasing scheduling agreement that is marked as "Problematic", the value "Yes" is entered in this field. This allows MRP controllers to filter on these rows and manually check MRP suggestions.
Manually created	If lines for a purchase delivery schedule are created manually, or if a calculated line is manually changed in quantity or date, this is documented in the field "Manually created".

In the purchase order worksheet, the information page "Purchasing delivery schedule information" can also be called up.

In the info box, line information from the purchasing scheduling agreement is displayed for each selected order worksheet line.

The info box is only calculated if the selected line in the purchase order worksheet is a line with reference to a purchasing scheduling agreement.

In the info box, the fields "Desired goods receipt date", "Quantity", "Quantity delivered" and "Remaining order quantity" of the purchasing scheduling agreement lines are displayed.

#### Handling manual requirements

As previously described, manual maintenance is not possible at the purchasing scheduling agreement line level.

However, if desired, requirements can be manually adjusted and transferred to a purchasing scheduling agreement. In the purchase order worksheet, all calculated requirements can be manually adjusted or requirements can be manually added. These manually created purchase order worksheet lines are also checked by the system for reference to a purchasing scheduling agreement and assigned.

#### Note

As in the standard system, manual maintenance in the purchase order worksheet should only be used with caution, since the next calculation of a purchase order worksheet usually results in these manual adjustments being suggested as cancellations.

#### "Execute event message" function

The function "Execute event message" has been adapted so that no purchase orders are created or changed for purchase order worksheets with the reference type "Purchasing scheduling agreement", but new lines are generated in the purchasing scheduling agreement or existing lines are adjusted or deleted.

Furthermore, when lines are changed in the purchasing scheduling agreement, the "Changed" indicator is activated in the purchasing scheduling agreement header.

## Handling reservations

As on the scheduling agreement page in sales, requirements cannot be reserved in the purchasing scheduling agreement.

Therefore, items used for a purchasing scheduling agreement should not be planned with the "Order" replenishment procedure. Even if an article has the "order" replenishment procedure, no reservations are generated for the purchasing scheduling agreement lines.

### Create and manage delivery schedules

## Generate delivery schedule

The creation of a forecast delivery schedule is always done manually by the user. In doing so, users can choose whether a forecast delivery schedule should be created for only one or for multiple purchasing scheduling agreements by using the filter options known in Microsoft Dynamics 365 Business Central. In practice, it is usually filtered to one vendor and all new purchase delivery schedules are created for one vendor.

### Note

Regardless of the filtering, new delivery schedules are only created for purchasing scheduling agreements for which the "Changed" field in the header of the purchasing scheduling agreement is activated. This avoids that "new" delivery schedules are sent by mistake, where the quantities and date information are identical to the previous delivery schedule.

If you want to deliberately create a new "identical" forecast delivery schedule, the "Changed" field in the purchasing scheduling agreement must be activated.

If a new forecast delivery schedule is created for a purchasing scheduling agreement, the "Changed" field in the header of the purchasing scheduling agreement is deactivated again afterwards.

## Edit delivery schedules

### Note

The delivery schedule is referred to as an "Outgoing document". If the "Automatic release of outgoing delivery schedule" switch is not activated in the purchasing scheduling agreement, the generated delivery schedule is first created with the status "Pending". Among other things, fields are created in the forecast delivery schedule. Except for changing the status, no changes can be made in a delivery schedule. The delivery schedule can be viewed like a "posted document" in Microsoft Dynamics 365 Business Central.

## General

field	description
No.	The number for a delivery schedule is drawn from the stored number series when it is created.
Call date new	This field is used to select the vendor number with which a corresponding contract is defined.
Call-off no.	The respective call-off number is mapped in this field for each purchasing delivery schedule. I.e. the value is set to 1 with the first created call-off and then always increased by the value "1".
Supply schedule number In this field the purchase delivery schedule number is recorded, to which this delivery schedule refers.	
Supplier Order Address Code Ind. of Name Article No. Variant Code Article Description Article Description 2 Article Unit Code Vendor Article No. Plant Unloading Point Your Reference Target Quantity	The fields are taken from the respective linked purchasing delivery schedule and displayed.
Status	<p>The status is changed manually. A delivery schedule has the following statuses:</p> <p><b>Pending</b> A newly created delivery schedule usually receives the status "Pending".</p> <p><b>Shipping</b> The forecast delivery schedule can then be manually set to the status "Shipping".</p> <p>In the status, the forecast delivery schedule can be sent as paper or a transfer via EDI can be performed.</p> <p><b>Note:</b> Sending via EDI is to be implemented on a project-specific basis and is not a component of the Scheduling Agreement</p>

field	description
	Management module.
	<p><b>Sent</b></p> <p>The forecast delivery schedule has been sent.</p>
	<p><b>Rejected</b></p> <p>If a forecast delivery schedule has been created incorrectly, the forecast delivery schedule can be set to the "Rejected" status.</p>
	<p>The forecast delivery schedule can be set to the "Rejected" status.</p>
Created on	The date when the delivery schedule was created is recorded.<br
Created by	The user code that created the delivery schedule is recorded.
Status change on	The date when the status of the delivery schedule was last changed is recorded.
Status change from	The user code that last changed the status of the delivery schedule is recorded.
Sent on	The date when the delivery schedule was sent is recorded.
Sent by	The user code that sent the delivery schedule is recorded.

## Lines

Field	Description
Quantity	<p>The quantity of the delivery schedule line is displayed.</p> <hr/> <p>The solution distinguishes the following requirement types:</p> <p><b>empty</b></p> <p>Any "normal" requirement receives the requirement type "empty". This means all requirements that are in the future at the time of creation of the delivery schedule but are not defined as preview.</p> <p><b>Backlog</b></p> <p>All requirements that have an expected goods receipt date "smaller" than the work date at the time of creation of the delivery schedule are marked as backlog.</p> <p><b>Immediate requirements</b></p> <p>All requirements are marked as immediate requirements, which have an expected goods receipt date equal to the work date at the time of creation of the forecast delivery schedule.</p>
Requirement type	<p><b>Preview (week)</b></p> <p>At the time of creation of the forecast delivery schedule, it is checked whether the goods receipt date is greater than the date from "work date + date formula preview quantity week from EK delivery schedule ". Further the date may not be however also larger than the date "work date + date formula preview quantity month".</p> <p>If this applies, the line is set to the requirement type "preview (week)". In this case, the requirements are displayed totaled from the week.</p> <p><b>Preview (month)</b></p> <p>At the time of creation of the delivery schedule, it is checked whether the goods receipt date is greater than the date from "Work date + date formula preview quantity month from EK delivery schedule ".</p> <p>If this applies, the line is set to the requirements type "Preview (month)". Thereby the requirements are shown summed up from the month.</p>
Requirement date	<p>This field displays the requirement date of the respective line.</p>

## Delivery

The fields on the "Delivery" info tab are taken from the respective linked purchasing delivery plan and displayed.

## Cumulative quantities

The fields are taken from the respective linked purchasing scheduling agreement and displayed when the delivery schedule is created.

## Manage delivery schedules

A delivery schedule can be manually changed to various statuses. To do this, the "Change status" function can be called up manually.

## Send delivery call-offs

A delivery schedule in the status "in dispatch" can be printed out conventionally on paper or sent as a PDF attachment by e-mail.

### Note

Dispatch via EDI is provided for via the EDX module, but must be implemented on a project-specific basis.

## Post goods receipt or warehouse storage

Analogous to the sales scheduling agreement, it is not possible to collect requirements for a purchasing scheduling agreement directly in the purchasing scheduling agreement.

The collection must therefore take place via a standard logistics option in Microsoft Dynamics 365 Business Central. The determination of which method is to be used is made via the control indicators on the storage location map.

This means that in both putaway and goods receipt, the "Scheduling Agreement Management" module has been extended so that collection is also possible on the active scheduling agreement items.

When posting the putaway or the goods receipt, a suitable purchase order document with reference to the respective purchase scheduling agreement item is created and posted in the same way as the sales scheduling agreement. Thus, the addition of the items takes place via the standard routines of Microsoft Dynamics 365 Business Central.

## Process purchase invoices for purchasing scheduling agreements

Purchase invoices for purchasing scheduling agreements can be created and posted as usual either directly via the purchase order or via the purchase invoices and the "Get goods receipt lines" function.



## Calculation

### General

With the help of the calculation you can make the following business evaluations and calculations directly in KUMAVISION factory365:

- Regular item costing with highlighting of variances.
- Quotation costing
- Development calculation
- Co-calculation
- Calculation up to the target price
- Access protection of the calculation data
- Separate reporting of costs
- Calculation with planned values
- Extension to include cost elements in the single-level as well as multi-level area (e.g. "material overhead")

### Production costing

The production costing is primarily used to determine the production costs / cost of goods sold as well as the sales price for an article. These values can then be transferred to the corresponding price fields on the article card.

The result of this calculation can also be used for the valuation method "Standard" for the bearing valuation.

Furthermore, simulations can also be carried out in the cost of goods manufactured in the event of changes in purchase prices, labor time prices or overhead rates.

### Development calculation

When creating new products, not all parts list items or work plan items are always known or their prices have not yet been determined. However, it is necessary to know the approximate manufacturing costs at an early stage and also to determine a sales price.

To make this possible, a "Simulated production order (cost estimate)" can be created manually for such an article. The known information from the routing and bill of materials is used. These values can then be changed as desired.

In addition, there is the possibility to manually. "Additional costs" with quantities, times and prices and, if required, the "Overhead rates" can be adjusted or supplemented.

### Quotation costing

For make-to-order manufacturers, the challenge is to perform calculations for individual customer orders as efficiently and accurately as possible. Therefore, KUMAVISION factory365 can provide the calculations for similar projects or articles as a basis via the Smart Start packages. Based on this, employees can calculate different variants without having to start from scratch. This means a significant time saving compared to before. This also comes into play for old, already expired offers. A new calculation can be created with just a few entries, as only the new prices need to be transferred. For contract manufacturers, transparency is

another important factor. With the old calculations stored, sales staff can explain to customers, item by item, why there is a price difference compared to previous quotations. This is also important for projects that run over a longer period of time: If deviations from the original quotation occur during the course of the project, the customer can be told in detail what the causes are at the touch of a button. This is because the concurrent costing does not use the theoretical planned values, but the current actual values.

#### Bearing evaluation

The material overhead costs can be entered separately with the use of the costing solution. This means that costing can now also activate the material overheads based on consumption. This makes the inventory values transparent and traceable and also ensures clarity in the balance sheet. Thus, these additions to the Microsoft Dynamics 365 Business Central standard not only make the calculation of sales prices more comprehensible.

#### Cost types

In Microsoft Dynamics 365 Business Central, there are a wide variety of cost types. These fields are visible in several masks. The explanation of these will now take place at this point. Basically, Microsoft Dynamics 365 Business Central distinguishes between single-level costs and multi-level costs.

#### Single level costs

Single-level costs are costs that are incurred only for this item. This means that for the calculation only the respective cost price of articles from the bill of materials or the prices and overhead costs are taken directly from the routing. No structures are exploded in the process.

##### **Example:**

An assembly in the bill of materials, is shown with the cost price in the material costs.

#### Multilevel costs

Multi-level costs, are costs that are broken down to the lowest level and then presented in the respective cost pools.

##### **Example:**

An assembly in the bill of materials is not shown with the cost price in the material costs, but is broken down further to the purchase item. Only the purchase item is shown as material cost, the rest is capacity/external labor or production cost.

#### Consumption-capitalized material overheads

The material costs can be included directly in the cost price of the raw material at the time of stock receipt, but also as consumption-capitalized material costs that are not included in the product until production.

The overhead and consumption capitalized costs can be mixed on the item card and in the costing condition lines.

#### **Hierarchy of Consumption Capitalized Overhead:**

- a) Calculation conditions consumption activated
- b) Calculation condition line
- c) Article

**Hierarchy Overhead:**

- a) Calculation conditions not consumption activated
- b) Calculation condition line
- c) Article

**Note**

Overhead costs and consumption activated overhead costs can be used in parallel. The only difference is that you can only define either a costing condition or a consumption activated costing condition. Both do not work.

Cost types

Below you will find an overview of the cost types that exist in Microsoft Dynamics 365 Business Central in connection with KUMAVISION factory365:

<b>Field</b>	<b>Description</b>
Single-level material costs	All costs (cost price - overhead) that come from the bill of material.
Single-Level Material Overhead	All overhead costs resulting from purchased items in the bill of material.
Single-level capacity costs	All costs (cost price - overhead) that come from the routing.(No external labor operations)
Single-level capacity overhead	All overhead costs that come from the item's routing. (No outside labor operations)
Single-Level Production Overhead	Production overhead stored with the item being costed.
Single-level external labor costs	All external labor costs (cost price - overhead) of external labor operations, from the corresponding routing.
Single-level external labor overhead	All overhead costs of external labor operations, from the corresponding routing.
Multi-level material costs	All material costs (cost price - overhead) of purchasing items totaled over all levels.
Multi-level material overhead	All material overhead costs of purchase items summed over all levels.
Multi-level capacity costs	All capacity costs (cost price - overhead) from all routings summed over all levels.
Multi-level capacity overhead	All capacity overhead costs of all operations summed over all levels.
Multi-level production overhead	All production overhead costs of all items summed over all levels.
Multi-level external labor costs	All external labor costs (cost price - overhead) of all external labor operations summed over all levels.
Multi-level external labor overhead	All external labor overhead costs from all external labor operations totaled across all levels.

#### Note

The totals of the single-level and multi-level prices only match as long as no bookings or price changes are made. As soon as bookings have taken place, these values diverge. They can then be made equal again by means of a new cost price calculation across all levels. (Depending on the settings)

**Establishment****Evaluation & calculation facility**

In the "Valuation & Costing Facility", the basic facilities for controlling the operation of the costing facility are defined first.

Inforegister General

Field	Description
Basic Std.price calculation (make-to-stock)	<p>The selection you make here is only used for items with the production type "make-to-stock".</p> <p>The following selections are available:</p> <p><b>Cost price:</b> The value of the "Cost price" field from the item's master data is used.</p> <p><b>Cost price (latest):</b> The value of the "Cost price (latest)" field from the item's master data is used.</p>
Basic Std.price calculation (order production)	<p>The selection you make here will only be used for items with the production type "order production".</p> <p>The following selections are available:</p> <p><b>Cost price:</b> The value of the field "Cost price" from the master data of the item will be used.</p> <p><b>Cost price (latest):</b> The value of the "Cost price (latest)" field from the item's master data is used.</p> <p><b>Purchase price (purchase prices):</b> If the article has the procurement method "Purchase", first the purchase price valid for the vendor no. of the article is determined from the table Purchase price and the valid line discount % from the table Purchase line discount (both best price determination according to calculation date and quantity to be calculated). The combination of both fields results in the cost price to be used.</p> <p>If the item has the procurement method "Production order", the determination of the cost price to be used is based on the option value of the field "Basis Std. cost price calculation (make-to-stock)" of the Valuation and Costing Setup.</p>
Default Transfer of cost price (fixed)/ target price Adopt proposal	<p>At this point, you can decide whether the results of these calculations are written back for the respective articles. The following selection options are available:</p> <p><b>One level:</b> The cost price (fixed) is only written back at the article for which the calculation was performed.</p> <p><b>All levels:</b></p>

Field	Description
	<p>The cost prices (fixed) are written back at all assemblies / components that were determined by the calculation.</p>
Unit price decimal places	<p>This is where you specify the minimum and maximum number of decimal places to be specified for unit prices in the calculation.</p> <p><b>Example:</b> 2:5 means: minimum 2 decimal places and maximum 5 decimal places.</p> <p>For further information, use the <a href="#">Microsoft Dynamics 365 Business Central Helpsite</a> on the topic "Unit price decimal places field".</p> <p>.</p>
Quantity Decimal Places	<p>At this point you define how many decimal places should be specified in the calculation minimum and maximum for the quantities.</p> <p><b>Example:</b> 2:5 means: Minimum 2 decimal places and maximum 5 decimal places.</p> <p>For further information use the <a href="#">Microsoft Dynamics 365 Business Central Helpsite</a> on the topic "Unit price decimal places field".</p>
Fixed costing sheet name for costing proposal (E+D)	<p>This setting applies to the costing sheets matrix that can be called up from the costing proposal (E+D) - i.e. via the production orders.</p> <p>With this field you have the option of specifying a standard costing sheet. If you enter a schema at this point, the user can only work with this schema and no longer select another (lock function).</p> <p>If the user should have the option to select other calculation schemas, then do not put anything in this field.</p>
Calculate E+D Order (Sales)	<p>This field refers to the calculation from a sales quotation or a sales order.</p> <p>The following options are available:</p> <p><b>Calculate only:</b> The system creates the calculation, but does not perform any further action afterwards. If you want to display the newly created Simulated E+D Order, you must call it up manually.</p> <p><b>Calculate+Display:</b> After the system creates the calculation, the created Simulated E+D Order is displayed directly in a window.</p> <p><b>Calculate+Apply:</b></p>



**Field****Description**

If the calculation proposal could be created without errors, the value of the "New target price" field of the executed calculation proposal will be applied to the "Sales price" field of the sales line.

Assuming that **consumption-based items (make-to-stock)** are procured on a regular basis, the cost price or delivered price (latest) provides a good basis for costing because the prices usually represent realistic values.

The *cost price* is - except for the stock issue method standard - an average value over all cost prices of the quantities currently in stock.

The *Current price (latest)*, on the other hand, is not an average price. It refers to the last value at which the item was added. For a more detailed definition of the cost price fields on the item card, please use the [Microsoft Dynamics 365 Business Central Helpsite](#).

Items that are procured **on an order basis (make-to-order production)**, on the other hand, can either also be costed on the basis of the cost prices, or - and this makes sense especially for articles that are procured infrequently - on the basis of the currently valid purchase prices. If there is no current purchase price for the article, a planned value can also be entered in the preliminary costing.

!!! note "Note The cost prices are always "adjusted" prices, i.e. freight costs or precious metal surcharges entered per article surcharge/discount are added, purchase discounts or similar are deducted. The purchase price, on the other hand, is the pure purchase price without taking into account any surcharges, discounts or rebates. The final costing always calculates only with the cost prices.

!!! note "Note

A production type must be stored for each article - even for pure purchase articles, for which the production type is irrelevant by default.

## Inforegister numbering

**Field****Description**

Calculation Default  
Numbers

Enter the code of the number series to be used to assign records to the Calculation Default Numbers table.

Calculation Condition  
Numbers

Enter here the code of the number series to be used to assign records to the Calculation Condition Numbers table.

!!! note "Note If you want to use more than one number series for this table, you can set up a connection between the corresponding series in the "Connections" call in the number series. This way you can use one code for two or more number series.

## Inforegister Assembly

Field	Description
Costing item direct costs (resource assembly)	Select here a costing item from the costing item plan to which the direct costs incurred when a resource is used in an assembly order are allocated.
Description Costing element Direct costs (resource assembly)	Specifies the description of the selection in the "Costing item direct costs (resource assembly)" field.
Costing element overhead costs (resource assembly)	Select a costing item from the costing item plan here, to which the overhead costs incurred when a resource is used in an assembly order are assigned.
Description of costing element overhead costs (resource assembly)	Specifies the description of the selection in the Costing Item Overhead (Assembly Resource) field.

## Costing components plan

The costing components plan is the foundation of the costing and is comparable with a chart of accounts. It takes over the task of standardizing and grouping the components of a cost estimate and thus ultimately making them comparable with each other. This applies to both article costing and quotation costing.

In principle, the costing sheet is structured in the same way as the chart of accounts in the Financial Accounting application area.

KUMAVISION factory365 can already provide you with a set up costing element plan via the Smart Start packages. You can either use this directly in the form or further adapt it to the requirements of your company. Of course, you also have the option to create your own complete component plan.

!!! note "Note If you want to use more than one number series for this table, you can set up a connection between the corresponding series in the "Connections" call in the number series. This way you can use one code for two or more number series.

Field	Description
	<p>The "No. " field is used to identify the costing element. You can enter up to 20 characters, both numbers and letters. Each number may be assigned only once. You can set up as many costing items as you like.</p>
No.	<p><b>Note:</b></p> <p>Choose sufficient intervals between the numbers of the individual costing components. This will allow you to insert additional costing items later if required. For example, you could assign only the end digits 00 to all account groups and only the end digits 0 to all accounts.</p>
Description	<p>Here you can enter any text to describe the content of the costing element.</p>
	<p>Articles and capacities are later assigned to the costing items table via the costing conditions. The Cost area field indicates the application area of the respective costing item. The following selection options are available:</p> <p><b>Cost of materials and material overheads:</b></p> <p>The costing items with these options are used in costing conditions of the type "Material" (procurement method of the item = purchase). Material costs describe the direct costs (from the field EK price (latest)). Material overhead describes the indirect costs (from the fields Cost %, Overhead rate, Cost % (consumption capitalization), Overhead rate (consumption capitalization)).</p>
Cost range	<p><b>Capacity costs and capacity overhead:</b></p> <p>The costing items with these options are used in costing items of the type "Capacity". Capacity costs describe the direct costs (field EK price of the used work center or work center group). Capacity overhead describes the indirect costs (cost %, overhead rate) of the work center or work center group used.</p> <p><b>Outside labor costs and outside labor overhead:</b></p> <p>The costing items with these options are used in costing items of the type "Capacity" if it is an external labor work center group (or assigned external work center) (Vendor number field is not equal to ). External labor costs describe the direct costs (field EK price of the used external work center group or the assigned external work center). External labor overhead describes the indirect costs (cost %, overhead rate) of the external work center group used or the assigned external work center.</p>
Cost range	<p><b>Production Overhead:</b></p> <p>The costing items with these options are used in costing conditions of type "Production" (procurement method of the item = production order). Costing items of the cost area production overhead describe the indirect costs (fields cost %, overhead rate) of the used article (production article or assembly).</p> <p><b>Sales overhead, administrative overhead, risk/profit, commission, discount, rebate:</b></p> <p>The costing items with these options are used in costing conditions of the type</p>

Field	Description
	<p>"markup". Costing items of these four cost areas describe the non-capitalizable costs of an article, i.e. the difference between the sales price and the cost price of the article.</p>
	<p>With this field you specify the type of record. You can choose from the following:</p> <p><b>Costing component:</b> This option is used for the actual calculation components. The later assignment is only done via these data records.</p> <p><b>Headline:</b> A heading for a group of costing components.</p>
Type	<p><b>Sum:</b> The Sum option is used if you want the application to sum up individual costing items. Please then enter a filter text in the Sum field to specify the costing components to be included.</p> <p><b>From-total / To-total:</b> The From-total option marks the beginning of a continuous series of costing items to be totalized. The end of this series is a costing item of the type To-Sum. In this case, please also enter a filter text in the Totalization field to specify the costing items to be included.</p>
Counting up	<p>Here you can now specify the interval or other filter specification of numbers of the costing elements. The results of the specified costing elements are added to a total balance.</p> <p>For the type "Calculation component", "From-total" or "Heading" this field must remain empty.</p> <p>For the "To total" type, the field is automatically filled when the chart of accounts is indented (function in the ribbon). Only the costing items that lie between a From total and a To total are added together.</p> <p>For the "Sum" type, you must manually specify the costing items to be added together.</p>

#### Note

You must assign a cost range to each record in the Costing item table with the type Costing item. For all other costing items (headings, totals, from-totals or to-totals), the Cost range field remains empty.

**Supplied Costing Components Plan:**

No.	Description	Cost area	Type	Counting
1	Energy overhead	Material overhead	Costing item	
10000	manufacturing costs		from-total	
10001	Material costs		From-total	
10010	Direct material costs	Material costs	Costing element	
10011	Direct material costs 2	Material costs	Costing item	
10020	Special direct costs material	Material overhead	Costing item	
10030	Material overhead	Material overhead	Costing item	
10040	Material surcharges	Material overhead	Costing element	
10045	Freight costs	Material overhead	Costing item	
10046	handling costs	material overheads	costing element	
10049	Total material costs		To-total	10001 .. 10049
10100	Capacity costs		From-total	
10110	individual costs elm	capacity costs	costing element	
10120	Single cost worker	Capacity cost	Calculation item	
10130	individual costs machine	capacity costs	costing element	
10150	Overhead costs elm	Capacity overhead	Costing element	
10160	overhead labor	capacity overhead	costing element	
10170	machine overhead	capacity overhead	costing item	
10180	electricity/buildings	capacity overhead	costing element	
10210		External labor costs	Costing item	

<b>No.</b>	<b>Description</b>	<b>Cost area</b>	<b>Type</b>	<b>Counting</b>
	Individual costs external labor			
10250	Overhead costs external labor	External labor overhead	Costing element	
10299	Total capacity costs		To-total	10100 .. 10299
10300	Individual costs assembly res.	Capacity costs	Calculation component	
10305	Overhead assembly res.	Capacity overhead	Costing element	
10310	Tools	Production Overhead	Costing Item	
10320	Certifications	Production Overhead	Costing Item	
10400	Total cost of goods sold		To-total	10000 .. 10400
10410	Shipping	Sales overhead	Costing item	
10420	Quality Control	Sales Overhead	Costing Item	
10430	Sales	Sales overhead	Costing item	
10510	Administration	Administrative overhead	Costing item	
10520	Special direct costs of technology	Administrative overhead	Costing item	
10600	Selbstkosten		Summe	10000..10599
10610	Risk/profit surcharge	Risk/profit	Calculation component	
10620	Special direct costs other	Risk/profit	Costing item	
10700	Mindestrichtpreis		Summe	10000..10699
10710	Commission	Commission/ Discount	Calculation Item	
10720	Discounts	Commission/ Discount/Discount	Calculation Item	



No.	Description	Cost area	Type	Counting
10730	Discounts	Commission/ Discount	Calculation Item	
10800	Richtpreis		Summe	10000..10799
10810	Rounding income/costs	Commission/ discount/discount	Calculation component	
10900	Guide price (rounded)		Sum	10000 .. 10899

#### Actions via the ribbon Indentation of the component plan

By executing the "Component plan indentation" function, the filter text in the "Totalization" field is automatically determined by the system for the costing components of the "To total" type.

#### Comments

Date-dependent information can be stored for the respective costing element via the remarks.

#### Calculation conditions

The costing conditions establish the link between the master data tables such as article, work center group, etc. and the costing components, thus enabling the results of a costing to be assigned to an account.

In the header of a costing condition the assignment to the costing element costs and the costing element overhead costs is made. The lines of the costing condition allow you to define the costing costs more precisely over any number of lines. This applies to both direct costs (field EK price) and indirect costs (fields Cost %, Overhead rate) of the respective master data table.

A distinction is made in the following calculation condition types:

#### Costing condition (material)

The calculation condition is used in records of the table Article calculation condition with the calculation type Material. That is, you define here costing conditions that you subsequently assign to some of your articles. The condition is taken into account in the calculation when it comes to the calculation of raw materials (purchase items).

## Inforegister General

<b>Field</b>	<b>Description</b>
No.	Number of the calculation condition
Description	Description of the calculation condition
Costing element costs	Select the appropriate costing item in the "Costing items costs" field. For the costing condition "Material", this is usually the material direct costs.
Description costing element costs	Specifies the description of the selected costing item from the Costing Item Cost field.
Costing element overhead costs	Select the appropriate costing element in the "Costing element overhead" field. This is usually the material overhead for the costing condition "Material".
Description costing element overhead costs	Specifies the description of the selected costing item from the Costing Item Overhead field.

Inforegister lines

Field	Description
Description	Here you enter a description of the content of your calculation condition line.
Costing item	A costing item is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.
Calculation Component Description	This field is automatically filled by the selection of the costing component.
Heading no.	The Rubric No. field is used to relate calculation condition rows to each other in order to define a calculation base for percentage surcharges.
	<p>The field is a choice field and controls with its option value the meaning of the field Value:</p> <p><b>Amount:</b></p> <p>If you select Amount, then the specification in the field Value is understood as absolute number input. So you have here the possibility to store fixed values, which will be taken into account in the calculation. In addition, you can provide this line with a rubric number to refer to this line in another line with the setting Percent - so, for example, to take into account an additional overhead.</p> <p><b>Percent:</b></p> <p>If you select Amount, then the specification in the Value field is understood as a percentage number entry. If the line has been assigned a rubric no., then the basis of the percentage is the sum of all calculation condition lines of the same calculation condition with the same rubric no. and calculation amount.</p> <p><b>Note:</b></p> <p>If the line is not provided with a rubric no., the application uses either the purchase price of the origin line of the corresponding calculation value or (if available) the sum of all calculation condition lines of the same calculation condition with the calculation value as basis for the percentage. The rubric no. of these lines will then be ignored.</p>
	<p>The meaning of the field depends on the value you have selected in the Calculation field.</p> <p><b>Amount:</b></p> <p>In this case, the field contains an absolute amount. Depending on the selected costing element, this amount is part of the EK cost or part of the overhead rate.</p> <p><b>Percent:</b></p> <p>In this case, the Value field contains a percentage value. The basis of the percentage value is the sum of all calculation values with the same rubric no. If the</p>
Value	

**Field****Description**

row was not assigned a rubric no., the application uses as a basis either the purchase price of the origin row of the corresponding calculation value or (if available) the sum of all calculation condition rows with calculation value and specification of any rubric no. (but only if these calculation condition rows were interpreted as part of a purchase price).

KUMAVISION factory365 can provide you with predefined costing conditions (material) for use or further individual additions via the Smart Start packages:

**Material (single) and material (single2):**

<b>Field</b>	<b>Material (simple)</b>	<b>Material (simple2)</b>
No.	KK0000	KK0010
Description	Material (simple)	Material (simple2)
Calculation item costs	10010	10011
Description of costing element costs	Direct material costs	Direct material costs 2
Costing item overhead	10030	10030
Description Costing Item Overhead	Material Overhead	Material Overhead

**Material (complex) and material (complex2):**

Field	Material (complex)	Material (complex2)
No.	KK0011	KK0001
Description	Material (complex)	Material (complex2)
Calculation item costs	10010	10010
Description of costing element costs	Direct material costs	Direct material costs
Costing item overhead	10030	10030
Description Costing Item Overhead	Material Overhead	Material Overhead

Field	Material (complex)				
Description	Handling	Freight	Overhead costs	Special direct costs	Material surcharges
Kalkulationsbestandteil	10046	10046	10046	10046	10046
Costing Item Description	Handling Costs	Freight Costs	Material Overhead	Special Direct Costs Material	Material Surcharges
Heading no.		R1+R2		R1	R2
calculation/value	7 .00 MW	6.00 %	4.00 %	5.00 MW	2.00 MW

Field	Material (complex2)		
Description	Handling	Freight	Overhead costs
Kalkulationsbestandteil	10046	10045	10030
Costing Item Description	Handling Costs	Freight Costs	Material Overhead
heading no.			
Calculation / Value	1 .00 MW	6. 00 %	4.00 %

**Calculation condition (production)**

The calculation condition is used in records of the table Article calculation condition with the calculation type Production. This means that you define calculation conditions here which you then also assign to some of your articles. The condition is taken into account in the calculation if it is about the calculation of products (production items).

## Inforegister General

<b>Field</b>	<b>Description</b>
No.	Number of the calculation condition
Description	Description of the calculation condition
Costing element costs	Select the appropriate costing item in the field "Costing item costs". In the case of the costing condition "Production", these are usually the direct material costs or the special direct costs of production.
Calculation Item Cost Description	Indicates the description of the selected costing item from the "Costing Item Cost" field.
Costing element overhead costs	Select the appropriate costing item in the "Costing item overhead" field. In the case of the costing condition "Production", this is usually the cost of tools, special direct costs, etc.
Description costing element overhead costs	ISpecifies the description of the selected costing item from the Costing Item Overhead field.

Inforegister lines



Field	Description
Description	Description of the calculation condition
Costing item	A costing item is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.
Calculation Component Description	This field is automatically filled by the selection of the costing component.
Heading no.	The field "Rubric no. " is used to relate calculation condition rows to each other in order to define a calculation basis for percentage surcharges.
	<p>The field is a choice field and controls with its option value the meaning of the field Value:</p> <p><b>Amount:</b></p> <p>If you select the option "Amount", then the specification in the field Value is understood as absolute number input. So here you have the option to enter fixed values that will be taken into account in the calculation. In addition, you can provide this line with a rubric number to refer to this line in another line with the setting Percent - so, for example, to take into account an additional overhead.</p> <p><b>Percent:</b></p> <p>If you select Amount, then the specification in the field "Value" is understood as a percentage number entry. If the line has been assigned a rubric no., then the basis of the percentage is the sum of all calculation condition lines of the same calculation condition with the same rubric no. and calculation amount.</p> <p><b>Note:</b></p> <p>If the row was not provided with a rubric no., the application uses as the basis for the percentage either the EK price of the origin row of the corresponding calculation value or (if available) the sum of all calculation condition rows of the same calculation condition before the current row with the calculation value. The rubric no. of these lines will then be ignored.</p>
	<p>The meaning of the field depends on the value you have selected in the Calculation field.</p> <p><b>Amount:</b></p> <p>In this case, the field contains an absolute amount. Depending on the selected costing element, this amount is part of the EK cost or part of the overhead rate.</p> <p><b>Percent:</b></p> <p>In this case, the Value field contains a percentage value. The basis of the percentage value is the sum of all calculation values with the same rubric no. If the</p>

**Field****Description**

line has not been assigned a rubric no., the application will use as a basis either the EK price of the origin line of the corresponding calculation value or (if available) the sum of all calculation condition lines before the current line with calculation value and specification of any rubric no. (but only if these calculation condition lines have been interpreted as part of an EK price).

KUMAVISION factory365 can provide you with predefined calculation conditions (production) for use or further individual additions via the Smart Start packages:

<b>Field</b>	<b>Production (simple)</b>	<b>Production (complex)</b>
No.	KK1000	KK1001
Description	Production (simple)	Production (complex)
Calculation item costs	10011	
Description of costing element costs	Direct material costs 2	
Costing item overhead	10310	10320
Description costing component overhead	Tools	Certifications

No further information is defined in the calculation condition lines of the condition "Production (simple)".

```
| Field | Production (complex)| | --- | --- |--- | |Description|Tool|Certification| |calculation component|10310|
10320| |CalculationComponentDescription|ToolCertifications| |heading no.||
|Calculation / Value|2 .00 %|5 .00 MW|
```

#### Costing condition (capacity)

The costing condition is used in data records of the Work center costing condition table. This means that you define costing conditions here which you then assign to your capacities (work center groups and work centers). The condition is taken into account in the calculation as soon as a capacity is addressed (e.g. because a routing is stored for a production article).

## Inforegister General

<b>Field</b>	<b>Description</b>
No.	Number of the calculation condition
Description	Description of the calculation condition
Costing element costs	Select the appropriate costing item in the field "Costing item costs". For the costing condition "Capacity", this is usually the direct production costs.
Calculation Item Cost Description	Gives the description of the selected costing item from the "Costing Item Cost" field.
Costing element overhead costs	Select the appropriate costing element in the "Costing element overhead" field. This is usually the production overhead for the costing condition "Capacity".
Description costing element overhead costs	Indicates the description of the selected costing item from the "Costing Item Overhead" field.

Inforegister lines

Field	Description
Description	Here you enter a description of the content of your calculation condition line.
Costing item	A costing item is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.
Calculation Component Description	This field is automatically filled by the selection of the costing component.
Heading no.	The Rubric No. field is used to relate calculation condition rows to each other in order to define a calculation base for percentage surcharges.
Setup time	This field is only included in costing conditions of the type capacity or external labor. It can be used to define costing elements that only refer to the setup time in their calculation.
Share %	The content of the field is used as a percentage share in the formula for calculating the Costing price field of the costing value.
Calculation	<p>The field is a choice field and controls with its option value the meaning of the field Value:</p> <p><b>Amount:</b></p> <p>If you select Amount, then the specification in the field Value is understood as absolute number input. So you have here the possibility to store fixed values, which will be taken into account in the calculation. In addition, you can provide this line with a rubric number to refer to this line in another line with the setting Percent - so, for example, to consider an additional overhead.</p>
	<p><b>Percent:</b></p> <p>If you select Amount, then the specification in the Value field is understood as a percentage number entry. If the line has been assigned a rubric no., then the basis of the percentage is the sum of all calculation condition lines of the same calculation condition with the same rubric no. and calculation amount.</p>
	<p><b>Note:</b></p> <p>If the row was not provided with a rubric no., the application uses as the basis for the percentage either the EK price of the origin row of the corresponding calculation value or (if available) the sum of all calculation condition rows of the same calculation condition before the current row with the calculation value. The rubric no. of these lines will then be ignored.</p>
Value	The meaning of the field depends on the value you have selected in the Calculation field.

## Field Description

### Amount:

In this case, the field contains an absolute amount. Depending on the selected costing item, this amount is part of the EK cost or part of the overhead rate.

### Percent:

In this case, the Value field contains a percentage value. The basis of the percentage value is the sum of all calculation values with the same rubric no. If the line has not been assigned a rubric no., the application will use as a basis either the EK price of the origin line of the corresponding calculation value or (if available) the sum of all calculation condition lines before the current line with calculation value and specification of any rubric no. (but only if these calculation condition lines have been interpreted as part of an EK price).

KUMAVISION factory365 can provide you with predefined calculation conditions (capacity) for use or further individual additions via the Smart Start packages:

Field	Capacity (Energy)	Capacity (Simple)	Capacity (Complex)
No.	01	KK2000	KK2001
Description	Capacity (energy)	Capacity (simple)	Capacity (complex)
costing item cost		10130	10130
Description of costing item cost		Individual costs machine	Individual costs machine
Costing item overhead	1	10170	10170
Description of costing element overhead costs	overhead costs energy	overhead costs machine	overhead costs machine

No further information is defined in the calculation condition lines of the conditions "Capacity (energy)" and "Capacity (simple)".

```
| Field || Capacity (complex) ||| | -- | -- |--- | --- |--- | |description|machine|worker|scrubber|apprentice|
GK machine|GK worker| |Kalkulationsbestandteil|10130|10120|10110|10120|10170|10160| |Costing
component description|Individual costs machine|Individual costs worker|Individual costs elm|Individual costs
worker|Individual costs machine|Individual costs worker| |Rubric No. |M1|A|A|M1|A| |armament||Yes|||
```

|share %| 100.00|100. 00|100. 00|100.00|100. 00|100.00|100. 00| |calculation/value|2 .20 MW|1. 20 MW|1. 50 MW|0 .90 MW|20. 00 % |10.00 %|

Field	External labor (simple)	External labor (complex)
No.	KK2050	KK2051
Description	Foreign work (simple)	Foreign work (complex)
Costing item costs	10210	10210
Description of costing item costs	individual costs external labor	individual costs external labor
Costing item overhead	10250	10250
Description of costing element overhead costs	Overhead costs external work	Overhead costs external work

No further information is defined in the calculation condition lines of the condition "External labor (simple)".

Field	External labor (simple)	External labor (simple)
Description	Freight	Overhead costs
calculation component	10250	10250
Calculation Item Description	Overhead Costs External Labor	Overhead Costs External Labor
heading no.		
armament		
Share %	100 .00 %	100. 00 %
Calculation / Value	5 .00 %	15. 00 %

#### Calculation condition (markup)

The calculation condition is used in records of the table Article calculation condition (cannot be activated) with the calculation type markup. This means that you define calculation conditions here which you then assign to some of your articles. The condition will be taken into account in the calculation if it is the calculation of "end products". Here you no longer define the cost price of the article, but the markup up to the target price.

## Inforegister General

Field	Description
No.	Number of the calculation condition
Description	Description of the calculation condition
Takeover guide price	<p>In an article calculation you can transfer the determined target price from a calculation proposal into the master data of the calculated article. You specify here, in which field of the master data the determined target price should be transferred:</p> <p><b>None:</b> There is no transfer.</p> <p><b>Target price:</b> The value is transferred to the field target price of the article (table article).</p> <p><b>Sales price:</b> The value is taken over into the field Sales price (table article).</p> <p><b>Sales price:</b> The value is taken over into the sales price table of the article. The entry is made taking into account the sales type and sales code.</p> <p><b>Price + Sales Price:</b> The value is transferred to both the Price field (Article table) and the Sales Price table record.</p>
Sales Type	<p>This field is taken into account when entering the target price in the sales price table. The following selection options are available:</p> <ul style="list-style-type: none"> <li>• Debitor ,</li> <li>• Debitor price group,</li> <li>• All debtors</li> <li>• Campaign</li> </ul> <p>It can only be edited if the option "Sales price" or "Target price+sales price" has been selected in the Transfer target price field.</p>
Sale code	<p>This field is also taken into account when entering the target price in the sales price table. What you can select here depends on what you have specified in the "Sales type" field. For example, if you have selected customer price group there, all your customer price groups will be displayed for selection in the "Sales code" field.</p> <p>This makes it possible to define individual markup calculations for special customer groups, campaigns or even for individual customers.</p>



Inforegister lines

Field	Description
Heading no.	The field "Rubric no. " is used to relate calculation condition rows to each other in order to define a calculation basis for percentage surcharges.
Description	<p>Here you enter a description of the content of your calculation condition line.</p> <p>The field is a choice field and controls with its option value the meaning of the field "Formula/Code":</p> <p><b>Empty:</b> If the field is left empty the line has no influence on the execution of the calculation. For example, it can be used for a heading or explanation line.</p> <p><b>Value:</b> If you select "Value", the "Formula/Code" field will contain an absolute number entry. In addition, you can assign a heading number to this line to refer to it in another line with the Percent setting.</p>
Calculation	<p><b>Formula:</b> If you select Formula, the Formula/Code field contains an arithmetic formula. The parts of the formula refer to the heading no. of other costing condition lines.</p> <p><b>Costing Item:</b> If you select Costing Item, the Formula/Code field contains a costing item. Thus, this setting allows you to determine a markup line based on the costing values of a specific costing component. This costing item can also be a to-total.</p> <p><b>Project Planned Line:</b> If you select Project Planned Line, the Formula/Code field contains a project task number.</p>
Formula/ Code	<p>The meaning of the field depends on the value you have selected in the "Calculation" field.</p> <p><b>Empty:</b> In this case, the "Formula/Code" field is also empty. The calculation condition line has no influence on the execution of the calculation. For example, it can be used for a heading or explanation line.</p> <p><b>Value:</b> In this case, the field contains a constant (decimal number). You can use this constant also, in which you provide the line with a rubric no. and in another calculation condition line with the calculation formula reference to this line.</p> <p><b>Formula:</b> In this case the field contains an arithmetic formula. A rubric no. can also be used here to determine the calculation basis. In the arithmetic formula, the basic</p>

Field	Description
	<p>arithmetic operations +, -, , /, multilevel brackets () and the two special characters % and § can be used.</p> <p>% stands for "percent of one hundred".</p> <p><i>Example:</i></p> <p>5% A means "5 percent of the sum of all markup lines with rubric no. A". Suppose the total is 100, then the markup is 5 (100/1005)</p> <p>§ stands for "percent of one hundred".</p> <p><b>Example:</b></p> <p>5 § B means "5 percent from the total of all markup lines with rubric no. B". Let's say the total is 100, then the markup is 4.76 (100/1055).</p> <p><i>Calculation Item:*</i></p> <p>In this case, a calculation item is selected. If this line is used in a calculation, the application will calculate the calculated field "Multi-level amount per 1 unit". For example, the Costing Ingredient option value allows you to calculate a markup line based on the costing values of a specific costing ingredient. This costing item can also be a to-total.</p>
Rounding Method Code	<p>The field specifies whether the costing price of the costing value that will be created when applying the costing condition in a costing proposal is to be rounded. The type and manner of the desired rounding is thereby controlled with the help of a rounding method defined in the master data. This table is a standard table. You have the option to always round up or down amounts or to round them up or down commercially (in this case, amounts are only rounded up if the digit to be rounded is <math>\geq 5</math>). For further explanations on how to set up the rounding methods, please use the <a href="#">Microsoft Dynamics 365 Business Central Helpsite</a>.</p>
Costing item	<p>A costing item is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.</p>
Guide price	<p>Tick this field only in the line that should determine your guide price.</p>
Bold	<p>The Bold field controls the visual highlighting of the row in the E+D Order markup calculation window.</p>
Error text	<p>If you specify an incorrect formula, the corresponding error message appears in this field.</p>

KUMAVISION factory365 can provide you with predefined calculation conditions (markup) for use or further individual additions via the Smart Start packages:

Field	Impact	Impact Calculation
No.	AUFSCHLAG	KK3000
Description	Surcharge	Surcharge Calculation
Takeover target price	Target price	Target price
Sale	Debitor	Debitor
sale code		

No further details are defined in the calculation condition lines of the condition "Surcharge".

Heading no.	Description	Calculation	Formula / Code	Rounding code	Lime. Component	Lime. Component Description
HK	Manufacturing costs	Calculation b .	10400			
	Shipping	Formula	HK * 0,5/100		10410	Shipping
	Quality control		Formula	00 .70% HK		10420
	Sales overhead	Formula	03 .00 % HK	10430	Sales	
	Administration		Formula	02 .50 % HK		10510
	SEK d. Technik	Calculation b .	10520			
SK	Self cost	Calculation b .	10600			
	risk	formula	02 .00 % SK		10610	Risk/ surch
	Profit	Formula	30 .00 % SK		10610	Risk
MRP	Minimum Indicative Price	Calculationb .	10700			
	commission 1	formula	03 ,00 \$ MRP	10710	Provision	
	commission 2	formula	01 ,00 \$ MRP	10710	Provision	
	Saccount	Formula	03 ,00 \$ MRP	10720	Account	
	Discount	Formula	10 ,00 \$ MRP	10730	Discount	
RP	Guide Price	Calculationb .	10800			
RPG	Directive price rounded	Calculationb .	10800	PRICE		

Heading no.	Description	Calculation	Formula / Code	Rounding code	Lime. Component	Lime. Component Description
	Rounding	Formula	RPG-RP		10810	Rounding of material costs
	Guide price (incl. rounding)	Calculationb .	10900			

Calculation scheme

The "Costing" application area allows you to evaluate the results of item costing and job costing in so-called costing sheets. Costing schemes have the form of a matrix with a freely definable row layout and a freely definable column layout and are comparable to the account schemes (Microsoft Dynamics 365 Business Central Standard).

A costing sheet can basically follow the structure of the costing sheet, but it is usually presented in somewhat less detail by grouping certain items together. For example, you can display the total material costs in the chart of accounts; without subdividing them into direct material costs and material overhead costs. This is possible because when you create a costing proposal, the application automatically assigns each costing value to a costing item.

Any number of calculation schemes can be created. Two calculation schemas are already included in the basic setup of the calculation - namely the standard calculation schema and the overview schema. Of course, these schemes can be further customized according to your requirements.

You can call up the overview using the search term "Kalkulationsschemanamen".

Via "New" in the ribbon you can define a new scheme using the table below.

Field	Description
Name	In this field, assign a name for the calculation schema.
Description	In this field, specify a description for the calculation schema.
Standard column layout	The field "Standard column layout" is used to define the criteria for the calculation in the column view. The column layout stored there will always be used as the basis for the calculation.

Via "Calc. Edit scheme" in the ribbon you have the possibility to define the scheme in detail.



Field	Description
Heading no.	Enter a rubric number for a unique description of the row or to be able to use this row later for a calculation.
Description	<p>Here you specify a description for the line.</p> <p>The Totalization type field is a choice field. It determines which records will be included:</p> <p><b>Ingredient Sum:</b> The sum is formed from the amounts taking into account the costing elements of the costing element type. To do this, specify an expression in the Total field to filter the costing components to be used.</p> <p><b>Example:</b> The Total field contains the expression 10100..10299. Specifying this causes the costing sheet row to display amounts resulting from the costing components in the range 10100 to 10299. Only costing items of the type costing item are taken into account.</p> <p><b>Total:</b> The total is formed from the amounts taking into account the costing items of the type total or to-total. To do this, specify an expression in the Total field to filter the costing items to be used.</p> <p><b>Example:</b> The Total field contains the expression 10100..10299. Specifying this causes the costing sheet row to display amounts that result from the costing items in the range 10100 to 10299. Only costing items of the type Total or To total are taken into account.</p> <p><b>Formula:</b> The total is formed from the calculated amounts in other lines of the same costing sheet. To do this, specify an arithmetic formula in the Total field. When doing this, use the Heading No. field to refer to the other rows in the schema in the formula.</p> <p><b>Example:</b> The Add Up field contains the expression A+B. The amounts from all other spreadsheet rows in the same schema that have the value A or B in the Heading No. field are added together.</p>
Totalization type and totalization	
Display	<p>This field is relevant for the Costing Sheet report. You have the following choices:</p> <p><b>Yes:</b> The row will be printed in the report.</p>

Field	Description
	<p><b>No:</b></p> <p>The row will not appear in the report. For example, you can use this option to define a calculation scheme row that contains subtotals of a longer calculation scheme.</p> <p><b>If a column is not 0:</b></p> <p>The row will only be printed in the report if it is not 0. Thus, rows without an amount will not be printed at all.</p>
New page	If you mark the calculation schema line with a check mark, the report will make a page change at this point.
Bold	If you mark the calculation scheme row with a check mark, the row will be displayed in bold in the report.
Cursive	If you mark the calculation scheme line with a check mark, the line will be displayed in italics in the report.
Underlined	If you mark the calculation scheme row with a check mark, the row will be underlined in the report.
Reverse sign on	If the field of the calculation scheme row is checked, all calculated amounts of the row will be displayed in the Calculation scheme matrix window with reversed sign.

### Delete

You can delete the calculation schema via the "Delete" menu item.

### Print

Via the menu item "Print" you have the possibility to print the calculation schema considering a defined column layout and the specification of at least one calculation proposal line.

### Set up account

The "Insert accounts" function transfers the records of the Costing item table to the present book sheet, creating exactly one costing item row for each costing item. The no. of the costing item is then placed in the Totals field of the costing sheet row.

You can select the costing elements to be transferred individually after starting the function. All costing elements are displayed in an overview. Select the data records you want in the window and then click OK to start the transfer.

### Set up column layouts

Via the menu item "Set up column layouts" you have the possibility to define a column layout for the defined calculation schema.

KUMAVISION factory365 can already provide you with two predefined calculation schemes for use or further individual additions via the Smart Start packages:

**Calculation scheme standard:**

Heading no.	Description	Counting type	Counting	Advertisements
10010	Direct material costs	Inventory total	10010	Yes
10011	Direct material costs 2	Inventory total	10011	Yes
10020	Special direct costs material	Inventory total	10020	Yes
10030	Material overhead	Inventory total	10030	Yes
10040	Material surcharges	Component sum	10040	Yes
10045	Freight costs	Inventory sum	10045	Yes
10046	Handling costs	Inventory sum	10046	Yes
10049	Sum of material costs	Sum total	10049	Yes
		Component sum		Yes
10110	Individual costs elm	Component sum	10110	Yes
10120	Single cost worker	Summary	10120	Yes
10130	Individual costs machine	Inventory total	10130	Yes
10150	Overhead costs elm	Component sum	10150	Yes
10160	Overhead labor	Component total	10160	Yes
10170	Overhead machine	Components	10170	Yes
10180	Electricity/ Building	Component sum	10180	Yes
10210	Individual costs external labor	Individual costs	10210	Yes
10250	Overhead costs external labor	Inventory total	10250	Yes

Heading no.	Description	Counting type	Counting	Advertisements
10299	Sum capacity costs	Sum total	10299	Yes
		Component sum		Yes
10300	Individual costs assembly res.	Component sum	10300	Yes
10305	Overhead assembly res.	Component sum	10305	Yes
		Component sum		Yes
10310	Tools	Components	10310	Yes
10320	Certifications	Inventory	10320	Yes
		Component sum		Yes
10400	Total cost of goods sold	Sum total	10400	Yes
		Component sum		Yes
10410	Shipping	Inventory	10410	Yes
10420	Quality control	Component sum	10420	Yes
10430	Sales	Inventory	10430	Yes
10510	Administration	Component total	10510	Yes
10520	Special individual costs engineering	Inventory total	10520	Yes
	(Sales overhead)	Inventory total	10400 ..10499	Yes
	(Administrative overhead)	Component total	10500 ..10599	Yes
10600	Self cost	Sum total	10600	Yes
10610	Risk/profit surcharge	Component sum	10610	Yes
10700	Minimum reference price	Sum total	10700	Yes
10710	Provision	Component sum	10710	Yes

<b>Heading no.</b>	<b>Description</b>	<b>Counting type</b>	<b>Counting</b>	<b>Advertisements</b>
10720	Discounts	Inventory	10720	Yes
10730	Discounts	Inventory	10730	Yes
	(Commission/ Discount/ Discount)	Cumulative total	10710 .. 10799;10810	Yes
10800	Guide price	Sum total	10800	Yes
10900	Guide price (rounded)	Sum total	10900	Yes
		Component sum		Yes
		Component sum		Yes
	Summe Aufschläge	Bestandteilsumme	10401..10499 10501..10599 10601..10699 10701.. 10799 10810	Ja

**Calculation scheme overview:**



Heading no.	Description	Counting type	Counting	Advertisements
MAT	Sum of material costs	Sum of components	10010 .. 10048	Yes
KAP	Sum of capacity costs	Sum of components	10110 .. 10199	Yes
FREMD	Total external labor costs	Component total	10210 .. 10298	Yes
PROD	Total production overhead	Inventory total	10300 .. 10399	Yes
	Sum of material costs	Sum total	10049	Yes
		Component sum		Yes
10410	Shipping	Inventory	10410	Yes
10420	Quality control	Component sum	10420	Yes
10430	Sales	Inventory	10010	Yes
10510	Administration	Inventory	10010	Yes
10520	Special individual costs engineering	Inventory total	10010	Yes
10600	Self cost	Sum total	10600	Yes
10610	Risk/profit surcharge	Component sum	10610	Yes
10700	Minimum reference price	Sum total	10700	Yes
10720	Discounts	Inventory	10720	Yes
10730	Discounts	Inventory	10730	Yes
10900	Guide price (rounded)	Sum total	10900	Yes
		Component sum	10010	Yes
	Summe Aufschläge	Bestandteilsomme	10401..10499 10501..10599 10601..10699 10701..	Ja

Heading no.	Description	Counting type	Counting	Advertisements
			10799	
			10810	

Article card

Article Calculation Conditions

The article calculation conditions can be called up via the article card. With this mask you can define the calculation conditions specifically for a certain article or a species group for the later calculation.

The "General" area of the article calculation conditions mask initially contains filters that you can use to control your view. When you open the mask, the filters are initially always preset to the article from which you have called up the mask.

Field	Description
	Using the sales type filter, you can limit your view to lines of a specific costing type or none.
Sales Type Filter	<div>The following selections are available:</div> <ul style="list-style-type: none"><li>• Material</li><li>• Production</li><li>• None</li></ul>
	Using the species filter, you can limit your view to rows of a specific type.
Species filter	<div>The following selections are available:</div> <ul style="list-style-type: none"><li>• Article</li><li>• Article category</li><li>• Product booking group</li><li>• Stock booking group</li><li>• All articles</li><li>• None</li></ul>
Code filter	You can use the code filter to further restrict your view in addition to the species filter on a specific article or similar.
Start date filter	Use the start date filter to narrow your view to specific validity lines.

Using the rows you can directly define the calculation conditions with the help of the table below.

Field	Description
	In this field you define for which calculation type you want to define the line. You can choose from:
Calculation type	<p><b>Material:</b> The condition is taken into account in the calculation, if it is the calculation of raw materials (purchase items).</p> <p><b>Production:</b> The condition is taken into account in the calculation, if it is the calculation of products (production items).</p>
Type	<p>Using the "Type" field, you have the option of defining the condition line for an article or for faster entry of a type group. The following options are available:</p> <ul style="list-style-type: none"> <li>• Article</li> <li>• Article category</li> <li>• Product booking group</li> <li>• Stock booking group</li> <li>• All articles</li> </ul>
Code	You can limit each selection in the "Type" field to a specific article number or species group number in this field.
Indirect Cost Rate	<p>Enter the indirect cost of the item as an absolute amount at this point.</p> <p><b>Note:</b> If you are working with costing, it is recommended that you do not maintain the default field on the item card.</p>
Indirect costs %	<p>Indirect costs of the item as a percentage value.</p> <p><b>Note:</b> This field is identical to the field on the item card. However, if you are working with costing, it is recommended that you do not maintain the standard field on the item card, but only this one instead.</p>
Overhead Cost Rate (Consumption Capitalization)	<p>Enter the consumption capitalized overhead as an absolute amount at this point.</p> <p><b>Note:</b> Overhead and consumption capitalized overhead can be used in parallel. The only difference is that only either a Costing Condition or a Costing Condition Consumption Activated can be defined. Both do not work.</p>
Cost % (Consumption Activation)	Indicate the consumption-activated costs as a percentage value at this point.

Field	Description
Calculation Condition No.	Enter the appropriate calculation condition.
Start date	Indicates the date from which the calculation line is valid.
End date	Indicates the date until when the calculation line is valid.

Via "Manage" > "Delete" you can delete a selected calculation row.

#### Article calculation conditions (cannot be activated)

The article calculation conditions (not activatable) can be called up via the article card. This screen allows you to define the non-activatable costs (costs that are not included in the cost price) specifically for a particular article or species group for later costing.

In the "General" area of the article calculation conditions (cannot be activated) mask, there are initially filters that you can use to control your view. When you open the mask, the filters are initially always preset to the article from which you have called up the mask.

Field	Description
Sales Type Filter	Using the sales type filter, you can limit your view to lines of a specific costing type or none. The following selections are available: <ul style="list-style-type: none"> <li>• Markup</li> <li>• Special Direct Cost</li> <li>• None</li> </ul>
Type filter	Using the type filter, you can limit your view to rows of a specific type. The following selections are available: <ul style="list-style-type: none"> <li>• Article</li> <li>• Article category</li> <li>• Product posting group</li> <li>• Stock posting group</li> <li>• All articles</li> <li>• None</li> </ul>
Code filter	You can use the code filter to further restrict your view in addition to the species filter on a specific article or similar.
Start date filter	Use the start date filter to narrow your view to specific validity lines.

Using the rows you can directly define the calculation conditions with the help of the table below.

Field	Description
	<p>In this field you define for which costing type you want to define the line. You can choose from:</p> <p><b>Surcharge:</b></p> <p>The condition is taken into account in the calculation, if it is the calculation of "end products". You define here no longer the cost price of the item, but the markup up to the target price.</p> <p><b>Special direct costs:</b></p> <p>The condition is defined the costs that are incurred for a product, but are not quantity-dependent.</p>
Costing type	
Type	<p>Using the "Type" field, you have the option of defining the condition line for an article or for faster entry of a type group. The following options are available:</p> <ul style="list-style-type: none"> <li>• Article</li> <li>• Article category</li> <li>• Product booking group</li> <li>• Stock booking group</li> <li>• All articles</li> </ul>
Code	You can narrow down each selection in the "Type" field to a specific article number or species group number in this field.
Calculation Condition No.	Indicates the corresponding calculation condition.
Calculation Condition Description	Gives the description for the calculation condition selected in the "Calculation Condition No." field.
Calculation condition no. (E+D)	Indicates the corresponding calculation condition (E+D).
Calculation Condition Description (E+D)	Gives the description for the calculation condition selected in the "Calculation Condition No. (E+D)" field.
Start date	Indicates the date from which the calculation line is valid.
End date	Indicates the date until when the calculation line is valid.
Special direct costs	Indicates possible special direct cost values.
Quantity per unit	Indicates the quantity per unit.
Special direct costs per unit	Indicates the special direct costs per unit.
Costing item no.	SEK Specifies the costing item for the special direct costs.

Field	Description
SEK Costing Component Description	Indicates the description for the costing component selected in the "SEK Costing Component No." field.
Project no.	Indicates a possible project number.

Via "Manage" > "Delete" you can delete a selected calculation row.

#### Calculation specifications

You can use the "Costing specifications" to specify different lot sizes in advance for the cost of goods manufactured simulations, which are then taken into account in the subsequent costing.

Field	Description
No.	This is assigned automatically on the basis of a stored number series.
Item no.	This is automatically assigned with the article number from which you started the call.
Description	Corresponds to the item description.
Start date	From when should this costing specification apply.
End date	To when is this costing specification valid.
Lot size	Indicates the lot size number.
Standard	This field is queried when calculating the cost price. If this is set and the checkbox "Only standard costing specifications" is also set in the function "Costing price (fixed)/Calculate target price for item", then only lot sizes that have the checkmark set in the costing specifications are used.

#### Job costing conditions

You call up the Costing conditions mask work center via the work center group card. Via this mask you can define the costing conditions you want to assign to your capacities (work center groups and work centers). The condition is taken into account during costing as soon as a capacity is addressed (e.g. because a routing is stored with a production article).



In the "General" area of the Calculation conditions mask workstation, there are initially filters that you can use to control your view. When you open the mask, the filters are always preset to the workstation group from which you called the mask.

Field	Description
Type filter	<p>Using the type filter, you can restrict your view to lines of a specific type or none. The following selections are available:</p> <ul style="list-style-type: none"> <li>• Department</li> <li>• Workstation group</li> <li>• Workstation</li> <li>• Workstation line</li> <li>• None</li> </ul>
Code filter	You can use the code filter to further restrict your view in addition to the type filter on a specific workstation group or similar.
Start date filter	Use the start date filter to narrow your view to specific validity lines.

Using the rows you can directly define the calculation conditions with the help of the table below.

Field	Description
Type	<p>Using the "Type" field, you have the option of defining the condition line for a workstation group or similar. The following options are available:</p> <ul style="list-style-type: none"> <li>• Department</li> <li>• Workstation group</li> <li>• Workstation</li> <li>• Work plan lines</li> </ul>
Code	You can limit each selection in the "Type" field to a specific workstation group or similar in this field.
Version code	Specify the appropriate version code.
Operation No.	Indicate a corresponding operation.
Indirect cost rate	Enter the indirect costs as an absolute amount at this point.
Indirect costs %	Enter the indirect costs as a percentage value at this point.
Calculation Condition No.	Enter the appropriate calculation condition.
Calculation Condition Description	Indicates the description for the calculation condition selected in the "Calculation Condition No." field.
Start date	Indicates the date from which the calculation line is valid.
End date	Indicates the date until when the calculation line is valid.

Via "Manage" > "Delete" you can delete a selected calculation row.

**Article calculation**

The costing proposal is used for the cost of goods manufactured calculation. You can call this up directly from the respective article card via the menu ribbon.

**Calculation proposal**

In the costing proposal lines, historically already preceding costings are displayed (if available).

Field	Description
Warning	<b>Blank:</b> The proposal line does not contain any errors and can be accepted if necessary.
	<b>Errors:</b> The proposal line contains errors that can be viewed and corrected via the error log. After correction, the proposal must be run through again.
Calculation Run Seq. No.	Indicates a sequential number per proposal line. For proposal lines that contain different article costing specifications (lot sizes), these are displayed with the same sequential number.
Calculation Run Description	Indicates the description that has been specified for the respective calculation run.
Item no.	Indicates the article number for which the suggestion line was calculated.
Description	Indicates the description of the item.
Procurement method	Indicates the stored procurement method of the item.
Status	Indicates the status of the proposal line. A distinction is made here between: <ul style="list-style-type: none"> <li>• Empty</li> <li>• Preferred</li> <li>• Rejected</li> <li>• Transferred</li> </ul> For more information, see the section "Change status".
Lot size	Indicates the lot size on which the proposal line was costed.  <b>Note:</b> Please note that the lot sizes on the item card as well as in the costing specifications can be used for costing.
Calculation date	Indicates the date when the proposal line was calculated.
Cost Price (Fixed)	Indicates the deposited "Cost Price (Fixed)" on the item card.
New cost price (fixed)	Specifies the new cost price (fixed) of the proposal line.
Cost % (Consumption Activation)	Displays , (if available) the "Cost % (Consumption Activation)" determined from the costing definitions.
Overhead rate (consumption capitalization)	Displays, (if available) the "Overhead rate (consumption capitalization)" determined from the costing definitions.

Field	Description
Guide price	Indicates the previous guide price.
New target price	Indicates the recalculated target price.

Calculate set price (fixed)/direct price for article

When this function is executed, the cost price for the corresponding item(s) is calculated.

Field	Description
Calculation date	Specifies the calculation date. This is used to take into account the start and end dates of purchase prices, costing conditions or even bills of materials and routings for costing.
Calculation Run Description	This input is a mandatory input and defines what kind of calculation it is.
Standard costing specifications only	Here it can be defined whether the lot size of the article to be calculated is to be drawn from the article card or the calculation specification.
	If the switch is not activated, the stored lot size of the costing specification (if available) is treated with priority than that of the article card.
	If the switch is set, only the stored lot size with the identifier=standard (if available) is treated with priority than that of the article card.
Costing Proposal Name (Plan)	<b>Note:</b> This applies only to the first level, that is, the article to be costed.
	Specification of the costing proposal (plan) if simulations are performed.
	<b>Note:</b> In order to determine the correct cost price based on the structure, which is then also written back to the item card, this field must not be filled in.

Change status...

This function allows you to set the status of the costing proposal line according to the selection (Preferred or Rejected) in the "Status" field.

The status is relevant for the function execution "Accept costing proposal (preferred)". Only costing proposal lines with the status "Preferred" are adopted.

When the price is accepted, the "Status" field is set to "Accepted".

Adopt costing proposal (preferred)

Using this function, the values from the costing proposal lines with the status=Preferred are taken and transferred to the article card.

When executing the function, it is also possible to perform a revaluation at the recalculated price for the items that are still open.

Field	Description
Posting date	Required for the revaluation ledger sheet. Corresponds to the valuation date
Fill revaluation book.sheet	Will be selected if you want to revalue the currently still open article items.
	Depending on the selection of the field "Transferred from" either the whole structure can be revaluated or only the article from the calculation proposal.
	The revaluation book sheet can still be controlled afterwards. It must always be posted manually.
Voucher no.	Indicates which voucher number is to be written to the revaluation ledger sheet.
Article Book. sheet template	Indication of the revaluation book sheet
Article Book. sheet name	Revaluation book sheet name
Transfer from	<b>One level:</b> Only the prices from the item from the costing proposal line will be updated. The items in lower levels will not be updated.
	<b>All levels:</b> All prices and price fields of all items that occur in the structure will be updated.

#### Article costing specifications

The "Article costing specifications" can be used to carry out manufacturing cost simulations with different batch sizes. As a rule, these defaults are already defined in advance in the "Costing defaults" on the respective article card and displayed accordingly at this point. If required, changes and/or entries can be made here.

!!! note "Note This always only affects the article that is currently being costed. If costing specifications are also defined for assemblies in subset levels, these are not taken into account. Here, the lot size is always taken from the article card.

Field	Description
No	This is assigned automatically on the basis of a stored number series.
Article No.	This is automatically assigned with the article number from the data record of the calculation proposal line.
Description	Corresponds to the item description.
Start date	From when this calculation specification should apply. Reference date is the "Calculation date" when executing the function "Calculate set price (fixed)/Directive price for article".
End date	To when is this calculation specification valid. Reference date is the "Calculation date" when executing the function "Calculate set price (fixed)/Directive price for article"
Standard	<p>This field is queried when calculating the cost price. If this is set and also at the function "Calculate cost price (fixed)/Directive price for article" the hook "Only standard costing specifications" is set, then only lot sizes are used, which have the hook set in the costing specifications.</p> <p><b>Note:</b> Lot size from the article is not used, if valid costing specifications were found.</p>
Remark	Indicates whether a remark exists for this calculation specification. Remarks can also be stored here.
Corrected on	Set by the system when the record is created or corrected.

#### Note

If there are several valid entries, the system automatically creates a separate calculation for each valid entry.

#### Costing proposal (planned values)

With the costing proposal (planned values) you can simulatively calculate proposals with modified planned values and also transfer them via batch processing. Since the basis for the cost of goods manufactured calculation is always the master data, the exchange of the articles is not possible at this point. Only amount values and cost values can be changed (no times and no component quantities).

Via the calculation proposal (plan values) mask you can first select an already created proposal for editing via the "Name" field or define a new one via "New" by entering "Name" and "Description".

You can use the function calls "Propose article costing condition", "Propose capacity unit price (costing)", "Propose article unit price (fixed) (costing)" and "Propose costs according to structured BOM" to redefine the respective stored planned values in batch processing.

The function call opens a mask on which you can define new plan values in the option areas and limit your change project to certain criteria by means of the filter area.

#### **Fixed factor:**

These radio buttons allow you to define fixed values for your changes, which will be taken into account over the run and written into the "New value fields" provided for this purpose.

#### **Correction factor:**

You can use these option fields to specify factor values that are to be multiplied by the original values. Via the run, these results are also written into the "New value fields" provided for this purpose.

Via the menu item "Accept costing proposal (plan values)" you can finally accept the new plan values.

#### Note

Please note that only valid condition values are considered for replanning. For example, if an end date of an item calculation condition is in the past, no change value will be written into the "New value field" for this record.

#### Costing proposal (planned conditions)

With the costing proposal (planned conditions) you can change the costing conditions defined in the system via batch processing. The logic here corresponds to that of the costing proposal (planned values).

#### Retrieve error log

The error log lists all errors that occurred during the calculation. By clicking on the integrated lookups or the call "Display" in the menu ribbon, the errors can be edited directly from the mask.

#### Note

Please note that you will need to recalculate the costing after you fix the error.

#### Calculation values (matrix)

In this view the rows of the account scheme are superimposed with the columns of the column layout. According to the filters entered, the values are displayed. By selecting a predefined column layout for comparison, a comparison of two calculation proposals is possible at this point.

#### Costing values (structure)

In this view you see all considered costing values in a structure detailed on cost type level. Thereby you have the possibility to view the origin documents on row level via the call of the same name.

#### Structure list



Using the structure list, you can view a costing proposal aggregated over all costed levels and their costs.

Field	Description
Calculation proposal 1 Filter	Select a calculation proposal that you want to have displayed.
Including overhead costs	Activate the check box if you want to consider the overhead costs included in the respective costs.
Material only	Activate the check box if you only want to view the material costs.
Cost selection	You can use the cost selection to specify the BOM depth over which you want to display the costs.
	<b>Single-level:</b> Displays the costs of the top level of the BOMs.
	<b>Multi-level:</b> Displays the costs multi-level, broken down to the last assembly/ component.
Structure list comparison	<b>Multi-level:</b> Displays the costs multi-level, broken down to the last assembly/ component.

With the help of the structure list comparison you can directly compare two costing proposals. This structure list comparison allows you to see at a glance, through visualized representation in the "Symbol Deviation" fields, at which level a change to the previous proposal has taken place.

Field	Description
Calculation Proposal 1 Filter	Select a calculation proposal that you want to compare with another proposal.
Calculation Proposal 2 Filter	Select another calculation proposal that you want to compare with the one already selected from the "Calculation Proposal 1 Filter"
Including overhead	Activate the check box if you want to consider the overhead included in the respective costs in the comparisons.
Material only	Activate the switch if you only want to compare the material costs.
Cost selection	You can use the cost selection to specify the BOM depth over which you want to display the costs.
	<b>Single-level:</b> Displays the costs of the top level of the BOMs.
	<b>Multi-level:</b> Represents the costs multi-level, broken down to the last assembly/component.

After your selection, you then execute the "Compare" function in the ribbon to compare the values in the row display.

#### Quotation costing

In a quotation, you can transfer the corresponding article lines for customer-specific inquiries into a calculation in order to modify them according to customer-specific requirements and to calculate them separately. The calculated cost price and sales price can then be transferred to the offer.

#### Calculate manufacturing costs

With the "Calculate production costing" function, you first initiate the costing for the selected article line. When the function is executed, a "Simulated production order" is automatically created. Depending on the setting in the "Valuation and calculation setup", the production order will then also open automatically or not.

For item rows for which a calculation has already been created, the row in the "Calculation tracking rows available" field has the "Yes" identifier. By clicking on the identifier, the costing lines can be viewed.

## Calculation tracking lines

This call opens the costing trace lines. The links between the production order and the quotation/order are displayed in the calculation tracking lines. Several production order lines can be linked to one quotation line.

Field	Description
Status	Indicates whether the quote line is linked to a calculation. When selected, the calculation tracking lines will be opened.
FA No.	Displays the FA number. This can be an FA in "Simulated", "Firmly Scheduled", "Released" or "Finished" status.
FA line number	Indicates to which FA line number the offer / order line number is linked.
Project no.	Indicates which project it is
Project task no.	Indicates which project task no. is involved.
Project plan line no.	The project plan line number is shown here.
E+D project no.	Indicates which E+D project number was entered in the production order.
Production order type	Displays the production order type from the production order.
Article No.	Displays the article number from the production order.
Variants Code	Displays the variant from the production order.
Description	Display the description from the production order.
Number of costing proposals (E+D)	Number of costing proposals (E+D) Indicates how many different costings have been carried out for this production order. There is no differentiation between target and actual costing.

## Delete

By executing the "Delete" function in the ribbon, you can delete a calculation line. If there are no more calculation lines after executing the function, the sales line will be marked with "No" in the "Calculation tracking lines available" field.

## Display E+D order

With this call you can display the corresponding E+D order. At this point, the structure of the E+D order is omitted and only the fields/calls relevant for the calculation are explained in more detail. Further information about the E+D order can be found here.

## Additional costs

"Additional costs" allows you to take into account customer-specific quotation requests for the calculation. In addition to general additional costs, you can also include additional resources, articles or similar. Via the call "Costing condition" you establish the connection between the additional cost line and the costing elements and thus enable an account assignment of the results of a costing.

## Components

Via the "Components" you have the possibility to change prices and quantities, exchange items and add overhead costs if necessary.

## Work plan

Through the "Routings" you have the possibility to change prices, swap operations and add overhead costs if necessary.

## Add calculation tracking manually

With this function you can manually add already calculated E+D order lines and take them into account for the current sales line if required.

## E+D markup calculation

If the customer asks for certain discounts, the function "E+D markup calculation" is especially helpful, this allows you to run through possible markup calculations for an offer.

## Costing proposals (E+D)

The costing proposals (E+D) are structured in the same way as the conventional costing proposals. In addition, you can use them to create a simultaneous cost estimate.

To do this, you use the function "Calculate unit price/price for unit order" in the costing proposals (E+D). By specifying the costing base, actual/actual (*Posted quantity*) and target/actual (*Expected quantity*) comparisons are available.

You can use the "Change status" and "Adopt costing proposal (Preferred)" functions to adopt the calculated values for the sales line.

## Metal Tax Surcharge

### General

The app "KUMAVISION Metal Tax Surcharge" for KUMAVISION factory365 enables a simple administration and automatic booking of all stock values in purchasing and sales. Based on the precious metal weight share of an item, with a corresponding base price and possible additional purchase costs, a surcharge/discount value is automatically calculated in the offer and order and also automatically posted in the further process.

In addition, any number of surcharges can be managed per article, since a separate surcharge line is generated for each precious metal component. Furthermore, the precious metal weight of assemblies or products can be easily determined via the parts list using a special function.

### Note

Please note that the use of the app requires a possible additional licensing.

### Establishment

#### KUMAVISION Module Setup

The metal control surcharge is an activation module, the use of which is only possible with additional licensing and activation. To activate the module, call up the "KUMAVISION module setup" via the user search and activate the "Activate metal surcharge" button. Provided that you have licensed the module, the functionalities are available to you in the full extent.

#### Article Surcharges/Discounts

Using the surcharges/discounts, you can map additional costs of an item in Microsoft Dynamics 365 Business Central and thus ensure correct warehouse valuation.

The precious metal costs also belong to the surcharges shown and must be entered in the system in advance. To do this, first call up the "Article surcharges/deductions" via the user search.

Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

#### Warehouse facility

An additional info tab "Metal surcharge" has been integrated in the warehouse setup. On this info tab, you can use the "Metal surcharge" field to store the previously defined article surcharge/discount. By the assignment you define the calculation basis of the metal surcharge in the sales and purchase documents.

**Article metal list**

In the article metal list, all article metals are initially listed with their base prices and percentage delivery costs.

<b>Field</b>	<b>Description</b>
Code	Specifies an abbreviation for the metal.
Description	Specifies a description of the metal.
Base price	Indicates the base price for the metal on which the quotation is calculated.
Delivery costs	Indicates possible delivery costs as a percentage.

**Metal quotation**

In the metal quotations you manage the current exchange-dependent price quotations for the metals.

**Filter area**

<b>Field</b>	<b>Description</b>
Current metal code	Selection on the metal code on which the filtering is to be set.

**Lines**

<b>Field</b>	<b>Description</b>
Metal code	Specifies the corresponding metal code of the record.
Offer date	Specifies the offer date of the record.
Offer price	Specifies the offer price of the record.
<b>Note</b>	
The offer price always refers to 100 kg.	

**Article metal content list**

You can call the article metal part list on the one hand via the user search or on the other hand via the article card via a lookup in the field "Metal list".

Via the article metal parts list you define which metals an article consists of or which surcharges are to be taken into account for an article for sale/purchase.

Field	Description
Item no.	Indicates the part number to which the metal allocation applies.
Metal code	Specifies the assignment of the corresponding metal code for the item.
Net weight	Indicates the net weight of the respective item, which is indicated on the item card in the "Net weight" field.
Metal weight	In this field you can maintain the metal weight in kilograms.
Start date	Here you can specify a date from which the surcharge is to be taken into account.
Berech. Sales surcharge	Check the box if you want the surcharge to be included in the sales documents.
Berech. Purchase. Metal surcharge	Check the box if you want the surcharge to be included in the purchasing documents.

#### Surcharges in the sales process

In the sales documents, the overhead rates are calculated using the following formula:

$$\text{Surcharge Price [€/Unit]} = \text{Metal Weight [kg/Unit]}$$

As soon as you enter an article line with a quantity specification in a sales document, the system automatically determines the corresponding surcharge rates for you and automatically inserts them in the sales document in the form of surcharge/discount line(s).

In case of a quantity change of the article line, a quantity change of the surcharge/discount line(s) takes place automatically as well.

If you convert a sales quotation into a sales order, use the "Copy document" function or create a subsequent credit note, the addition/sales lines will also be taken into account.

#### Surcharges in the purchasing process

In the purchasing documents, the overhead rates are calculated using the following formula:

$$\textit{Surcharge Price [€/Unit]} = \textit{Metal Weight [kg/]}$$

As soon as you enter an article line with a quantity specification in a purchasing document, the system automatically determines the corresponding surcharge rates and automatically inserts them in the purchasing document in the form of surcharge/discount line(s).

In case of a quantity change of the article line, a quantity change of the surcharge/discount line(s) takes place automatically as well.

If you convert a purchase request to a purchase order, use the "Copy document" function or create a subsequent credit note, the surcharge/discount lines will also be taken into account.

#### **Metal weight across multiple BOM levels**

With the action "Calculate metal weight" in the menu ribbon of the part card, the metal weights of the production BOM components in the assemblies can be written into the fields "Metal weight" and "Single-level metal weight" and "Multi-level metal weight" via the production structure BOM.



## Work in Progress Rating

### Work in Progress (WIP) evaluation in plant construction

#### general

The following sections describe the Work in Progress (WIP) Valuation module. The determination of the valuation as well as the execution and the posting process will be explained in short form. Finally, archiving and evaluation in project valuation are addressed.

WIP Valuation can determine project values based on planned project budget items and posted project items. Project accounts are used to assign these items to specific line items and are stored as information on the line items. The project accounts are determined via a setup based on project type, activity type and product posting group separately for sales and consumption and assigned to the items.

Via so-called project account schemes with variable column layouts, the values on these project accounts can be evaluated for each project. The flexible structure of the schema makes it possible to display actual and planned values for the different project accounts. Using formulas and if-then conditions, the values can additionally be linked or compared so that the relevant amounts for the WIP evaluation can be displayed. Specially marked rows and columns determine which values are subsequently transferred as a posting to financial accounting.

#### setup

This section gives an overview of the necessary setups. It explains which master data must be set up for project evaluation in general so that projects can be evaluated automatically. The following master data must be set up in order to use project evaluation:

- WIP Valuation Setup
- Fibu integration codes
- Project chart of accounts
- Project account scheme for WIP valuation
- Column layout project account scheme for WIP valuation

In order to perform the valuation runs, some basic specifications and setups must be made in advance. This section describes which setups need to be made.

## wip evaluation setup

In the WIP Valuation Setup, general parameters for the project valuation are defined. The posting of the valuation figures is done from the valuation proposal using a recurring Fibu Buch. sheet.

field	description
Fibu Book	Here the book. sheet template and name for the posting of the project valuation can be stored. The ledger sheet must be a recurring ledger sheet.
Book Sheet Name	Here you can define the accounting sheet template and name for posting the project evaluation. The ledger sheet must be a recurring ledger sheet.
Prefix Document no.	When posting the valuation proposal to the accounting system, the document number is composed of this prefix and <i>MM/YYYY</i> of the valuation date.
Posting description	Enter here a posting description for the posting to the financial accounting. The description will be completed with <i>MonthName/YYYY</i> of the valuation date when posting the valuation proposal to the Fibu.
Prefix Reversal	When posting a new valuation proposal to the general ledger, the existing posting will first be reversed. The document number for the reversal is composed of this prefix and <i>MM/YYYY</i> of the valuation date.
Project evaluation approved as of	Here you can specify the permitted posting period for project valuation postings.
Project valuation allowed until	The allowed booking period for project valuation bookings can be specified here.
Repetition rate	Since a recurring ledger sheet is used for posting the valuation proposal to the financial accounting, you must specify here which recurrence applies. e.g. +1T+1M-1T

## wip fibu integration code

WIP Fibu integration codes are assigned in the project account schemes for the lines whose amount is to be posted to the financial accounting. In the WIP Fibu integration codes the debit and credit accounts for the capitalization are defined.

For the different valuation items (*e.g. expenses, down payments*) and methods (*e.g. Local GAAP, IFRS*) separate WIP Fibu integration codes must be set up for each posting record. The codes must be assigned to the respective lines in the [project chart of accounts](#).

Field	Description
Code	Unique identifier of the Fibu integration code
Description	Description of the accounting integration code
Debit account activation	The debit amount of the relevant project account scheme line is posted to this account when the activation is posted
Credit account Activation	The credit amount of the relevant project account scheme line is posted to this account when the activation is posted.

#### project chart of accounts

A project chart of accounts must be set up so that the corresponding project values can be evaluated using a project chart of accounts. For more information on the project account scheme, see [here](#).

#### project chart of accounts

This section explains the specifics of the project account schema as it relates to WIP assessment. Basic information on setting up project account schemas and the associated column layouts can be found [here](#).

A project account scheme must be set up for each of the valuations to be determined, e.g., one scheme each for IFRS and Local GAAP. The fields in the project account scheme that are additionally relevant for the WIP valuation must be filled as follows:

Field	Description
Count	A new option If can be selected here. This option can be used to compare row values using arguments and conditions.
Argument 1 Condition Argument 2 Argument 3 Argument 4	<p>These fields must be filled if the summation type, If is used. The fields must be filled according to the following logic: If Argument 1 Condition Argument 2, then Argument 3 other Argument 4</p> <p><b>Note</b> In the arguments, only rubric no. and arithmetic operators or numbers may be contained in the arguments. Options for condition: - Empty - &lt; - &gt; - = - &lt;= - &gt;= For all other types of summation, the fields remain empty.</p>
Fibu Integration Code	<p>A WIP Fibu Integration Code must be specified here if a posting to Financial Accounting is to be generated for this row. For this entry, the accounts stored in the WIP Fibu integration code will be used.</p> <p><b>Note</b> Only amounts from lines with the "Line value types" Valuation, Valuation correction and Received down payments can be entered into the Fibu</p>
Line Value Type	<p>This field specifies the line value heading in the WIP valuation proposal. Options are: - Expenses - Down Payment Invoices - Revenues - Valuation - Down Payments Received - Valuation Correction Lines with the "Valuation Correction" option usually do not show a calculation, the line can be used later in the valuation proposal for manual correction.</p>
Calculation in column	As values are displayed in different columns in the column layout, it can be defined here which value is relevant in which row and column. For example, planned revenues are to be displayed in one row and actual revenues in another, whereby it can only be defined in the columns whether the values are planned or actual values.

project account scheme column layout

In the column layout assigned to the project account scheme, exactly one column must be marked as the relevant column for determining and displaying the valuation amounts.

field	description
	Set a check mark here in the column that is relevant for the project valuation.
Column	<b>Note</b>
WIP	Since planned and actual values - as well as revenues and costs - can only be displayed in different columns, a totals column with the column type "Formula" is usually used to combine these values and is also used as the column for the WIP.

example of a wip valuation scheme

The following example is intended to show the structure of a WIP valuation scheme and to illustrate the options for calculating and displaying the valuation.

example of a project account scheme

Rubric No.	Description	Counting up value	Counting up	Calculation in column	Line value type	Argument 1
R0010	Plan values	Project accounts				
R0020	Revenue	Project accounts	No. of relevant project accounts	SP040		
R0030	Expenses	Project accounts	No. of relevant project accounts	SP030		
R0040	Planned expenditure in %	Formula	R0030/R0020	SP050		
	Project accounts					
R0050	Actual values	Project accounts				
R0060	Down payment invoices	Project accounts	No. of relevant project accounts		Down payment invoice	
R0070	Revenues	Project accounts	No. of relevant project accounts	SP020	Revenues	
R0080	Sum of services	Formula	R0060..R0070	SP050		
	Project accounts					
R0090	Construction	Project accounts	No. of relevant project accounts	SP010		
R0100	Production	Project accounts	No. of relevant project accounts			
R0110	External services	No. of relevant	SP010			



Rubric No.	Description	Counting up value	Counting up	Calculation in column	Line value type	Argument 1
	project accounts	project accounts				
R0120	Travel expenses	Project accounts	No. of relevant project accounts	SP010		
R0130	Other Expenses	Project Accounts	No. of Relevant Project Accounts			
R0140	Total Expenses	Formula	R0090..R0130	SP050	Expenses	
R0150	Effort adjusted	Formula	R0140+ (R0040*R0070)	SP050		
R0170	HZ: Valuation correction	Project accounts		Valuation correction		
R0180	HZ: down payments received	Project accounts	No. of relevant project accounts		DOWN PAYMENT RECEIVED	

example of the corresponding column layout

column no.	column header	column type	item type	amount type	amount type	formula	column WIP
SP010	Actual: Expense	Movement	Project item	1	Asset amount (MW)		No
SP020	Actual: Revenue	Movement	Project item	2	Amount sold (MW)		No
SP030	Plan: Expense	Movement	Project plan line	1	Cost amount (MW)		No
SP040	Plan: Revenue	Movement	Project plan line	2	Sales amount (MW)	No	
SP050	Sum column	Formula			SP010..SP040	Yes	

## posting procedure project valuation

In this section, the posting flow of project valuation is explained in more detail.

The following points are addressed:

- What is the WIP valuation proposal.
- How the valuation lines are calculated
- Posting the WIP valuation proposal us effects on financial accounting.

### fill valuation proposal

The actual valuation is done in the WIP valuation proposal. The function "*Calculate valuation lines* " is used to fill the valuation proposal.

Folgende Optionen müssen hier gesetzt werden:

Feld	Beschreibung
Bewertungsperiode	Hier muss das Startdatum der relevanten Buchhaltungsperiode ausgewählt werden. Für die Buchung selbst wird anschließend der Monatsletzte der Periode verwendet.
Bewertungsschema	<p>Wählen Sie hier den Namen des Projektkontenschemas aus, mit dem Sie die Bewertung durchführen möchten.</p> <p>Vor der Berechnung der Werte wird geprüft, ob alle notwendigen Einstellungen im Projektkontenschema vorhanden sind. Dies sind:</p> <ul style="list-style-type: none"> <li>• Für jede „Zeilenwert Art“ muss eine Zeile im Schema vorhanden sein.</li> <li>• Im Spaltenlayout muss eine Spalte als „Spalte WIP“ definiert sein.</li> </ul>

Zusätzlich können die zu berücksichtigenden Projekte ausgewählt werden. So haben Sie die Möglichkeit bestimmte Projekte / Projektgruppen mit einem anderen Projektkontenschema zu bewerten. Sollten Sie Projekte parallel nach unterschiedlichen Bewertungsgrundsätzen bewerten (z.B. IFRS / Local GAAP), so muss die Berechnung je Projektkontenschema erneut aufgerufen werden.

Es werden nur Projekte berücksichtigt deren Enddatum noch nicht gefüllt ist bzw. deren Enddatum nach dem Bewertungsdatum liegt.

Bei jedem Aufruf der Funktion wird pro Projekt eine Zeile im WIP Bewertungsvorschlag erzeugt.

## wip valuation proposal

The fields in the "WIP valuation proposal" are filled as follows when calculating:

field	description
OriginNo.	This field indicates the project to which this evaluation line applies.
Description	This field displays the project description.
Valuation Date	This is the date (last day of the month of the valuation period) that the entry will be made in the financial accounting system.
Total Expenses	Amount determined by the calculation of the project chart of accounts for this project in the rows marked as "Expenses".
Total of down payment invoices	Amount determined by the calculation of the project chart of accounts for this project in the rows marked as "Down payment invoice".
Total of partial and final invoices	Amount determined by the calculation of the project chart of accounts for this project in the rows marked as "Revenues".
Valuation	Amount determined by the calculation of the project chart of accounts for this project in the rows marked as "Valuation".
Valuation correction	A manual value for the valuation correction can be entered in this field. The value must be positive and must not exceed the valuation amount.
Valuation Adjustment Integration Code	The value from the Valuation Adjustment field will be posted to the accounts of this Valuation Integration Code.
Adjusted valuation	This field is calculated as follows: - Valuation - Valuation correction
Prepayments Received	Amount determined by calculating the project chart of accounts for this project in the rows marked as "Prepayments Received".
passive accrual received down payments	This field is calculated as follows: - if "received down payments" is higher than "adjusted valuation": "received down payments" - "adjusted valuation" - _otherwise this value is 0
Fibu integration code passive accrual received down payments	On the accounts of this Fibu integration code the value from the field "passive accrual received down payments" is posted to the Fibu.

**posting a valuation proposal**

The following steps are performed when posting the valuation proposal:

- First, the system checks whether a posted valuation already exists for the project with this valuation date and project chart of accounts used to calculate the line. Already posted valuations are archived in the "WIP Valuation Archive" with a sequential number.
- If a valuation has already been posted under these premises, it is first reversed.
- Subsequently, the valuation proposal is posted and stored in the archive with the next consecutive number.
- Optionally, a printout of the valuation can be made.

The posting of the valuation proposal takes place via a recurring book. sheet with the repetition type "Reverse variable". This means that the valuation is booked in on the valuation date and booked out again on the following day. Thus, with each new valuation in the following month, the accumulated value is always posted. With the previous month's values already booked out on the first of the month, the development of the amounts can thus be tracked.

A possible reversal cancels both the postings on the valuation date and the write-off postings on the following day.

Posted are the values from the following columns with the accounts of the respective WIP Fibu integration code of the assigned project chart of accounts row:

- Valuation Adjustment
- Adjusted valuation
- Liabilities accrual received down payments

The document no. and the description for the posting will be set according to these specifications:

- Document no.: The respective prefix.
- Description: The posting description from the "WIP Valuation Setup" is completed with month name/ YYYY of the valuation date.

A new ledger is created with the corresponding G/L items and a new entry is created in the "WIP Valuation Archive". In the archive all information from the "WIP Valuation Proposal" is available, in addition a sequential number is assigned per combination of project no./valuation date/project account scheme. The valuation with the highest sequential number indicates which are the currently posted values in the financial accounting.

**print valuation proposal**

The WIP Valuation module includes a report for printing and proving the valuation proposal.

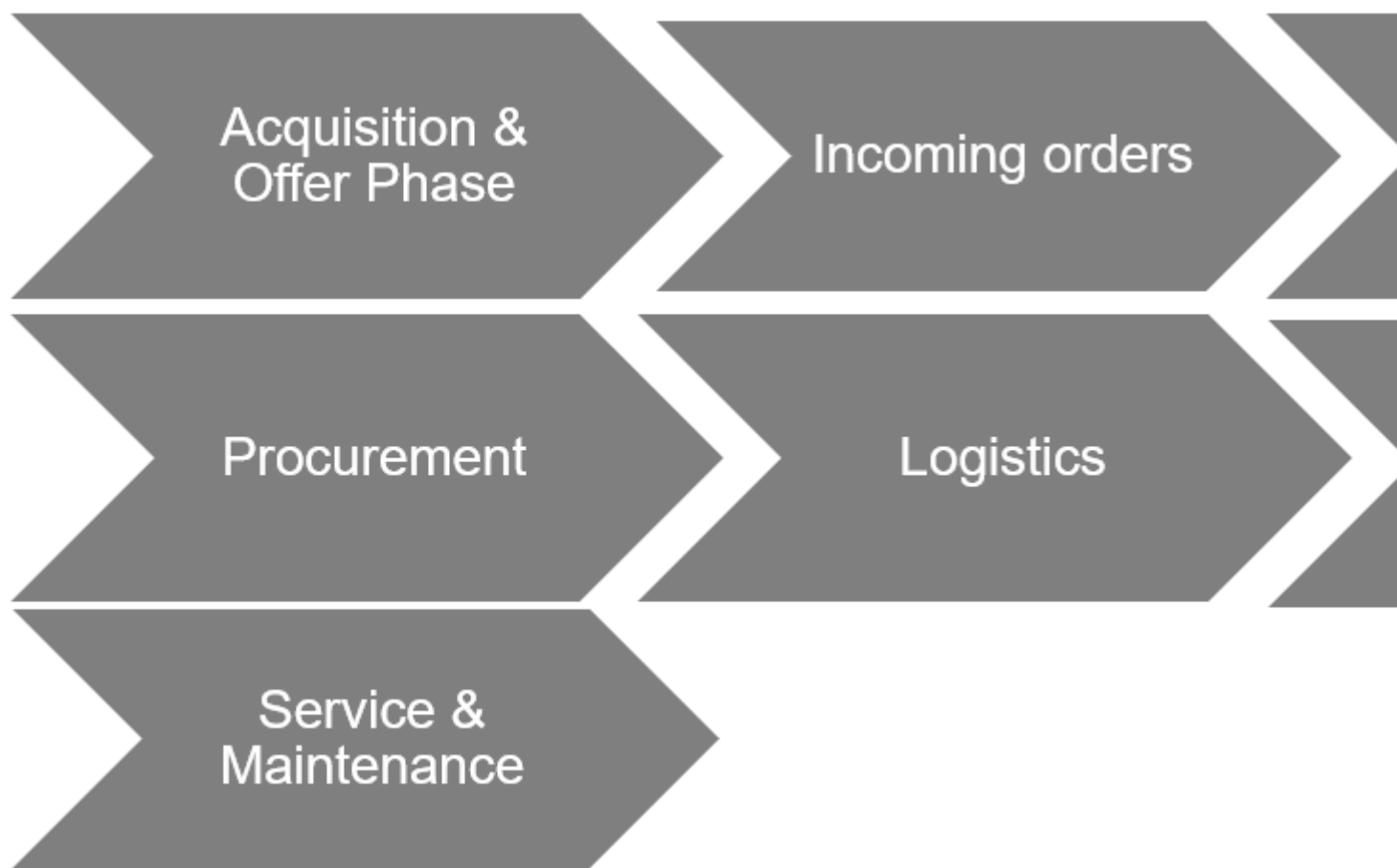
Lines generated in the "WIP Valuation Proposal" can be printed in a report before or with posting. The values generated in the valuation proposal are listed in tabular form. In addition, a total is calculated for all valuation lines.

## Plant engineering

### General

For plant and mechanical engineers, the "Plant Engineering" performance extension makes it possible to track the complex production and scheduling processes in all phases of a project according to costs and deadlines. The function extension KUMAVISION "Plant Engineering" describes supplementary performance points to the standard project of Microsoft Dynamics 365 Business Central. The following is described in more detail:

- Project plans with phases, milestones, tasks and responsibilities.
- Project progress and commercial project evaluation available in real time
- Clear management of internal and external resources
- Diverse controlling: budget, material and time expenditure, schedule, quality



### Resource master data

Resources include employees or machines. Resource management allows you to plan capacity and deployment in detail and for an unlimited period of time.

Furthermore, resources can be grouped into resource groups. Purchase and sales prices can be recorded in detail and budgeted and invoiced for resources and resource groups.

## Establishment

To create a resource in KUMAVISION factory365, the following setups have to be done in advance:

### Number series for resource

Set up the number series for the resources so that when a new resource is created, the system automatically assigns a sequential identifiable number for the resource.

To do this, call up the "Number series" via the user search. You can create a new number series via "New" in the menu ribbon.

Afterwards, the created number series is stored in the "Resources setup" in the "Resource numbers" field.

Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Units

Set up the "Units" table according to your individual requirements to be able to make the assignment when creating a resource (base unit code).

Call up the "Units" via the user search and create the units according to your requirements (for resources it is recommended to set up the unit "Hour").

Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Basic calendar

The "Base calendar" can be used for several processes in KUMAVISION factory365. In connection with the resource, you can store a corresponding base calendar, with the help of which, for example, the different holidays in a (federal) country can be taken into account.

#### **Example:**

In Germany, January 6 (Epiphany) is viewed completely differently - while in Baden-Württemberg and Bavaria, for example, this is handled as a normal holiday, in North Rhine-Westphalia it is a normal working day. With the help of the stored calendar, resource availability can be calculated accordingly.

To create a base calendar, call up "Base calendar" via the user search. You can create a new base calendar via "New" in the menu ribbon.

The assignment of the possible different base calendars is done when the resource is created on the respective resource card.

Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Qualifications

Qualifications can be stored in the resources according to your skills. To define the qualifications, first call them up via the user search.

Via "New" in the ribbon you can create a new qualification with the help of the table below.

Field	Description
Code	Assign a meaningful abbreviation for the qualification.
Description	Assign a description for the qualification.

Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Working Time Template

The working time templates allow you to store the different working time models of your employees in the system. Call up the "Working time templates" via the user search.

Via "New" in the menu ribbon, you can define a new working time template that can be assigned to a resource when it is created. Further information can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Capacity units

Resource management and capacity determination of production work with different unit tables. For linking the units, the resource unit is assigned to the capacity unit.

To do this, call up the capacity units via the user search. Via the menu item "Edit list" in the menu ribbon you can edit already existing capacity units and thus link the resource unit of the capacity unit in the field "Resource units".

### Resources

To create a new resource in the system, first call up the "Resources" via the user search. Via "New" in the menu ribbon you can create a new resource with the help of the table below.

## Inforegister General



Field	Description
No.	Specifies the number of the resource according to the specified number series. Alternatively, a manual assignment can be made.
Name	Specifies the name of the resource.
Name 2	Specifies the name 2 of the resource.
Type	Indicates what type of resource it is. Choice between "Person" or "Machine".
Base unit	Specifies the base unit of the resource e.g. "hour", "piece".
Number of text modules	Specifies the number of stored text modules.
	The text modules are stored in the ribbon - Navigate - Text modules.  Further information on the topic of "Text modules" can be found in the section of the same name.
Search Keyword	Specifies an alternative name / abbreviation that you can use to search for the record.
	The system will automatically preset the field with the field content "Name", a manual change is possible.
Res. group no.	Specifies the resource group assigned to the resource.
Locked	If active, the resource cannot be used in the processes
Privacy lock	Specifies whether to restrict access to data of the data subject in daily operation.
Locked (user)	Field that activates the lock of the master record (as before). However, the field can now no longer be changed directly.
Care	This indicates whether the record is currently in maintenance or not.
Status mandatory field check	This field displays whether the mandatory field check was not performed (no check), completely checked, or incompletely checked.
	The lookup on the field can be used to view the missing mandatory fields.
Locked from	This shows whether the record is locked by the mandatory field check or by the user.
Corrected on	Date of the last correction.
Plan resource	Indicates whether the resource is a planned resource. The field is set automatically when the planning resource is assigned with the resource group and cannot be edited by the user.

Field	Description
	<p>As soon as the "Plan Resource" switch is active, the calls "Resource Capacity" and "Set Resource Capacity" are not executable, because a "Plan Resource" must not have any capacities</p> <p>Basic calendar code Specification of the base calendar</p> <p><b>Note:</b> You can define non-working days in the base calendar. For more information, see section "Base calendar" or <a href="#">Microsoft Dynamics 365 Business Central Helpsite</a>.</p>
Specific calendar	Indicates that the base calendar was used, for a custom calendar.
Working Time Template	By assigning a working time template, the capacity quantity per weekly working day is determined when creating the resource capacity. If no working time template is assigned, this is skipped when the capacity creation function is executed.
Use timesheet	If the switch is activated, the resource is available for bookings via the timesheets.
User ID of the time sheet owner	Specifies the user ID of the timesheet owner.
User ID of the timesheet approver	Specifies the user ID of the timesheet approver.
Workplace type	Defines the type of linking of the resource. The link is taken into account in the resource utilization.
	<p><b>The following options are available:</b></p> <p><i>Workstation group</i></p> <p>when the resource is linked to a workstation group.</p>
	<p><i>Workplace</i></p> <p>when the resource is linked to a workstation group.</p>
	<p><i>Resource</i></p> <p>if the resource is not linked.</p>

Field	Description
Job no.	Defines the linked workstation (group) depending on the workstation type.
External resource	Marks the resource as External so that it can also be used in the procurement process.
Vendor no.	Specifies the vendor to which the external resource belongs.  The system automatically determines the company contact number by entering the vendor number.
Company Contact no.	Indicates the company contact to which the resource belongs.
People contact no.	Specifies the person contact number to which the external resource belongs.

## Invoicing information register

Field	Description
EK price	Specifies the purchase price of a unit of the resource.
Indirect costs %	Indicates the percentage of the last purchase price of the resource from which indirect costs arise, such as freight/travel costs or similar associated with the purchase of the resource.
Cost price	Indicates the cost of one unit of the resource.
VK Price / DB Calculation	Indicates the relationship between the fields "Cost price", "Sales price" and "DB %".  The choices are: <ul style="list-style-type: none"> <li>• <math>DB = VK - EP</math></li> <li>• <math>VK = EP + DB</math></li> <li>• No reference</li> </ul>
DB %	Specifies the profit margin at which you want to sell the resource. You can enter a contribution margin manually or have it entered according to the "VK Price / DB Calculation" field.
UK price	Indicates the price of one unit of the resource. You can enter the price manually or have it entered according to the "VK Price / DB Calculation" field.
Credit delivery valuation group code	Specifies the item group code for the supplier rating.  Further information on the topic of supplier evaluation can be found in the section provided for this purpose.
Product posting group	Specifies the product type of the resource to perform transactions for this resource with the corresponding G/L account.  VAT - Product booking group Specifies the VAT details of the involved resource to perform transactions according to the posting matrix.
Standard Accrual Template	Specifies how revenues and expenses are accrued from periods.
Automatic. Text module	Specifies that a text module is added to the documents for this resource.
IC partner Deposit G/L account no.	Specifies the number of the IC G/L account in your partner's company to which the amounts of the respective resource are posted.
Product Commission Group Code	Specifies the product commission group.  With the help of commission groups, resources can be grouped and commissioned separately.

Field	Description
	This classification into commission groups is inherited in the sales process in the posted documents.
	For further information, please refer to the "Commission management" section.
Inforegister Personal Data	
Field	Description
Function	Specifies the function of the resource.
Address / Address 2	Specifies the address of the resource.
Location	Specifies the location of the address of the resource.
Zip code	Specifies the postal code of the resource's address.
Country/Region Code	Specifies the country/region of the resource's address.
Social security no.	Specifies the social security number of the resource (person).
Training	Indicates the education of the resource (person).
Convention	Specifies the convention for the resource (person).
Date of employment	Indicates the date when the resource was hired.

#### Qualification

On the respective resource card, you have the option of assigning a qualification to the respective resource via "Qualifications" in the menu ribbon. If no qualifications have been set up in the table of the same name, they must be created beforehand.

Depending on the "Projects setup" in the "Check resource qualification" field, the system checks whether the necessary qualifications for an activity type are available when a resource is entered in the project plan lines.

#### Set capacity

The capacity of a resource is the amount of work that can be done within a defined period of time (one day). To calculate and define the capacities of the resource, call up the "Define capacity" function via the menu ribbon in the "Navigate" menu tab.

The "Calculate Res. Capacity" mask opens on which the filtering of the resource is already preset. By specifying the start/end date, the capacity items can be determined and defined.

#### Note

The capacity is calculated on the basis of the assigned base calendar and the assigned working time template on the respective resource card.

If no allocation of one/both fields has been made, no calculation of capacity can be made.

## Note

If capacity items already exist for the calculated resource, the Calculate Res. Capacity application deletes them and creates new items.

## Resource capacity

By calling up "Resource capacity" via the user search, you have the option of viewing the capacity of the resources.

The "Set capacity" function is also available via the "Planning" menu selection on the "Resource capacity matrix" info tab.

The difference between the call on the resource map and the call in the resource capacity is that when calling from the resource map a pre-filtering is set on the resource. The call via the resource capacity is not, so that the capacity can be calculated over all available resources.

## Plan resource

### General

Especially in the initial stage of a project, usually no actual employee resources can be assigned behind positions, it is worked with a substitute, a so-called "planned resource".

A planned resource is equivalent to a normal resource, but has no capacities itself. A resource group is also defined for each department or team, which serves as a bracket for resources. All resources of a team are assigned to the resource group of the team.

### (Plan) resource

To create a planning resource in the system, first call up the "Resources" via the user search. A planning resource is usually created in the same way as a conventional resource. For further information on creating resources, please refer to the "Resources" section.

### Resource Group

To actually make a resource a "planned resource", it is necessary to assign the resource to a resource group intended for this purpose.

Call up the resource groups via the user search.

Via "New" in the menu ribbon you can create a new resource group by entering an abbreviation and a description.

Then assign the resource that is to be used as a "planned resource" in the future to the resource group in the "Accumulation resource no. " field.

## Note

Please note that only resources with the status "Maintenance completed" can be assigned.

By assigning the resource as an accumulation resource, the system automatically sets the "Planned resource" field on the resource card and it is not editable by the user.

## Note

As soon as the switch "Plan resource" is active, the calls "Resource capacity" and "Set resource capacity" are not executable, because a "Plan resource" must not have any capacities.

## Capacity

A planned resource corresponds to a normal resource, but has no capacities. An overview of which capacities are available and their requirements is shown in the resource group availability.

## Posting behavior of the planning resource

No consumption postings may be made for a planning resource, posting via the billing document is possible. Especially for the case that the planning resource is to be settled instead of the executing resource.

### Create timesheet

Via the function "Create timesheet..." in the menu ribbon under the menu tab "Actions" you can create a timesheet for the respective resource.

To do this, enter the start date from which the timesheet is to be created. As well as the number of periods.

Using the timesheets, the resource can record and submit for your projects, the corresponding project tasks and the times for the corresponding period.

Further information on this topic can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Project Management

Projects in Microsoft Dynamics 365 Business Central are dynamic business transactions that extend over a longer period of time. These can be planned, controlled and invoiced in detail with the help of activities and budgets.

You can track the use of working hours, machine running times and material for individual projects. This is managed via project tasks and their associated project plan lines, via which the expenses and revenues are managed.



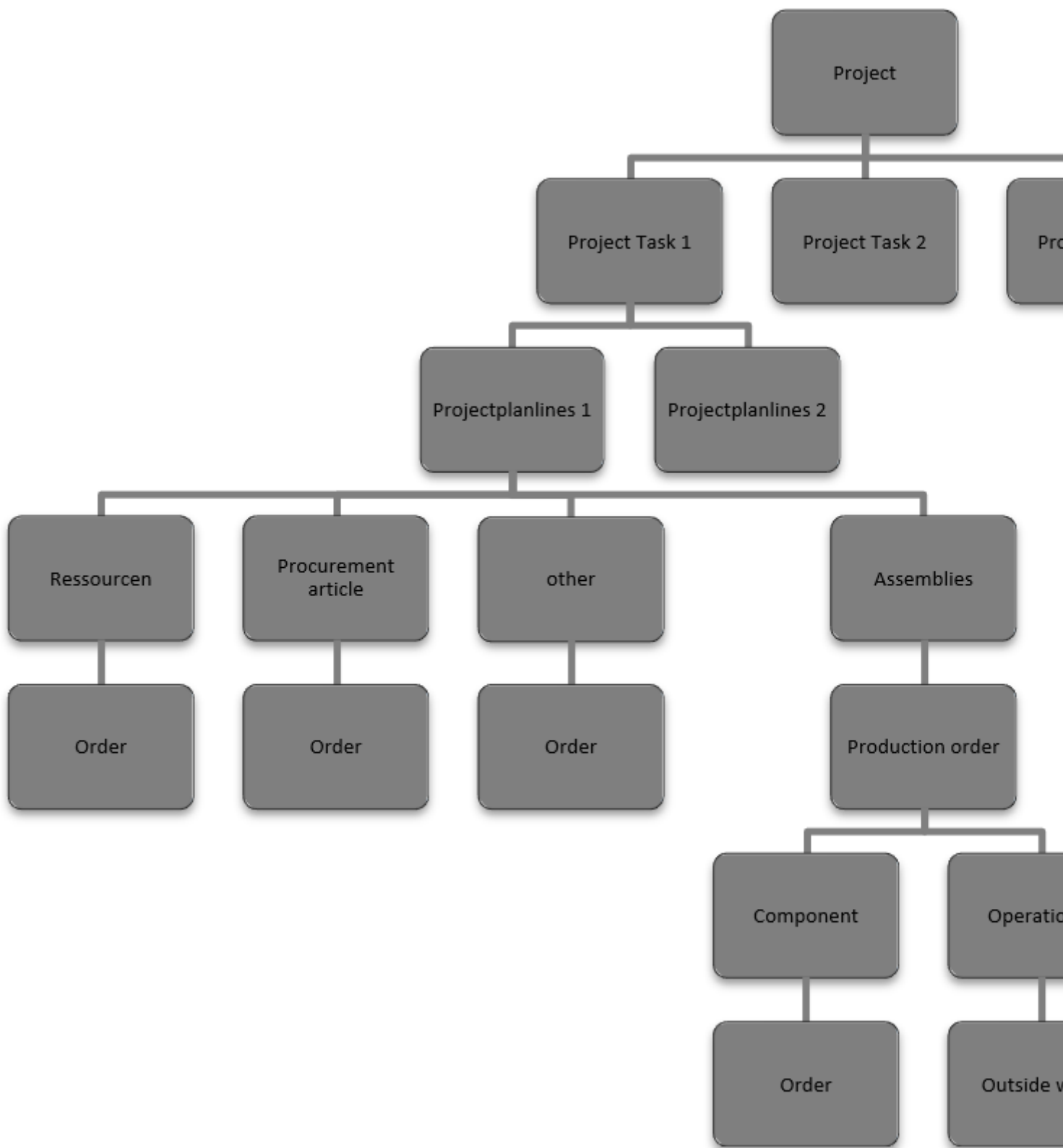
**A project consists of a three-tier structure:**

Stage	Description
Project	Bracket with the essential key data
Project tasks	Project tasks subdivide the project into different tasks, such as project management, incidental project costs, design and development, production, but also meetings, for example.
Project plan lines	Project plan lines represent the means for task completion such as items, resources, or even item

The development of a project can thus be traced down to the smallest detail.

In addition, with the help of integrated invoicing in the Accounts Receivable & Sales and Accounts Payable & Purchasing modules, all related revenues and expenses are recorded.

**The project structure and its processes are shown in a diagram below:**



Project facility

Establishment projects

In the "Project setup" the necessary settings for the later project creation and implementation are made.

**In the following the fields are explained to you on the basis of the table below:**

#### Inforegister General

<b>Field</b>	<b>Description</b>
Automatic posting of project item prices	Cost changes are automatically regulated as soon as the batch processing "Stock reg. fakt. Sett. Prices" is executed.
Apply consumption link by default	Specify whether project items are linked to project planning lines by default.
Allow budget/billed line definition	Specifies whether the type of project lines can be "Budget and Billable" by default.
WIP Standard Method	Sets the default method to be used for calculating the circulating stock.
Default WIP booking method	Defines how to apply the default working capital method when posting the working capital in the G/L item.
Default project booking group	Sets the default booking group to be applied when creating a new project.
Logo position on documents	Sets the position of the company logo on the business documents.

#### Inforegister numbering

<b>Field</b>	<b>Description</b>
Project numbers	Specifies the number series to be used for assigning the numbers of a project.
Project WIP numbers	Specifies the number series to be used for assigning the numbers of the project GDP documents.

## Inforegister plant engineering

Field	Description
Project type Dimension	<p>If you define a dimension here, you can define in the project types which dimension value for the dimension should be assigned to a project by the system when assigning the project type.</p> <p>By setting project type dimensions, you can create analyses about your projects according to the dimension value.</p>
Check resource qualification	<p>When entering a resource in the project plan lines, the system checks whether the necessary qualifications for an activity type are available.</p> <p>The following selections are available:</p> <p><b>No</b> check is made when resources are used</p> <p><b>Planning only</b>When maintaining project plan lines, the resource is checked against the necessary qualifications</p> <p><b>Booking only</b>It is checked for the sufficient qualification at the time of booking</p> <p><b>Planning and Booking</b>Combination of Planning Only and Booking Only</p>
Sale position no. from project plan lines	If the check mark is set, the project task is transferred to the sales document as item no., otherwise the item is calculated individually for each order.
Use dimensions from project references	If the checkmark is set, the dimensions defined in the referenced project plan line are used instead of the standard dimension line determination of the tables concerned.

**The switch takes into account the following tables:**

- purchase Row
- FA line
- FA Components
- Stock transfer
- Assembly order
- Assembly order items

## Information register production

Field	Description
When the project status changes, automatically change the FA status to	You can use this switch to specify whether any existing production order should also be changed from status to status when the status of the project is changed, and if so, to which FA status.

## Inforegister Logistics

Field	Description
Create project storage location	<p>For the procurement and logistics processes, you use this to specify whether the system should create a project storage location for each project.</p> <p>The project storage location hereby represents the place of performance of the project.</p>
Stock entry	<p>entry storage location code For the procurement and logistics processes you define here a warehouse from which the warehouse setup for the financial accounting is to be copied.</p> <p>The field "Stock entry one location code" can only be maintained if the storage location creation is activated ("Create project storage location").</p>
Preferred transit code	<p>For the procurement and logistics processes, enter the transit code for the project warehouse transfer route here.</p> <p>The "Preferred transit code" field can be maintained only if the storage location creation ("Create project storage location") is enabled.</p>
Preferred delivery code	<p>For the procurement and logistics processes, enter the delivery agent code for the project warehouse transfer route here.</p> <p>The field "Preferred delivery code" can only be maintained if the storage location creation ("Create project storage location") is activated.</p>
Preferred carrier transport code	<p>For the procurement and logistics processes, enter the delivery agent transport type code for the project warehouse transfer route here.</p> <p>The field "Preferred delivery transport code" can only be maintained if the storage location creation ("Create project storage location") is activated.</p>

## Inforegister Outlook Todos

Field	Description
Step CRM task	If you are working without a project outline, use this field to specify the increment for creating new project tasks.
Separator CRM task	If you work without a project breakdown, use this field to specify the separator for creating new project tasks.
Counter CRM task	If you work without project breakdown, set the counter for creating new project tasks in this field.

## Inforegister Commitment

Field	Description
Smallest FA status for target cost consideration	Define here from which FA status the target costs are to be displayed as planned costs.

## Inforegister Version comparison

Field	Description
First archiving version no.	In this field, specify the first archiving number of a version number assignment.
If only in left version, If only in right version, If version identical, If versions different,	If subordinate line differs You can use these fields to specify the visual display in the version comparison. You can choose from:
	<b>None:</b> Display in black font color (serves as an identifier that no deliberate setup has been done yet)
	<b>Standard:</b> Display in black font color
	<b>StandardAccent:</b> Display in blue font color
	<b>Strong:</b> Display in black font color, bold
	<b>StrongAccent:</b> Display in blue font color, bold
	<b>Attention:</b> Display in red font color, italic
	<b>AttentionAccent:</b> Display in blue font color, italic
	<b>Favorable:</b> Display in green font color, bold
	<b>Unfavorable:</b> Displayed in red font color, italic, bold
	<b>Ambiguous:</b> Displayed in yellow font color
	<b>Subordinate:</b> Displayed in gray font color
Compare only set up fields	With this switch you can globally define whether only set up fields should be compared or possibly individual comparison setups should be allowed via the "Version comparison field setup".
	If the switch is activated, individual comparison setups can be made via the "Version comparison field setup" via the "Consider in field comparison" column.



Field	Description
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	If the switch is deactivated, the "Consider in field comparison" column is not editable.
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### Project accounts

In the projects for plant construction, consumption and sales postings are displayed on a project chart of accounts, which is used for project controlling. The selection of the corresponding project accounts is controlled via the project account setup.

### Project Chart of Accounts

The project chart of accounts is used for project controlling and contains all sales and cost accounts that are to be used for a differentiated project view. The project chart of accounts is not dependent on the FIBU chart of accounts.

In the "Account type" field you can choose between five options:

Field	Description
Account	A bookable account can be selected.
Headline	Text line in which a heading can be entered as a structure feature.
Total	A sum defined by the "Total" field.
From-Sum	An initial marker for a totaling project account series that ends with the To Total account type.
To-Sum	An end marker for a totalizing project account series that starts with the From Total account type. The total is defined using the Totalization field.

After you have set up the project account, select "Actions" > "Indent Chart of Accounts" in the ribbon. Then select the "Yes" option in the message window.

### Project account setup

The procedure is almost identical to setting up the posting matrix in the financial accounting area.

The project account setup determines the project accounts to which consumption and revenues are posted or budgeted in plant engineering. The project account setup is a matrix that defines the consumption and sales accounts for product posting groups. Here, the setup can be controlled by the project type and/or the activity type. Each project item is assigned either a consumption account or a sales account depending on its item type (consumption or sales). When determining the project account, the field contents of the project item are used.

### Project Roles

The project roles define in the later projects which role (e.g. project manager) the resource takes in the respective project.

To define the project roles in advance, call them up via the user search. Via "New" in the menu ribbon you can create a new project role with the help of the table below.

Field	Description
Code	Assign a meaningful abbreviation for the project role.
Description	Assign a description for the project role.
Type	<b>Assign an applicable type. You can choose from the following:</b> <ul style="list-style-type: none"><li>• Responsible</li><li>• Project Manager</li><li>• Sale to contact no.</li><li>• Invoice to contact no.</li></ul>

Service type

It is important for the later task planning in the projects to set up the activity types. To do this, call up the activity types via the user search.

Via "New" in the menu ribbon you can define a new service type with the help of the table below.

Field	Description
Code	Assign a meaningful abbreviation for the activity type.
Description	Assign a description for the service type.
Type	<p>Specifies the type that the record is. You can choose from the following:</p> <ul style="list-style-type: none"> <li>• Account</li> <li>• Headline</li> <li>• Total</li> <li>• From-Sum</li> <li>• To-Sum</li> </ul>
Counting up	<p>Here you can now specify the interval or other filter specification of numbers of the service type.</p> <p>The results of the specified service type are added to a total balance.</p> <p>For the From sum or Heading type, this field must be left blank.</p> <p>For the To-total type, the field is automatically filled when the chart of accounts is indented. Only the types that are between a From total and a To total are added together.</p>
Qualifications	<p>Indicates the number of qualifications required for the service type.</p> <p>Via a LookUp on the number, qualifications can be assigned to the activity type and already existing ones are displayed to you.</p> <p>Further information on the subject of qualifications can be found in the section of the same name.</p>
Usage	<p><b>None</b>There is no task scheduling, the fields are not editable in the project task.</p> <p><b>Task planning</b>You can enter planning directly in the project tasks.</p> <p><b>Forecast</b>There is no task planning, the fields are not editable in the project task.</p> <p><b>Both</b>You can enter planning directly in the project tasks.</p>
Type planning	<p>Via the type of planning you determine the type with which the task planning is to be entered in the planning line.</p> <p><b>You can choose from the following:</b></p> <ul style="list-style-type: none"> <li>- Resource</li> </ul>

Field	Description
	- Article - G/L account
Planning no.	Via the planning no. you determine, depending on the type of planning, with which account the task planning is to be displayed in the planning line.
Work type code	Specifies the work type code for the activity type.
	Specifies the type forecast for the service type.
Art Forecast	You can choose from the following: <ul style="list-style-type: none"> <li>• Resource</li> <li>• Article</li> <li>• G/L account</li> </ul>
Forecastnr.	Specifies the forecast no. in the context of the "Type Forecast" field.
Forecast work type code	Specifies the forecast work type code.
Cross country skiing articles	Identifies a project task with the assigned activity type as a "long-run item".

#### Project types

When creating a new project, you can define the type of project by assigning a "project type". Here you can already enter some data such as a project template, order type or similar.

To define the project types in advance, call up the project types via the user search. Via "New" in the menu ribbon you can define a new project type with the help of the table below.

Stage	Description
Code	Assign a meaningful abbreviation for the project type.
Description	Enter a description for the project type.
Project booking group	<p>Enter the project booking group for the project type to be used when assigning the project type.</p> <p>Please note that if the "Template project no." is maintained (see below), this information is ignored. (see below) this information will be ignored.</p>
Project number series	Specify the project number series for the project type to be used when creating a project and assigning the project type.
Template Project No.	Specifies the project no. to submit the project for the project type.
Project type Dimension value	Specifies the dimension value for the project type.
Dimension code	Specifies the dimension code.
Dimension Value Prefix	Specifies the dimension value prefix.
Task breakdown	<p>Specifies a task breakdown for the project type.</p> <p><b>Please note</b> that if the "Template project no." is maintained (see above), this information is ignored. (see above) this information will be ignored.</p>
Reserve	<p>Specifies the reservation method for the project type.</p> <p>The following are available for selection:</p> <ul style="list-style-type: none"> <li>• Never</li> <li>• Optional</li> <li>• Always</li> </ul>
Order type	In the project type, you can set up an order type for the creation of sales documents, if required. This will be used when creating the documents.

#### Project breakdown

The project structure helps you to enter and maintain your project tasks quickly and efficiently with predefined numbering.

Call up the "Project outline" via the user search.

Via "New" you can create a new project outline using the table and procedure below.

Field	Description
Code	Define a unique code for the record here.
Description	Define a short description for the outline here.
Status	Indicates the status of the outline.
	The following are available for selection:
	<ul style="list-style-type: none"> <li>• New</li> <li>• Certified</li> <li>• In development</li> <li>• Expired</li> </ul>
	<b>Note</b> Please note that only project members with the status "Certified" can be used in the processes.

To define the outline for the created dataset, call up the "Outline structure" menu item via the ribbon.

Field	Description
Level	Level or indentation of the task.
Description	Enter a description for the layer here
Increase	Define with which intervals the system should assign tasks, 1 for one step, 10 for ten steps etc. Based on the increment, the Counter field is initialized.
Counter	Here you can define with which value the level should be started and how wide the level can be. For example, enter 001 if the layer can reach a maximum value of 999. Please note that the Project task field only has a maximum width of 20 characters.
Separator	Define a separator here, e.g. period, comma, hyphen
Count type	<ul style="list-style-type: none"> <li>• Numeric</li> <li>• Alphanumeric</li> </ul> please specify alphanumeric if your counter contains letters.
Bookable	Specify whether it is possible to post on the level
Example	Represents the current definition, as a project task.

#### Project Document Text Template

For easy editing/creation of the document texts in the projects, you can define project text templates in which you specify how and when which data record is to be printed in which document.

To do this, call up the "Project document templates" via the user search.

Via "New" you can create a new project document template using the table below.



Field	Description
	Use this field to specify for which table the definition is valid.
Project table	<b>The following selection is available:</b> <ul style="list-style-type: none"> <li>• Project Task</li> <li>• Project planning line</li> </ul>
	Use this field to specify for which line type the definition is valid.
Line type	<b>The following selection is available:</b> <ul style="list-style-type: none"> <li>• Budget</li> <li>• Invoiceable</li> <li>• Budget and Invoiceable</li> </ul>
	In this field, specify how the definition is valid for which position.
Position	<b>The following selection is available:</b> <ul style="list-style-type: none"> <li>• Pretext</li> <li>• Post text</li> </ul>
Service Contract Offer	Printing In this field, specify whether the text should be printed on Service contract offer.
Service contract printing	Use this field to specify whether the text should be printed on the service contract.
Service offer printing	Use this field to specify whether the text should be printed on the service offer.
Service Order Printing	Use this field to specify whether the text should be printed on the service order.
Service Geb. Invoice Printing	Use this field to specify whether the text should be printed on the service invoice.
Service Geb. Credit Print	Use this field to specify whether the text is to be printed on the service credit note.
Service Geb.	Delivery Print In this field, specify whether the text is to be printed on the service delivery.
Service work ticket printing	In this field, specify whether the text should be printed on service work ticket.
VK offer pressure	In this field, specify whether the text should be printed on VK offer.
VK Order Printing	Use this field to specify whether the text should be printed on VK Order.
VK Geb. Invoice Print	Use this field to specify whether the text should be printed on VK Geb. Rechnung.

Field	Description
VK Geb. credit print	Use this field to specify whether the text should be printed on VK Geb. Gutschrift.
VK Blanket order printing	Use this field to specify whether the text should be printed on VK Blanket Order.

#### Project planning

In the following, you will be introduced to project planning. It will be shown how a project can be structured and how plan values can be stored.

#### Project Assistant

For a quick and easy creation of a project KUMAVISION factory365 offers a wizard for project creation.

For this, it is first necessary that the user has assigned the role center "Project Manager" in the user customization.

On the start page of the "Project Manager" role center, the "New Project" call is located in the activities area.

After clicking on the call, the wizard will be started.

#### Creation progress

The "Creation progress" screen is used for the navigation/status overview of the project wizard.

**This is divided into four sub-areas with their respective statuses:**

- Copy project
- General project data
- Sale to data
- Invoice to data

Furthermore, the current processing step with the overall progress status is displayed.

**In the lower area of the mask you have the following selection options:**

Copy project

Field	Description
Project type	Specifies the type of project it is.
Template	Specifies the project no. to submit the new project.
Project No.	If a project template is already stored in the project type, it will be preset automatically.
Transfer from project: (Copy project awards, Copy quantity, Copy milestones, Copy document texts)	<p>From the "Template Project No.", if it is activated, the following data can be transferred from the template to the new project:</p> <ul style="list-style-type: none"> <li>• Copy project prices</li> <li>• Copy quantity</li> <li>• Copy milestones</li> <li>• Copy document texts</li> </ul>
Copy risks	<p>Here the risks from the "Template project" can be taken over for the project to be created.</p> <p>The following selection options are available:</p> <ul style="list-style-type: none"> <li>• No</li> <li>• Risks only</li> <li>• With values</li> <li>• with probabilities</li> </ul>
Project task no. from	Here the project tasks can be taken over from the "Template project" for the project to be created. Specification of the "Project task no. from" value.
Project task no. until	Here the project tasks can be taken over from the "Template project" for the project to be created. Specification of the "Project task no. to" value.
Start date / End date	Specifies the scheduled start/end date of the project.
Origin	<p><b>Set:</b></p> <p><b>None:</b> Do not create plan lines when copying</p> <p><b>Project plan lines:</b> Project plan lines to be copied from the template project using the project plan lines</p> <p><b>Project items:</b> Generate project plan lines based on the project items from the template project.</p>

Field	Description
Line type	<p><b>Depending on the project plan line origin, you can define which line type(s) you want to transfer:</b></p> <p><b>Project plan lines:</b></p> <ul style="list-style-type: none"> <li>- Budget + BillableAll project plan lines</li> <li>- BudgetOnly budget marked project plan lines</li> <li>- BillableOnly billable marked project plan lines.</li> </ul> <p><b>Project item:</b></p> <ul style="list-style-type: none"> <li>- Consumption+SalesAll project plan lines</li> <li>- Consumption Only consumption marked project items</li> <li>- SaleOnly sale marked project items</li> </ul>
General project data	
Field	Description
Unit of responsibility code	This field can be used to assign the project to a unit of responsibility. The unit of responsibility is copied from the customer to the project and is used for information purposes only. The field has no effect on visibility control nor is the unit of responsibility inherited from the project to the documents created from the project.
Responsible	Specifies the person who is responsible for the job.
Project Manager	Specifies the person who is responsible for project management.
Project description / Project description 2	Specifies the project description
Start date / End date	Specifies the start date / end date of the project.
New storage location code	Specifies a new storage location code.

## Sale to data

Field	Description
Sale to contact	Specifies the contact at the customer who is responsible for the order.
Sales to debtor	Specifies the customer no. to which the cost of the project is to be charged. If you have previously maintained the "Sales to contact" field, this field will automatically default to the linked customer.

If you have gone through the project wizard and have filled in all the necessary fields with the corresponding data, you can create the project by clicking on "Create project".

The project map will be opened for you after creation in order to be able to enter further information. Alternatively, you can close the project map.

## Project map Inforegister General

**On the "General" info tab, the general data of the project are defined first. These are explained in more detail below:**

Field	Description
No.	Specifies the number of the project of the correspondingly defined number series.
Description / Description 2	Specifies the description of the project.
Project type	Indicates what type the project is.
	<p>If the following data has already been stored in the project type, it will be transferred to the project when the project type is assigned:</p> <ul style="list-style-type: none"> <li>• Project booking group</li> <li>• Project number series</li> <li>• Template Project No.</li> <li>• Project type Dimension code</li> <li>• Dimension code</li> <li>• Dimension Value Prefix</li> <li>• Task breakdown</li> <li>• Reserve</li> <li>• Order type</li> </ul>
Sell to deb. no.	Indicates the number of the customer who usually bears the costs for the project.
Sell to deb. template code	To create a project to a contact, the corresponding contact number is specified and the "Sales to deb. template code" field is filled with the appropriate template.
Sell to contact no.	Indicates the contact of the customer, who usually bears the costs for the project.
	<p>In the Planning and Offer statuses, it is also possible to work with pure contact addresses. When the status changes to Open, a customer is created for the contact.</p> <p><b>Note</b></p> <p>Please note, that in case of using contacts, the field "Sales to deb. template code" or "Invoice to deb. template code" must be maintained. To deb. template code" field must be maintained.</p>
Sell to name / name 2 / name 3	Specifies the name of the customer who usually bears the costs for the project.
Sell to address / address 2	Specifies the address of the customer to whom you usually send the invoice.
Rech. to deb. no.	Indicates the number of the customer who usually bears the costs for the project.



Field	Description
	<p>By assigning the "Sales to customer no." field, the "Invoice to customer no." field is automatically preassigned with the "Sales. To customer no." field automatically.</p> <p>If there is a different invoice recipient, the corresponding number must be changed manually.</p>
Rech. to deb. template code	Specifies the "Rech. an Deb. template code".
Rech. to contact no.	Specifies the contact no. of the invoice recipient.
Rech. to Name / Name 2	Specifies the names of the invoice recipient.
Rech. to address / address	Specifies the address of the invoice recipient.
Rech. to zip code	Specifies the postal code of the invoice recipient.
Rech. on site	Specifies the location of the invoice recipient.
Rech. to country/region code	Specifies the country/region code of the invoice recipient.
Rech. to contact	Specifies the name of the customer who usually bears the costs for the project.
Phone no. / Mobile phone no.	Specifies the stored phone number of the customer.
E-mail	Specifies the deposited e-mail address of the customer.
Search Keyword	Specifies the search term of the project. This is automatically pre-populated with the description of the project and can be changed manually.
Unit of responsibility code	This field can be used to assign the project to a unit of responsibility. The unit of responsibility is copied from the customer to the project and is used for information purposes only. The field has no effect on visibility control nor is the unit of responsibility inherited from the project to the documents created from the project.
Responsible	Specifies the person who is responsible for the job.
Locked	Please transfer from the customer or other master data
Task breakdown	Specifies the task breakdown to be used for the project.

Field	Description
Archived version	Indicates the number of archived versions. A lookup makes it possible to view the versions.
Corrected on	Indicates when the project data of the project map was last changed.
Project Manager	Specifies the person who manages the project.

#### Inforegister Tasks

On the "Tasks" info tab, the project tasks that are/will be planned in the project are first defined. This is the first "rough planning" for the project.

#### Task breakdown

The task outline is used for the systematic and clear presentation of the project tasks and enables a uniform structure across the projects by means of predefined outline structures. The task outline is assigned to the project in the "Task outline" field in the project map. Using the following functions, you can insert the task outline into the project task lines.

#### Insert Outline Structure Function

You can call up the "Insert Outline Structure" function on the respective project card via the ribbon. This function inserts a completely new outline structure at the end of the structure details.

#### Insert outline structure to postable" function

You can call up the "Insert outline structure up to bookable" function on the respective project card via the ribbon. This function inserts an outline structure up to and including the first bookable outline structure.

#### Project tasks

If you have previously inserted an outline structure in the project task rows, you have the option to insert a new row below an outline structure level via the [...] Assist button.

The system inserts a new line with the position numbering and description of the layers above.

Now enter the project tasks that occur / are planned in the project using the table below.

Field	Description
Project task no.	Specifies the number of the project task
Description	Specifies the description of the project task
Project Task Type	<p>Specifies the type of project task.</p> <p>The choices are:</p> <ul style="list-style-type: none"> <li>• Account</li> <li>• Headline</li> <li>• Total</li> <li>• From-Sum</li> <li>• To-Sum</li> </ul>
Service type	<p>In this field, assign the activity type for the project task in case of an account.</p> <p>With the activity type you influence the project account determination and have the possibilities to influence the maintenance of the project plan lines.</p>
Previous milestone	Indicates a dependency on a previous milestone.
Milestone	<p>Specify here that the task is a milestone. A task can only be set as a milestone if type=total.</p> <p>Due to the type=total, the values for a milestone can be easily tracked using the flowfields for costs and revenues. Based on the flowfields, the user can also dive into the plan lines or project items to analyze the milestone situation.</p>
Milestone date	Set here when the milestone is due.
Belongs to Milestone	Specify here to which milestone the task belongs.
Status	<p>Indicates the status of the project task.</p> <p>If a project task is finished, the corresponding plan lines are set to 100% during task progress.</p>
Cross country skiing articles	<p>The checkmark "Long run item" identifies a project task as a task for long run items.</p> <p>For more information on "cross-country skiing articles", see the section with the same name.</p>
Task	See a possible CRM task created from this here

Field	Description
Task status	Status of the task, see for details there
Distribution type	Define here which distribution type should be used to distribute the possibly created project plan lines between start and end time.
Maintenance is necessary if you carry out quick planning directly via the project tasks and the planning type is set to Resource.	
Start date	Specifies the start date for the project task. If you have activated date maintenance at task level, you can change the planning date of the start line via the task.
The system creates a new project plan line with the type text and the default text code stored in the setup. The date is transferred to the Planning date field.	
End date	Specifies the end date for the project task.  If you have activated date maintenance at task level, you can change the planning date of the end line via the task.  The system creates a new project plan line with the type text and the default text code stored in the setup. The date is transferred to the Planning date field.
Working days	The number of working days between the start and end dates, provided that the planning type is Resource and the resource capacity has been defined for the resource.
Budget (cost price)	Specifies the budgeted cost price for the project task depending on the time period of the "planning date filter".
Actual cost amount	Specifies the cost amount for the consumption of items, resources, and expense line items posted to the project task depending on the "Planning Date Filter" period.
Archived consumption Cost amount (MW)	See consumption in an archived version for comparison.
Billable (sales amount)	Specifies the billable sales amount for the project task depending on the period of the "planning date filter".

Field	Description
Invoiced (sales amount)	Specifies the billable sales amount for the project task depending on the period of the "planning date filter".
Purchase commitments Amount (MW)	See here the purchase order commitment (MW) (values of open purchase orders) for the project task.
Actual messages (MW)	See here the value for the production orders/articles already created for the project task.
Capacity costs (MW)	See here the value for the capacity costs (machine and personnel costs) already paid for the project task.
Consumption costs (MW)	See here the value for the material consumptions already done for the project task.
Planned consumption costs production order (MW)	Indicates the planned consumption costs (planned material requirements) based on a generated production order.
Planned capacity costs production order (MW)	Indicates the planned capacity costs (planned machine usage) based on a generated production order.
Initial order Amount (MW)	Represents the sales amount of the initial order.
Follow-up order(s) Amount (MW)	Represents the sales amount of the follow-up order.
Variance(s) Amount (MW)	Represents the amount generated via the forecast.
Actual progress %	Indicates the actual progress of the project task in %.
Actual progress date	Indicates the date of the actual progress of the project task.
	<p>If you set the forecast to "Project task", use this field to specify the total costs you currently expect for the project task.</p> <p>For the calculation of the forecast (MW), the system determines it as follows:</p> <p>(Consumption (cost price)  Time commitment Amount (MW)  Purchase commitments Amount (MW)  Stock commitment Amount (MW)  Production commitments Amount (MW))  Actual progress %  Forecast(MW)</p>
Engage/disengage	

The function Project Tasks Move In and Move Out only works with defined task breakdown in the project map as well as project task type Account.

You can call up the "Engage/disengage" functions via the "Tasks" info tab using the "Line" menu selection.

### **Indent:**

When the function "Indent" is called, the current line is indented one level down and bracketed by a from-sum and a to-sum line.

The description of the indented line is assigned to the from/to sum line. The new project task gets the description from the default. The already entered plan lines are also assigned to the new line.

### **Disengage**

When the Move function is called, the current line is moved up one level. If it is not the last position of the task block, the next number of the upper range is used. If it is the last position, the task block is deleted and the task number is assigned to the from total.

### **Task numbering**

Task determination is based on the outline structure and depends on the current position and project task type of the row.

If a line is inserted between existing positions, the system inserts a continuing line to the upper line.

If a line is inserted at the bottom, the next project task number is inserted based on the top line.

## **Document texts Project tasks**

You can describe a project task in detail using a long text. This long text is printed on the documents you define.

To define a document text for a task, first select the desired task line in the "Tasks" info tab.

Using the "Line" menu selection on the "Tasks" info tab, you then select the "Document text" menu item.

You can now decide whether you want to enter a pre-text or a post-text for the line.

The project document text map opens.

Call up the "Format Editor" via the menu ribbon and enter your desired text in the editor text field. After confirming the entry with "OK", your text will be displayed in the "Preview" field.

Using the fields below, you can define on which documents the text should be displayed.



<b>Field</b>	<b>Description</b>
Project task printing	Use this field when you add printing to project tasks reports
Project line print	Use this field when you add printing to project plan lines reports
VK offer pressure	Use this field to specify whether the text should be printed on VK offers.
VK Order Printing	Use this field to specify whether the text should be printed on VK orders.
Proforma invoice printing	Use this field to specify whether the text should be printed on proforma invoices.
VK Geb. Invoice Print	Use this field to specify whether the text should be printed on VK Geb.
VK Geb. credit print	Use this field to specify whether the text should be printed on VK Geb. credit notes.
VK Blanket order printing	Use this field to specify whether the text should be printed on VK blanket orders.
VK Complaint print	Use this field to specify whether the text should be printed on VK Complaints.
VK Geb. delivery pressure	Use this field to specify whether the text should be printed on VK Geb. deliveries.
VK Geb. retraction pressure	In this field, specify whether the text should be printed on VK Geb. Rücknahmen.
EK request pressure	Use this field to specify whether the text should be printed on EK requests.
EK Order Printing	Use this field to specify whether the text should be printed on EK orders.
EK Geb. Invoice Print	Use this field to specify whether the text should be printed on EK Geb. invoices.
EK Geb. credit print	Use this field to specify whether the text is to be printed on EK Geb. Gutschrift.
EK Frame order print	Use this field to specify whether the text should be printed on EK Geb. blanket orders.
EK Complaint Printing	In this field, specify whether the text should be printed on EK Reclamation.
EK Geb. Delivery Print	In this field, specify whether the text should be printed on EK Geb. delivery.
EK Geb. return print	Use this field to specify whether the text should be printed on EK Geb. returns.

Field	Description
Service Contract Offer	Printing Use this field to specify whether the text should be printed on service contract offers.
Service contract printing	Use this field to specify whether the text should be printed on service contracts.
Service offer printing	Use this field to specify whether the text should be printed on service offers.
Service Order Printing	Use this field to specify whether the text should be printed on service orders.
Service Geb. Invoice Printing	In this field you can specify whether the text should be printed on service invoices.
Service Geb. Credit Print	Use this field to specify whether the text is to be printed on the service bid credit notes.
Service Geb. Delivery Print	In this field, specify whether the text is to be printed on Service Geb. deliveries.
Service work ticket printing	Use this field to specify whether the text should be printed on the service work ticket.

The reports listed here print the project texts depending on the "Show additional text" switch:

- Project plan lines
- Project analysis
- Budget comparison project
- Account proposal project
- Project offer

## Create tasks

Via "Create tasks" you can create tasks or Outlook tasks such as a meeting invitation.

When you create a task, a project task is created for you in the background. The project task is created within the From task you selected.

You can create the tasks in the project area using the Tasks call in the Project Map, Project Tasks as well as from the Project Team.

## Note

Please note that the creation of an Outlook task is only possible with the corresponding setup. Further information about the connection / setup can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Note

The plan lines can only be changed via the CRM task (contact tasks).

In the "Project setup" you define how the project task no. is created via the fields "Step size CRM task", "Separator CRM task" as well as "Counter CRM task". Further information can be found here.

Alternatively, you can also create a task directly from a contact card by entering a project number.

## Create activity

Via "Create activity" you can create activities and/or communications such as telephone calls from Microsoft Dynamics 365 Business Central and file associated documents. The time defined at this point is transferred to the timesheet.

You can call the "Create activity" function from the project map, project overview, project task, project plan line as well as from the project team map.

Assign the activity type as well as description of the activity. The seller code is determined based on your registration.

In the project fields, specify to which project task the document should be assigned and to which plan item the times should be recorded.

If you have selected the project plan position, the system will create an entry for you in the work time table (the prerequisite for this is the use of working times).

For further information on the topic of "Creating activities", please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Milestones

Milestones serve as intermediate goals within a project. Based on these goals, "smaller stages" can be logged as project progress within a project or dependencies to further milestones or tasks can be defined.

In KUMAVISION factory365 you have the possibility to assign milestones to the project tasks.

## Establishment

In the "Projects setup" you can globally control the behavior for all milestones via the "Milestone behavior" field. You can choose from the following options:

Field	Description
	Define here how the system should behave when maintaining milestones in the area of date violations:
Behavior milestone	<b>None</b> The milestone is ignored
	<b>Warning</b> The system alerts you to a violation
	<b>Error</b> The system prohibits you from a time violation

Capture

A milestone is entered on the respective project card on the "Task" info tab in the respective task line via the "Milestone" field. In the following, the relevant fields on the task line for the identification of a milestone are explained in more detail:

Field	Description
	In this field, specify that the task line is a milestone.
	A task line can only be set as a milestone with type=sum.
Milestone	Due to the type=total, the values for a milestone can be easily tracked using the flowfields for costs and revenues. Based on the flowfields, the user can also dive into the plan lines or project items to analyze the milestone situation.
	When you mark a project task as a milestone, any maintained "Belongs to Milestone" field is cleared.
Field	Description
	In this field you can set the due date of the milestone.
	<b>If you have not set the Milestone behavior to None in the project setup, the system checks:</b>
	<ul style="list-style-type: none"> <li>• If the project task is marked as a milestone</li> <li>• The project end date is not before the milestone date</li> <li>• The project start date is not after the milestone date</li> <li>• If the milestone has already been assigned project tasks, the milestone date also checks against existing project plan lines as well as project items of the assigned tasks.</li> </ul>
Milestone date	The milestone date of the associated project task is also updated with the milestone date of the milestone in this process.
	If a milestone date is not already maintained, this is initialized with the end date of the project.
	When deactivating (unchecking) the "Milestone" field, the milestone date will be cleared.
Belongs to Milestone	Specify here to which milestone the task belongs. Maintaining the field updates the Milestone Summary field and the Milestone Date checks are run as described there.

#### Milestone behavior For maintenance start and end date

The maintenance of start and end date in the project task is checked against a possibly assigned milestone. See also description for milestone date

#### For care status

If the status of a milestone is set to completed, the system will ask you whether all associated project tasks should also be set to completed and will also execute this if confirmed.

## Note

If you also use KUMAVISION Down Payment Accounting, it will also check here if a down payment plan by milestone is maintained and generate the down payment invoice assigned for it.

### When care summation

You can assign the milestone to the project tasks defined in the "Filter criterion" by maintaining the "Total" field.

The same checks or updates are performed as for the assignment via the Belongs to milestone field.

### For maintenance project task type

If the project task type is set to Account, the start and end dates will be processed, with all other settings any milestone information will be deleted.

### Cross country skiing articles

By means of the long run articles a long run planning and administration can be accomplished. Article items with a long procurement time are created as project plan lines in the project. Later, these articles can be used as components in project-related production orders. In this way, the requirements for these long-run items are triggered directly from the project, even without a production order already existing or the position of the component in the production order being known. If the production order is then created and the components are defined in the order, the requirements coverage of the component can be linked directly to the long-run item in the project.

### Establishment

The cross-country items are set up in the project via the project tasks. For this purpose, separate tasks should be created in the project for long-run items. The "Cross-country item" check mark identifies a project task as a task for a cross-country item.

## Note

The checkmark "Long-run article" in a project task means that only project plan lines of the type "Article" and "Text" may be created for this project task. The lines with the type "Article" represent the long-run articles. The lines with the type "Text" can be used for groupings or notes.

If now for the project task, project plan lines are entered, the items with the type "Article" are automatically provided with the indicator "Long run article".

## Note

Transferring project plan lines that are marked as "long-run items" to project book sheets or posting these lines is not allowed and is intercepted by corresponding error messages.

After the project plan lines have been created for the corresponding long-run items, procurement documents / procurement processes can be triggered for these project plan lines in order to achieve the corresponding coverage of requirements for these long-run items.

## Note

The created procurement documents should be compellingly reserved for the project plan lines. On the one hand, the quantity in the procurement document is then considered reserved, and on the other hand, only reserved procurement quantities can be transferred from the project plan line "Long-run items" to the corresponding FA component. Only the quantity that is already covered by the procurement documents can be assigned to an FA component, regardless of the quantity of the project plan line itself.

### Cross-country skiing articles as components in FA and E+D order

If a long-run item has been defined in the project, it can also be viewed in project-related production orders. In this case, the "Long-run item" label is managed in the FA components in the "Long-run item" field itself.

In order for a component to be recognized as a long-run item in the production order and in the E+D order, the following criteria must be met:

- Project number must be set as project reference in the FA component.
- The article number, variant code and storage location code must match between the project plan line marked as a long-run item and the FA component.

In addition, the quantity that has already been linked / used for this FA component by a long-run item project plan line can be viewed in the "Long-run item linked quantity (base)" field.

The fields "Long-run item" and "Long-run item linked quantity (base)" can also be viewed accordingly in the lines of an E+D order.

Although it is possible to display directly for an FA component or E+D order line whether it is a long-run item, the available quantity of the long-run item cannot be displayed directly. This is due to the fact that it is calculated based on the reservations for the long-run project plan lines, taking into account the due date of the FA component and the planning date of the project plan lines. Further, there is the fact that a long-run article project plan line can serve several FA components, but there can also be several long-run article project plan lines for one article. Therefore, the available quantity of a long-run article is always calculated at runtime. This is done in the "Long-run article overview" screen. This overview can be called from the FA components and E+D order lines respectively.

To do this, call up the cross-country skiing article overview via the "Line" > "Line" > "Cross-country skiing article overview" info tab.

By means of the "Long-run item overview" mask, not only the quantity available for allocations can be viewed. This screen is also used to set or cancel links between FA components and long-run item project plan lines. In this way, the procurement quantity already reserved for the project plan line is transferred to the FA component or, in the case of cancellation, written back from the FA component to the project plan line.

## Note

The "Long run item overview" screen can be called up not only for FA components or E+D order lines. It can also be displayed for the entire production order / E+D order. The overview can also be used from the project. Here it can be called up for project plan lines, project tasks and the entire project. The information and handling of the "Cross-country items overview" mask is described in the following sections.

### Structure of the cross country skiing article overview

The "Long-run item overview" screen shows the quantities available for links to the long-run item project plan lines for FA components. Furthermore, this mask offers the possibility to directly set links between FA components and long-run article project plan lines and thus to transfer the already reserved quantity from the project plan line to the FA component. It is also possible to delete these links.

The structure of the cross-country article overview, the individual calls and functions of the mask are described below.

#### Data areas of the cross country skiing article overview Origin address

In the upper area of the long run article overview, the field "Called from" shows from where the long run article overview was called. E.g. from the FA component, the production order or the project.

#### Overview post

The summary items are displayed in the rows area. The overview items are formed on the basis of FA components and project plan lines and are created as main items and sub-items. If the long-run item overview is called up from a production order or E+D order, the main items are created on the basis of FA components. The associated sub-items are created on the basis of the project plan lines, which are possible requirement coverers for these long-run items. If, on the other hand, the long-run article overview is called up from a project, the main items are created on the basis of project plan lines and the sub-items are created by the FA components as possible requirements originators.

#### Note text

This area displays a short note text for the selected item. (If a note exists for this item).

#### Post details

In the info boxes area, the details of the respective item are displayed. The item origin (FA line / project plan line), the item type (main item / sub-item), item and variant information as well as the due date and the storage location where the item is required are displayed. In addition, the quantity information is displayed here and whether the item is to be considered "Available". The quantity display in the overview items is explained below.

#### Quantity display in the cross country article overview

The aim of the long-run item overview is to show how FA components can be covered by the long-run item project plan lines already in the MRP. For this purpose, the quantities of the long-run items must also be displayed accordingly. The display of the quantities in the long-run item overview depends on whether they are main items or sub-items. In addition, there are separate fields for each reference (FA component, project plan line) that represent the quantities. Basically, for each main item, the sum of the sub-items is also calculated.

#### **Example:**

If the main item is an FA component, the sum of the quantities of its sub-items (project plan lines) that can be used to cover the requirements of the FA component is also formed for this main item. If the main item is a long-run project plan line, the FA components that could be covered by this project plan line are displayed as sub-items.

Basically, the quantity fields have the following meaning:



## Quantity fields FA component

Field	Description
Residual quantity (base)	Displays the remaining quantity of the FA component line to the base unit. The remaining quantity represents the portion of the expected component quantity that has not yet been consumed.
Reserved quantity (base)	The quantity in base unit that has already been reserved for the component line from procurement documents or warehouse stock is displayed here.
Linked quantity (base)	This field displays the quantity in base unit that has already been linked to project plan lines for long-run items.
Open quantity (base)	<p>The "Open quantity" for the base unit is displayed here. The open quantity is the quantity that still has to be covered by reservations or links to long-run article project plan lines in order to ensure procurement for the remaining quantity of the FA component.</p> <p>Open quantity = Remaining quantity - Reserved quantity</p>

## Quantity fields Project plan line

Field	Description
Quantity (base)	This field displays the quantity of the project plan line as a long-run item for the base unit. This field is purely informative and shows the planned quantity of the project plan line.
Linked quantity (base)	This field displays the already linked quantity of the project plan line with FA components.
Available range (base)	In this field the quantity of the project plan line available for links to the base unit is displayed. The available quantity is the reserved quantity of a project plan line, because only the quantities that are reserved on procurement documents or warehouse stock can be passed on to an FA component.

## Note

For a main item (FA component or project plan line), sub-items can be displayed that have the "Unavailable item" checkmark set. These items cannot be covered or used to cover requirements.

An item is marked as "not available" if there is a date conflict between the FA component and the planning line. I.e. the FA component cannot be covered in time based on the planning date of the project plan line. Another reason would be if the quantity of the FA component is already completely covered (the remaining quantity is completely reserved) or if there is no available quantity in the project plan line. These items are then no longer used for requirements coverage, but they are still displayed to show the overview of the links that already exist between the project plan lines and FA components and to indicate date conflicts. These positions are marked accordingly and provided with a note text.

### Actions of the cross country skiing article overview

The mask "Long run article overview" has actions with which the view of the mask can be controlled, but also links between long run article project plan lines and FA components can be created or deleted again. The individual actions are described below:

Action	Description
Recalculate	By means of this action the data in the mask are recalculated and displayed. This action is used to update the mask.
Set shortcut	This action sets links between the long-run article project plan lines and the corresponding FA components.
Delete link	This action deletes the links between the long-run article project plan lines and the corresponding FA components again.
Show post	By means of this action, the already existing links between the project plan line and FA component can be displayed for a position / item.

### Setting and deleting long-run article links

Setting and deleting links between long-run article project plan lines and the corresponding FA components is triggered from the long-run article overview. The actions "Set link" and "Delete link" are used for this purpose.

The setting and deletion of links is explained below on the basis of the call of the cross-country article overview for an FA component. The reason for this is that the setting and deletion of links always starts from the FA component, regardless of how the "Cross-country skiing article overview" screen was called up. Depending on the call, only the filtering of corresponding FA components takes place, which are then processed one after the other, in which the links are set or removed accordingly.

### Setting links

When setting a long-run article link for a FA component line, the system checks whether this component corresponds to a long-run article in project plan lines. For this purpose, the system checks whether the component has a project reference and whether these project plan lines marked as long-run articles have the same article / variant / storage location combination. If this is the case, the corresponding project plan lines are used as possible default lines. In this case, the planning date of the project plan lines is filtered so that they

are before or the same as the due date of the component. The date filtering is important so that the requirement-covering documents for the project plan line can also be used for the FA component line. The link can now be set until the FA component "open quantity" is 0 (zero) or there is no more available quantity in the filtered long run item project plan lines.

The link is set with the "Set Link" function for the FA component line.

After the link has been set, a corresponding "long-run article link item" is also created. This item records which FA component was linked to which project plan line with which quantity. The fields "Linked quantity (base)" in the FA component and the project plan line are also calculated on the basis of these items.

The linking items can also be viewed in the cross-country article overview.

The link transfers the reservation (proportionate to the linked quantity) from the project plan line to the FA component. This also results in a direct link of the requirement-covering document (e.g. a purchase order) with the FA component.

However, the link also has a direct effect on the project plan line. In order to reduce the demand for the long-run article for the project accordingly and to minimize redundancy of the demand between the FA component and the project plan line, the quantity of the project plan line itself is also reduced.

#### Delete shortcuts

The deletion of link items has two integrated steps. Firstly, resetting the existing link according to the long-run item link. The other is the transfer of the reservation without the long-run item link.

In the first stage, using the long-run article link items, the link is undone by moving the reservation in the amount of the linked quantity from the FA component to the project plan line listed in the item.

In the second stage, the system checks whether there is still a reserved quantity for the FA component beyond the link. I.e. after deleting the link, there is still a "Reserved quantity" for the FA component, which may have been set by manual reservations. If this is the case, the reservation is also transferred to the first matching project plan line. The aim of this transfer is to always concentrate the existing requirement coverage for the long-run items of a project at the long-run item project plan lines. If the surplus reservation quantity were only cancelled in this way, it would then be available for other projects/consumption. However, the transfer ensures that the demand cover remains reserved for the project.

The link for the FA component is deleted again using the "Delete link" function.

By deleting the link, the long-run article link item is deleted and therefore the linked quantity in the FA component and the corresponding project plan line is also reduced / set to 0 (zero).

Furthermore, the "Open quantity (base)" is also set high again in the FA component, since there is no longer any requirement coverage for the remaining quantity of the FA component.

On the other hand, the quantity and the available quantity in the project plan line and the available quantity in the project plan line are set high. As a result, the reservation on the demand cover passes from the FA component to the project plan line and the demand cover is still available to the project.

Calls of the cross-country skiing articles overview from the production and project

As described in previous sections, the long-run article overview can be called for FA components and project plan lines. However, it can also be called for FA lines, production orders as well as project tasks and the entire project.

This section describes the calls and explains the structure of the summary items per call.

#### Call for FA components / E+D order lines of the MRP type "warehouse part"

The "Long-run item overview" screen can be called up for FA components and E+D order lines of the MRP type "Stock item" using the action "Long-run item overview".

In both cases, the long-run article overview for the respective referenced FA component is called.

Here you can now view the possible, requirements-covering long-run article project plan lines for the component and create or delete a link between the FA component and the project plan line.

The individual actions for this can be taken from the previous section.

#### Call for FA lines / E+D order lines of the MRP type "Production part"

The "Long-run item overview" screen can be called up for FA lines and E+D order lines of the MRP type "Production part" using the action "Long-run item overview".

In both cases, the long-run article overview is called for the referenced FA line.

The FA components of the respective FA line that have been identified as long-run items are displayed as the main items in this call.

As a sub-item, the project plan lines are shown for the respective FA components, which can serve as requirement cover if necessary.

If the actions "Set link" or "Delete link" are used for a FA line, the displayed FA components are run through one after the other and the selected functionality is performed for the individual FA component.

#### Call for a production order / E+D order

The "Long-run item overview" screen can be called up for an entire production order or an E+D order.

In both cases, the long run article overview for the referenced production order is called. In the case of the E+D order, it is the production order that is listed in the header of the E+D order.

All FA components of the production order that have been identified as long-run items are displayed as main items in this call.

As a sub-item, the project plan lines are shown for the respective FA components, which can serve as requirement cover if necessary.

If the actions "Set link" or "Delete link" are used for the entire production order, the displayed FA components are run through one after the other and the selected functionality is performed for the individual FA component.

#### Call for a project plan line

The "Long-run item overview" screen can also be called up for a project plan line. For this purpose, the respective project plan line must be marked as "Long-run item".

In the called cross-country article overview, the corresponding project plan line is displayed as the caller.

The corresponding project plan line is displayed as the main item in this overview. The FA components that could be covered by this project plan line are displayed as sub-items for this project plan line.

If the actions "Set link" or "Delete link" are executed from this view, they do not refer to the project plan line as the main item, but to the individual FA components as sub-items. I.e. the individual FA components are gone through one after the other and the selected action is executed there for each individual component. The assignment of the long-run item therefore always takes place from the view of the component.

#### Call for a project task

The "Long-run item overview" screen can also be called up for a project task. For this purpose, the respective project task must be marked as "Long-run item".

In the cross-country item overview, the corresponding project task is displayed as the caller.

As main items, the corresponding project plan lines for this task are displayed in this overview, which are marked as "long-run items". For each main item, the respective FA components that could be covered by this project plan line are then displayed as sub-items.

If the actions "Set link" or "Delete link" are executed from this view, they do not refer to the project plan lines as main items, but to the individual FA components as sub-items. I.e. the individual FA components are gone through one after the other and the selected action is executed there for each individual component. The assignment of the long-run item is therefore always done from the component's point of view.

#### Call for entire project

The "Cross-country item overview" mask can also be called up for an entire project.

In the cross-country article overview, the corresponding project is displayed as the caller.

All project plan lines for this project that are marked as "long-run items" are displayed as main items in this overview. For each main item, the respective FA components that could be covered by this project plan line are then displayed as sub-items.

If the actions "Set link" or "Delete link" are executed from this view, they do not refer to the project plan lines as main items, but to the individual FA components as sub-items. I.e. the individual FA components are gone through one after the other and the selected action is executed there for each individual component. The assignment of the long-run item is therefore always done from the component's point of view.

#### Handling of long-run article links

This section describes the handling of long-run article links for different actions in the processing of production orders / E+D orders and in the project.

#### Within the framework of production order / E+D order processing Separating and reintegrating separate production orders

In E+D orders, individual subassemblies can be outsourced to separate production orders or reintegrated from a separate production order. In this case, the noted requirements coverage (reservations) is also outsourced or reintegrated. Therefore, the long-run article link items are also outsourced or reintegrated with the separate production order.

## Deleting an FA component

When an FA component is deleted, the system checks whether it is a long-run item. If this is the case and there are reservation items for the FA component, the reservation is transferred to the corresponding long-run item project plan line before the component is deleted.

For more information, see the section "Deleting cross-country article links".

## Deleting a production order/ individual FA lines

When deleting the entire production order or individual production order lines, the system checks for the entire production order or the corresponding production order line whether it contains components that are marked as long-run items. If this is the case, the reservations are transferred to the corresponding long-run article project plan lines before these components are deleted.

For more information, see the section "Deleting an FA component".

## Reducing the quantity in an FA component

If an FA component is marked as "long-running" and a quantity reservation exists for this component, then the existing reservation is converted to a long-running article project plan line before the quantity is reduced. After the reduction of the quantity, the system restores the reservation for the FA component according to the following scheme:

If the new "Expected quantity (base)" is smaller than the originally reserved quantity, then the reservation is only made according to the new "Expected quantity (base)". If, on the other hand, the new "Expected quantity (base)" still exceeds the originally reserved quantity, the reservation is set back to the originally reserved quantity.

This ensures that after the quantity reduction, the portion of the reservation that is no longer needed is assigned to a corresponding project long-runner and the component retains its reservation again up to the maximum previously reserved quantity.

## Cancellation of the reservation from a FA component

If an FA component is marked as a "long-run item", it is not possible to cancel the reservation for this component manually (call the reservation reversal directly from the FA component). This is due to the fact that reservations for long-run items in the production order are not simply cancelled and made available again for all consumptions, but are moved to the corresponding long-run item project plan lines. As a result, the reserved requirements coverers still remain linked to the project.

The cancellation of the reservation for a FA component that is marked as a long-run item is therefore aborted by an error message. Instead, the "Delete link" function in the "Long-run item overview" is to be used to transfer the existing reservation to a corresponding long-run item project plan line.

If the reservation was transferred to the project plan line, it can be cancelled there for the respective project plan line. This then represents a conscious decision, so that the reserved requirement cover for the long-run article is to be decoupled from the project.

## Cancellation of the reservation from the demand deck

If an FA component is marked as a "long-run item" and has a reservation for the requirement cover, the reservation cannot be cancelled directly from the FA component.

However, it is possible to cancel the reservation from the demand-covering document. This is due to the fact that changes to the requirement-covering document must be possible. E.g. if the planned delivery date cannot be met.

If a reservation is cancelled in a requirement-covering document that references an FA component for a long-run item, the long-run item link for this component is also adjusted accordingly.

#### Consumption posting of a FA component

After posting the consumption for a FA component that is marked as a "long-run item", the long-run item link is adjusted to the reserved quantity again. This is due to the fact that the reserved quantity may be consumed with the consumption posting (reservation to stock). Therefore, the long-run article link must also be reduced accordingly.

#### Status change in the production order

When status changes are made in the production order, the long-run article links for this production order must also be taken into account accordingly. There are two options that must be taken into account:

##### **Change from "Firmly Planned" to "Released":**

With this status change, the long-run article link items must also be moved from the firmly planned production order to the released production order in parallel with the reservations.

##### **Change from "Released" to "Finished":**

If a production order is terminated, all remaining (unused) reservations for long-run items that are linked to the production order are distributed again to the corresponding long-run item project plan lines and are thus still available in the project.

#### In the context of editing project plan lines

When editing project plan lines that are marked as "long-run items", the system must perform appropriate checks and actions with regard to long-run item links (long-run item link items). These are described below.

#### Creating book sheets for cross-country article project plan lines

It is not possible to create project book sheets for project plan lines that are marked as "long-running items". This is prevented by a corresponding error message. The purpose of this is that project plan lines for long-run items must not be posted. A project plan line for long-run items offers the possibility to generate requirements in advance for parts that are needed during production and have a long procurement time. It serves the long-run article only as a trigger of the procurement, the actual consumption takes place as a component in the production order.

#### Booking cross country article project plan lines

Posting project plan lines that are marked as "long-run items" is not permitted. A project plan line for long-run items offers the possibility to generate requirements in advance for parts that are needed during production and have a long procurement time. It therefore only serves as a trigger for procurement, the actual consumption of the component takes place in the production order.

#### Deleting long-run article project plan lines with link items

If a project plan line that is marked as a "long-run article" is deleted, the long-run article links of this project plan line to the corresponding FA components are also deleted. However, the reservation that has already been

transferred to the requirements planner remains in the FA components. If it was the only long-run article project plan line for the article / variant / storage location combination, then the "Long-run article" check mark is also removed from the corresponding FA components, since there is no longer a reference to a long-run article in the project.

#### Project plan lines

In the project plan lines you can define the "detailed planning" for the project. Per project task line you have the possibility to define which items, resources and expense financial accounting items should be used.

To do this, first select the desired project task line and then call up the project plan lines via the "Tasks" info tab.



Define the project plan line using the table below.

Field	Description
Project task no.	Specifies the number of the associated project task. Automatically preset by the system.
Line type	<p>Specifies the type of planning line.</p> <p><b>The following are available for selection:</b></p> <ul style="list-style-type: none"> <li>• Budget</li> <li>• Billable</li> <li>• Budget and billable</li> </ul>
Order type	<p>Initial orderWhen the first sales order is created, the order type is set to initial order</p> <p><b>Follow-up order</b>When creating a follow-up order, the order type is set to Follow-up order</p> <p><b>Deviation</b>When maintaining the forecast, the project plan lines created during the forecast release (archiving) are marked as a deviation.</p> <p><b>Plan line</b>Initial value when creating a new plan line</p>
Planning date	The planning date of the plan line is initialized depending on the set working date with the working date (working date <> today) or with the set start date of the project. If the start date is not set on the project card, the working date is always assigned.
Planned delivery date	Specifies the scheduled delivery date of the item associated with the project planning row. For a resource, the scheduled delivery date is the date when the resource will be used for the project.
Desired delivery date	Specifies the date when the customer wants the order to be delivered.
Promised delivery date	Specifies the date on which you committed the delivery of the order based on the result of the Delivery Date Commitment function.
Goods issue date	Specifies the goods issue date.
Planned goods issue date	Specifies the date when the goods should be delivered from the warehouse. If the customer requests a specific delivery date, the application calculates the scheduled delivery date by subtracting the transportation time from the requested delivery date. If the customer does not want a delivery date or the requested delivery date cannot be met, the application calculates the contents of this field by adding the transportation time to the delivery date.

Field	Description
Start date	If you work with the "Distribute planned quantity" function, the specified day from which the times were distributed is displayed in this field.
End date	If you work with the "Distribute planned quantity" function, the specified day up to which the times are distributed is displayed in this field.
Belongs to Milestone	If the associated project task is assigned to a milestone, this is displayed in the field.
Document no.	If the project plan line is created by the system, the document no. of the originating document is specified here. The field can also be maintained manually if required.
Type	<p>Specifies the type of planning line.</p> <p>The following are available for selection:</p> <ul style="list-style-type: none"> <li>• Resource</li> <li>• Article</li> <li>• G/L account</li> <li>• Text</li> </ul> <p>As soon as you create a new project planning line with type=article as well as storage location, so a new stockkeeping data card for the entered article no. and the storage location code of the project is created by the system.</p> <p>During the initial creation, the data is transferred from the article card to the inventory data.</p>
No.	<p>Indicates the number of the item, resource or G/L account.</p> <p><b>Note</b></p> <p>In the "Nr" field, the Assist button is available to you for article/resource search in a simplified way.</p> <p><b>Type=Article:</b></p> <p>The characteristics for the search can be defined in the characteristic search. In the column Number of result the number of articles with the defined characteristic are displayed.</p> <p><b>Type=Resource:</b></p> <p>Resource search based on qualifications. If qualifications have been stored in the specified activity type, these are checked against the qualifications of the resources. If these match, the check mark is set in the "Qualified" field.</p>
Description	Specifies the description of the item, resource or G/L account.

Field	Description
Cross country skiing articles	If the associated project task is marked with Long run item=Yes, the marker is automatically set on the project plan line.
Long-run article Linked quantity (base)	This field displays the already linked quantity of the project plan line with FA components.
Belongs to Milestone	If the associated project task is assigned to a milestone, this is displayed in the field.
Article version code	If you work with article versions, then you specify here the article version for the procurement.
Retrieval from storage location code	Will be pulled from the Invoice and Shipping info tab if the procurement method is set to "Retrieval" in the plan line.
Storage bin code	Indicates the storage bin where the items are picked/put away.
Quantity	Specifies the quantity of units of the resource, item or G/L account.
Distribution type	<p>Specifies the distribution type for the "Distribute planned quantity" function.</p> <p><b>The following selection options are available:</b></p> <ul style="list-style-type: none"> <li>• Empty</li> <li>• Forward</li> <li>• Backward</li> <li>• Manual</li> </ul>
Belongs to line no.	If you work with the function "Distribute plan quantity", the field "Belongs to row no." indicates to which base row the "distributed" row belongs.
Distributed quantity	If you work with the function "Distribute planned quantity", the field "Distributed quantity" shows how much of the quantity has been distributed.
Distributed quantity (Original)	If you work with the "Distribute planned quantity" function, the field represents the originally defined quantity.
Distributed purchase price (MW)	See here the cumulative cost amount of the distributed lines.
Reserved from	Specifies the reservation of.
Vendor no.	For a quick procurement of your project requirements, the possibility was created to transfer positions directly from the project plan lines into the planning proposal, inquiry, order, invoice as well as credit note.

Field	Description
	In this field, specify the vendor from which you want to procure this item.
Purchasing document type	If you have transferred the plan line, you will see the document type of the purchasing document here.
Purchase document no.	If you have transferred the plan line, you will see the no. of the purchasing document here.
Cost price	Maintain here in project currency the cost price of the position.
Calculation tracking lines available	If a check mark is set here, an article calculation has already been created for the position.
Cost amount	Indicates the cost amount of the position in project currency.
UK price	Maintain here in project currency the sales price of the position.
Line amount	Specifies in project currency the line (sales) amount of the item.
Quantity to be transferred in book. sheet	Specifies the quantity to be transferred to the project book. sheet.
Invoiced amount (MW)	See here the already invoiced amount in client currency of the positions.
Actual progress %	Indicates the actual progress of the project plan line in %.
Actual progress date	Represents the maintenance date of the Actual Progress.
	<p>If you set the forecast to "Project plan line", use this field to specify the total costs you currently expect for the project task.</p> <p><b>For the calculation of the forecast (MW), the system determines it as follows:</b></p>
Forecast (MW)	(Consumption (cost price) Time commitment Amount (MW) Purchase commitments Amount (MW) Stock commitment Amount (MW) Production commitments Amount (MW)) Actual progress % Forecast (MW)

Field	Description
Service type	This field shows you the transferred activity type from the project task.
Sales account no.	You will see the sales account determined by the system in this field.
Consumption account no.	You will see the consumption account determined by the system in this field.
Procurement method	<p>If you set the procurement method to stock transfer, the system creates a stock transfer route from the standard storage location to the storage location of the project planning line if it is different.</p> <p>If a stock data card already exists, it will be updated based on the default.</p> <p>With the procurement method simulation a calculation FA is created in the background.</p> <p>If you want to trigger a purchase order for the item, set the procurement method to purchase, this will update the inventory data for the item and storage location.</p>
Sales document Document type	Specifies the document type of the sales document.
Sales document no.	Specifies the sales document no. of the sales document.

#### Document texts project plan lines

You can describe a project plan line in detail using a long text. This long text is printed on the documents you define.

Call up the project plan lines via the desired project task using the call of the same name on the "Tasks" info tab.

Select the project plan line for which you want to enter a document text. Then call up the "Document texts" menu selection via the ribbon. You can now decide whether you want to enter a pre- or post-text for the line.

The entry of the pre- or post-texts is done in the same way as for the tasks. Further information can be found in the section "Document texts for tasks".

**The reports listed here print the project texts depending on the "Show additional text" switch:**

*Project plan lines* *Project analysis* *Budget comparison project* *Account proposal project* *\*Project offer*

#### Distribute plan quantity

It often happens that tasks take longer than one working day, for a more accurate resource planning it is now necessary to distribute the estimated hours over the working days.

## Note

Before splitting, in the case of the Budget and Billable line types, it is necessary to clarify how billing is to be performed:

- Flat rate billing

The line must be divided into a billing and budget line beforehand on the project task via Functions\Split plan line. Billing is then done via the original plan line.

- Resource statement

The line type remains unchanged and is then settled via the line item.

The prerequisite for the distribution is that the line type is Budget.

To distribute the planned quantity, call up the "Distribute planned quantity" function via the menu ribbon.

**The Distribute Planned Set screen opens where you can specify the following distribution criteria:**



Field	Description
Project no.	Specifies the project no. of the project. The project no. is automatically preset by the system.
Task no.	Specifies the task no. to be distributed. The task no. is automatically preset by the system.
Description	Specifies the description of the task no. to be distributed. The description is automatically preset by the system.
Type planning	<p><b>Specifies the planning type of the distribution. You can choose from the following options:</b></p> <p>EmptyNo distribution is made.</p> <p>ForwardStarting from the start date, the system compares the available resource capacity and creates a new project plan line for the capacity quantity until the quantity of the line to be distributed is distributed.</p> <p>BackwardStarting with the end date, the system compares the available resource capacity and creates a new project plan line for the capacity quantity until the quantity of the line to be distributed is distributed.</p> <p>ManualEnter the quantity and date manually here.</p>
Consider resource group assignment	If you activate the switch, only resource assigned to the resource to be distributed will be offered.
Start date	Define here from which day the times are to be distributed.
End date	Define here up to which day the times are to be distributed.
Resource selection	<p><b>Specify here how it wants to distribute:</b></p> <p>NoneThe system starts from the first resource and tries to distribute the quantity in the period until the quantity is distributed.</p> <p>ResourceThe system considers the resource filter and distributes as for resource.</p> <p>QualificationThe system checks against the qualifications assigned to the activity type of the</p>

Field	Description
	project task/project plan lines and searches for those resources with matching qualifications and distributes the quantity as under none.
Resource filter	Set a filter here to specify under resource selection defined decision.
Quantity New line	Set the quantity for the distribution here in case of manual distribution.

Confirm your entry with "OK" to distribute the planned quantities.

#### The daily residual amount is calculated as follows:

Resource capacity \* Quantity in order (Proj.) \* Quantity in assembly order \* Quantity in service order \* FA time requirement Remaining quantity available for the day

If the line to be distributed is a budget and billable line, the line will be split into a budget and billable line in the course of quantity distribution. The billing line item is inserted before the original line item.

#### FA Calculation

The calculation in KUMAVISION factory365 has been extended so that also project plan lines can be calculated. New cost prices can be calculated and taken over, however, deviating from the calculation for sales, no sales prices.

#### Establishment

Call up the "Evaluation & costing setup" via the user search. Via the info tab "General" you have the possibility to set up the costing on project plan lines in the field "Cost E+D order (project)".

The following selection options are available to you:

Selection option	Description
Calculate only	A simulated FA is created and a calculation is generated.
Calculate+Advertise	A Simulated FA and a calculation are created and the created FA is then opened via page 5232961 "Simulated E+D order (calculation)".
Calculate+Take Over	A Simulated FA and cost estimate are created and the cost price is transferred to the project plan line.

#### Preparation of a calculation

A prerequisite for creating a cost estimate is that a project plan line has the type "Article" and the procurement method "Simulated".

To create the cost estimate, call up the function "Calculate production cost estimate" for the desired project plan line via the menu ribbon > "Actions" > "Functions" > "Costing".

## Note

Please note that the project must not be in "Order" or "Finished" status.

Already when selecting the procurement method "Simulated", the calculation is performed automatically.

In addition, a cost estimate can also be created subsequently using the "Calculate production cost estimate" function.

Through the costing, a simulated FA is set up and a costing is performed depending on the setup, the FA is then also displayed or the costing result is taken over as the cost price for the project plan line.

The calculation can be checked via the "Calculation tracking lines" action.

### Transfer of the calculation into a sales quotation

If a project plan line is transferred to a quotation, a cost estimate existing for the project plan line is automatically linked to this quotation line as well.

From the quotation, you can view the reference to the simulated FA of the project plan line. To do this, select the "Functions" menu item via the "Line" info tab and execute the "Costing tracking lines" function.

### Post calculation

If the cost estimate has to be changed subsequently or a new costing run has been carried out, the newly calculated cost price can be adopted again in the costing proposals using the "Adopt costing proposal (preferred)" function. The price is also adopted in any existing sales document.

### Addition in simulated production order

Simulated production orders additionally have the identifier "FA used in calculation" on the info tab "General". This indicates whether the respective production order is used in one or more calculations.

A lookup on the identifier will display the "Calculation Tracking Lines (Sales + Project)" overview.

If a calculation is linked in project and sales in parallel, only the information for the project plan line is displayed in the "Calculation tracking lines (sales + project)" overview, as this is the leading document.

## Information register booking

Field	Description
Status	Indicates the current status for the project.
Project booking group	Specifies the booking group set up for the project according to the booking matrix setup.
WIP method	Specifies the method used to calculate the working capital value for the project.
Allow budget/ billable lines	Here you can control whether you want to allow project plan lines of the type "Budget" or "Billable".
Apply consumption link	Indicates whether consumption items, e.g. from the project posting sheet or purchasing line, are linked to project planning line.
% completed	Indicates the percentage of the project's expected resource consumption that has been posted as used.
% Invoiced	Specifies the percentage of the project's invoice value that has been posted as invoiced.
% of overdue plan lines	Indicates the percentage of the project's planning lines for which the planned delivery date has expired.

## Status

The course of a project is largely determined by the status. The individual options are described in detail below:

**Planning:**

In this project phase you can perform preliminary calculations. In addition, the project structure can be defined, i.e. you can define project tasks as well as associated project plan lines. No bookings can be made yet.

**Offer:**

The project is offered to a customer. Preliminary calculations are also possible at this stage. You can also change the structure and budget of the project. Postings cannot be made.

**Open (=order):**

Expenses from purchasing as well as from time recording are now recordable and postable. With the posting of sales invoices and credit notes, project revenues can be posted to the project. Postings are only possible in this phase.

**Completed:**

You can no longer change the project structure and budgets. This status is used to perform recalculations. The real costs of a project can be compared with the budgeted amounts. Completed projects can no longer be posted.

## Info register Invoice and Shipping

The Invoice and Shipping Inforegister is used to provide billing and shipping information about the customer.

Field	Description
Storage Location Code	The field is pre-populated from the Projects setup by the default project storage location ( <i>if any</i> ). If no default project storage location is stored in the setup, a selection list on the regular storage locations will appear at this point.
	If "Create project storage location" is active in the Projects setup, the newly created storage location will be entered in this field.
	The field is used when creating a project plan line of type "Item" to fill the field "Storage location code" in the project plan line.
Relocation of storage location	The field is used when creating a project plan line of type "Item" to fill the field "Storage location code" in the project plan line.
	The field is pre-populated with the field of the same name from the Projects ( <i>if any</i> ) setup. If no "Stock transfer from storage location" is stored in the facility, a selection list of all regular storage locations ( <i>no project storage locations</i> ) appears at this point.
Inforegister dates	The field is used when changing the procurement method to "Stock transfer" in a project plan line to fill the "Stock transfer from storage location" field in the project plan line.
Field	Description
Start date	Specifies the date when the project starts.
End date	Specifies the date when the project should be completed.
Establishment date	Specifies the date when the project was created.

## Foreign Trade Information Register

Field	Description
Currency code	Specifies the currency code for the project. By default, the field is empty. If you enter a foreign currency code, the project will be planned and invoiced in this currency.
Invoice currency code	Specifies the currency code to be applied when creating invoices for the project. By default, the currency code is based on the currency code that has been stored on the customer card.
Exchange rate calculation (cost price)	<p>Specifies how project costs are calculated when you change the Currency Date or Currency Code fields in a project plan row.</p> <p><b>The choices are:</b></p> <p><i>MW fixed</i> The project costs in the local currency are fixed. A change in the currency exchange rate changes the value of project costs in a foreign currency.</p> <p><i>FW fixed</i> The project costs in the foreign currency are fixed. A change in the exchange rate changes the value of the project costs in the local currency.</p>
Exchange rate calculation (sales price)	<p>Specifies how project sales prices are calculated when you change the Currency Date or Currency Code fields of a project plan row.</p> <p><b>The choices are:</b></p> <p><i>MW fixed</i> The project prices in the local currency are fixed. A change in the currency exchange rate changes the value of the project prices in a foreign currency.</p> <p><i>FW fixed</i> The project prices in the foreign currency are fixed. A change in the exchange rate changes the value of the project prices in the local currency.</p>

## Inforegister WIP and revenue recognition

Field	Description
WIP posting date	Indicates the posting date that was entered during the last execution of "Calculate WIP project".
Total WIP invoice value	Indicates the total WIP sales amount that was last calculated for the project.
WIP maintenance amount (total)	Indicates the total WIP maintenance amount that was last calculated for the project.
Deactivated sales amount	Indicates the amount of declared sales that was last calculated for the project.
Deactivated cost amount	Indicates the declared cost amount that was last calculated for the project.
Disabled DB	Specifies the disabled DB for the project.
Disabled DB %	Indicates the deactivated contribution margin in percent for the project.
Posting date WIP to G/L item	Indicates the posting date entered during the last execution of "Post WIP to G/L Project".
Total WIP invoice value in G/L accounts	Indicates the total WIP sales amount that was last posted for the project.
WIP balance for G/L accounts (total)	Indicates the total WIP balance that was last posted to the project.
Deactivated sales amount in G/L accounts	Indicates the total declared sales amount that was last posted for the project.
Deactivated cost amount on G/L accounts	Indicates the total deactivated cost amount that was last posted for the project.
Deactivated DB on G/L accounts	Indicates the contribution margin that will be realized for this project.
Deactivated DB (financial accounting) %.	Indicates the contribution margin in percent that will be realized for this project.

## Inforegister Forecast & Commitment

On this Inforegister the Forecast & Obligo information of the project is presented. At this point, the Inforegister is mentioned for the sake of completeness.

For further information, please refer to the section "Forecast & Commitments".

## Project storage location

For the correct representation of the transfer of risk, goods are transferred from their production site to the construction site or to the customer and not delivered directly and thus consumed. The project is then debited upon acceptance by means of a deliberate consumption posting.

For this purpose, a project storage location is always created for a project. This can be a storage location for several projects or a storage location explicitly for one project.

In the latter case, a new storage location is created based on the "Sales to customer no.".

## Establishment

In the "Projects setup" you can control whether you want to create one project storage location per project or use one storage location for multiple projects.

### Project storage location per project:

If you decide to automate the creation of project storage locations per project, you also have the option to store a storage location template from which the necessary facilities for the newly created project storage location will be preset. The following facilities are copied from the template storage location:

- Storage bins,
- Stock posting facility,
- Stock transfer routes,
- storage location map (register)

!!!note "Note For project specific extensions an event is available, which can be used to copy additional items like dimensions or warehouse staff if required.

!!!note "Note It is recommended to create a storage location only for the templates and not to use the template location as actual location.

field	description
Create Project Storage Location	For the procurement and logistics processes, use this to specify whether the system should create a project storage location for each project.  The project storage location hereby represents the point of delivery for the project.
Standard Stock Transfer From Storage Location	This field is a drop-down list of all regular storage locations ( <i>not project storage locations</i> ). It specifies the stock transfer route and is transferred to the "Stock Transfer From Storage Location Code" field on the Invoice and Shipping info tab of the project map.

### Project storage location for multiple projects:

If you decide not to automate the creation of a project storage location, you have the option to store an existing storage location that will be used by default for the projects.



### Note

This option is only available if you have decided against a project storage location per project.

Field	Description
	The field is a selection list on the storage locations available in the system.
Standard project storage location	It specifies the default project storage location for all projects and is automatically transferred to the "Storage Location Code" field on the Invoice and Shipping info tab.
	<b>Note:</b> The field is only used when "Create Project Storage Location" is disabled.
Standard Stock Transfer From Storage Location	The field is a pick list of all regular storage locations ( <i>not project storage locations</i> ).  It specifies the stock transfer route and is transferred to the "Stock Transfer From Storage Location Code" field on the "Invoice and Shipping" info tab of the project map.
Project Storage Location Number Series	Used when manually creating a new project storage location.

### Manual plant

In addition to the automatic creation of a project storage location, you also have the option to manually create a project storage location per project.

To create a project storage location, click on the project map in the "Associated" > "Setup" > "Create project storage location" ribbon.

If the function is executed, a query opens where you can decide whether you want to use the number for the storage location from the number series from the Projects setup, or assign a manual number.

### Note

Please note that this function is only available to you if the "Create project storage location" switch in the Projects setup is deactivated.

### Stock data

When creating an article item in the project plan line, in the case of the storage location found, a stockkeeping data card is directly created in the background for the article and the corresponding project warehouse.

In the project plan line, the procurement method can then be defined directly on the inventory data card via the "Procurement method" field.

If the procurement method "Stock transfer" is selected, a stock transfer route is directly created in the background according to the settings in the "Project setup" for the standard warehouse.

#### Project Team

A project team can be defined for each project. The definition takes place on the project card in the menu ribbon under "Project team".

Create the project team members using the table below:

<b>Field</b>	<b>Description</b>
Project no.	Specifies the number of the project to which the project team is assigned. This field is filled in automatically.
Type	Here you define which type the project member has. You can choose between resources (internal and external employees) and contacts (project members of the customer or further project participants). In the case of the contact type, the system fills the Company no. field using the customer no. of the project card, from which the company name is also derived.
No.	Here you can select depending on the type of member.  Type=Resource: Selection of the respective resource no. Type=Contact: Selection of the respective contact no. Type=User: Selection of the respective UserID
Roll code	Specifies the role of the project team member.  To assign code to the roles, roles must have been previously set up in the table of the same name.
Roll	Specifies the name of the role.
Start date	Specifies the start date for the deployment of the resource. The start date automatically defaults to the project start date and can be changed manually.
Name	Specifies the name of the resource, contact or user.
E-mail	Specifies the e-mail address of the resource, contact or user.
Phone no.	Specifies the phone number of the resource, contact or user.
Cell phone no.	Specifies the cell phone number of the resource, contact or user.
End date	Specifies the end date for the deployment of the resource. The end date automatically defaults to the end date of the project and can be changed manually.
Company no.	Specifies the company number of the contact as soon as the Type=Contact field.
Company name	Specifies the company name.
Business relationship	Indicates the business relationship
Seller code	Specifies the seller of your company
People Contact No.	Specifies the persons contact no.
Planned quantity	Specifies the plan quantity of the project team member.

<b>Field</b>	<b>Description</b>
Quantity plan lines	Specifies the amount of plan lines for the project team member.
Residual quantity Plannable	Indicates the remaining quantity that can be planned by the project team member.
Amount of time	Indicates the amount of time already recorded for the project by the project team member.
Project quantity	Specifies the project quantity for the project team member.
Total consumption	Indicates the total consumption of the project team member.
Rest plan lines	Specifies the remaining amount of plan lines for the project team member.
Rest plan	Specifies the remaining plan quantity of the project team member.

#### Note

If the fields "Responsible" and / or "Project Manager" are maintained on the project card, the project team records are also created with the Responsible / Project Manager role.

If you maintain a resource in the project plan lines, data records are also generated for this project team.

Please note that when creating from the project plan line, the team record is not deleted when changing the resource or deleting the record.

#### Risk Management

Risk management allows you to calculate, monitor and counteract project risks. Using the task management within the risk line, you can define preventive measures.

To calculate and monitor the project risks, call up the "Risk management" via the menu ribbon. The corresponding fields are explained in more detail below:

Field	Description
Comments	This field indicates whether a comment of the risk line is deposited.
Risk no.	This field must be filled. It controls the position of the risk line and thus the clarity of the entire risk list.
Description	This field can be used to store a description for the risk.
	In this field you enter the type of risk.
	<b>This field offers the following options:</b>
	- RiskIndicates the risk
	- HeadingSpecifies a heading
Risk type	- SumWith this option you can create a sum over several risk rows. You define the range using the "Total" field.
	- From-totalAs in the chart of accounts, you can create a from-total - to-total over several rows in Risk Management.
	- To-totalAs in the chart of accounts, you can create a from-total - to-total over several rows in Risk Management.
Counting up	This field specifies which risks are added together. This field works for the "From-total", "To-total" and "Total" risk types. When using the "From-total" and "To-total" risk types, the system automatically fills the "Add up" field of the row with the "To-total" risk type.
Number of open tasks	Indicates the number of open tasks (measures) generated by the task creation.
Entry date	In this date field, you store the date on which the risk may occur.
Responsible	In this information field a user can be assigned as responsible for this risk.
Damage (MW)	This field is used to specify the amount of damage.
Cum. Damage (MW)	This field is automatically filled based on the "Damage (MW)" field and indicates the cumulative damage.
Probability %	In the "Probability %" field, the probability of the risk that could occur is indicated.

<b>Field</b>	<b>Description</b>
Cum. Damage assessed (MW)	This field is automatically filled based on the calculation of the "Damage (MW)" and "Probability %" fields.
Damage n. Completion (MW)	This information field can be used to specify the damage after the completion of the project.
Cum. Damage n. Completion (MW)	This field is automatically filled with the cumulative value of the field "Damage n. Completion".
Prob. n. completion %	This information field can be used to indicate the probability of the risk after completion of the project.
Cum. Damage assessed n. closure (MW)	This field is automatically filled based on the calculation of the fields "Damage after completion (MW)" and "Probability after completion %". It describes the assessed damage after completion of the project.
Active	This identifier controls whether the risk is active or not.
Identified by	This field is automatically filled with the user name that entered the risk line.
Identified on	This field is automatically filled with the working date on which the risk line was created.
Cause Description	A description of the cause can be stored here.
Damage description	A description of the possible damage can be stored in this field.
Measure costs (MW)	The measure costs of the risk can be entered here.
Cum. Measure costs (MW)	This field is automatically populated based on the "Measure Costs (MW)" field and indicates the cumulative measure costs.
Damage Actual (MW)	In this field you enter the actual damage.
Cum. Damage Actual (MW)	Based on the "Damage Actual (MW)" field, this field is automatically filled.

#### Project effort

In the following, the individual areas are explained in more detail, through which the project, effort and consumption can be assigned.

Thus, on the one hand, the expenses of the resources are recorded in the form of working hours, and on the other hand, article consumption is recorded via stock or project purchasing.

This results in the actual values of a project. Subsequently, these actual values are compared with the planned values.



## Personnel / benefit expenses

The implementation of projects includes consumption as well as sales. Project consumption primarily includes the expenditure of resources. Resources can be employees, machines and subcontractors.

Resource expenditures are always made in the resource base unit via the timesheet. All person resources should have this code as the base unit on the resource card.

## Record timesheet

Using the time sheet, the resources can record their expenses with a corresponding description on the projects. For each resource, the time sheet must have been created beforehand for the corresponding period. For more information, see "Creating timesheets" or the [Microsoft Dynamics Business Central™ Helpsite \(F1\)](#).

## Release of the transmitted working times

The submitted working times of the employees are then approved by the timesheet approver.

To release the transferred working times, call up "Time sheet for manager" via the user search.

The time sheet for manager card opens on which the transferred working times are listed. Via the menu ribbon you have the possibility to approve or reject the transmitted working times via the calls "Approve"/"Reject".

Further information on this topic can be found in the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Project book sheet

The time sheet is used to record the project time consumption. To ensure that the projects are also debited with the posted project time items, i.e. the project time items are transferred to so-called project items, the posted time consumptions must be entered via the project book.sheet.

The project posting sheet is used to post project items of all types. For example, material from the warehouse can also be posted here as project consumption. At this point, only the transfer of project items from the project time items will be discussed.

The menu item "Suggest project book. sheet lines" creates an input mask in which the filters for the retrieval can be set specifically.

This function is used to retrieve project time items that have not yet been transferred to project items. As a rule, each project manager retrieves the project time items for which he is responsible. For this purpose, each individual project can be edited or the "Responsible" filter can be used.

The call fills the project book.sheet with all necessary data from the project time item. One book.sheet line is created per project time item.

After updating, the project book sheet is empty again and the corresponding project items have been created.

## External resources

External resources can be purchased via purchasing documents.

For external resources, a vendor can be specified on the resource card. This creditor is the invoicing party, e.g. a personnel service provider. In the case of a freelancer, the freelancer must be created as a resource and as a vendor and linked accordingly.

If an external resource is entered in the project plan lines, this vendor is transferred to the field of the same name in the project plan line. Thus, a cost price determination can be carried out specifically for the combination resource / vendor. Also a creation of a purchase order of the external resource from the project plan line takes place with the creditor of the project plan line.

In addition to cost prices, sales prices and purchase prices can also be defined for external resources.

#### Cost of materials

In addition to the time spent on resources, projects also have material costs. This is managed via articles. The demand is defined and planned in the planning lines. The missing parts are ordered or produced via purchasing or production.

#### Project Purchasing

Plant engineering allows you to trigger purchasing documents directly from the project plan lines.

#### Create purchase request

Using the "Create purchase request" function, you can send the request to the supplier directly from the project plan line.

#### The following requirements must be met:

- it is not a position already transferred
- for each line a vendor no. is maintained
- the project is not in the "Locked" status
- if it is an item without a planning date, it must be a comment line

Otherwise, a corresponding message appears.

After a successful check, a window will open where you can make the following decisions:

Field	Description
Create new document	Specify whether you want to create a new document or attach the items to an existing purchase request.
Document date	Specify which document date the purchase request should receive.
Attach to document	If you want to add to an existing purchase request (Create new document = No), you can specify the document to be updated here.
	Determine to which document you want to assign the selected lines. A list of possible documents is displayed for this purpose.
Lines outline	Specify here whether a row outline should be created when a new document is created.
	When adding documents, you will not be offered the choice and the outline type of the existing document will be kept.

Confirm your selection with "Ok".

Subsequently, all selected lines marked on the line type "Budget" or "Budget and Invoiceable" are transferred to the purchasing request. In addition, the project no. in the header of the purchasing document is maintained with the project no. from the project from which it was generated. The requested quantity corresponds to the remaining quantity of the project planning line minus the quantity already reserved for it.

The document number of the generated request is displayed in the "Purchasing document number" field. By clicking on the number you can open and view the document.

You can convert the purchase request to a purchase order later in the process. In doing so, the "Purchasing document number" field in the project plan line is adjusted with the number of the purchase order.

If one of the following fields is changed in the project plan line, the system tries to transfer the change to the purchase line as well:

- Description
- Description 2
- Type
- No.
- Work type
- Variants code
- Quantity
- Unit code
- Cost price
- UK price (MW)
- Line discount %
- Planned delivery date
- Storage location
- Stockyard
- Currency code

#### Note

Please note that the new currency code must match the currency code of the purchase document, if not, an error message will appear.

#### Create order

Using the "Create Purchase Order" function, you can directly create a purchase order for the project plan line out.

The following requirements must be met:

- it is not a position already transferred
- for each line a vendor no. is maintained
- the project is not in the "Locked" status
- if it is an item without a planning date, it must be a comment line

Otherwise, a corresponding message appears.

After a successful check, a window will open where you can make the following decisions:

Field	Description
Create new document	Specify whether you want to create a new document or attach the items to an existing purchase order.
Document date	Specify which document date the purchase order should receive.
Attach to document	<p>If you want to add to an existing purchase order (Create new document = No), you can specify the document to be updated here.</p> <p>Determine to which document you want to assign the selected lines. A list of possible documents is displayed for this purpose.</p>
Lines outline	Specify here whether a row outline should be created when a new document is created.

When adding documents, you will not be offered the choice and the outline type of the existing document will be kept. Confirm your selection with "Ok".

Subsequently, all selected lines marked on the line type "Budget" or "Budget and Billable" are transferred to the purchase order. In addition, the project no. in the header of the purchasing document is maintained with the project no. from the project from which it was generated. The quantity to be ordered corresponds to the remaining quantity of the project planning line minus the quantity already reserved for it.

Depending on the maintenance of the field "Reserve", the order line will be created in such a way that the project no. as well as the project task will be taken over from the plan line into the purchase line when reserving "Never". By posting the document, the position is directly debited to the project.

From Reservation "Optional" onwards, the fields (Project no. and Project task) are not filled and the project consumption must be done manually.

The project line type is always set to Budget.

#### Note

KUMAVISION factory365 specific referencing fields are filled in the background, so that the purchase order item is considered in the project chart of accounts or also in the commitment consideration.

If one of the following fields is changed in the project plan line, the system tries to transfer the change to the purchase line as well:

- Description
- Description 2
- Type
- No.
- Work type
- Variants code
- Quantity
- Unit code
- Cost price
- UK price (MW)
- Line discount %
- Planned delivery date
- Storage location
- Stockyard
- Currency code

#### Note

Please note that the new currency code must match the currency code of the purchase document, if not, an error message will appear.

#### Planning proposal

Alternatively, you can generate the purchase requisition/purchase order conventionally via the planning proposal. To do this, select the "Planning proposal" function via the respective project plan line.

#### Project manufacturing

As for project purchasing, plant engineering offers the possibility to trigger the manufacturing or assembly processes directly from the project plan lines. The following options are available for this purpose:

#### Planning proposal

Using the "Planning proposal" function, you have the option of generating a production order via the planning proposal.

The production document number is displayed in the "Reserved by" field. By clicking on the number you can open and view the document.

#### Assembly order

Microsoft Dynamics 365 Business Central enables an assembly order for an assembly item to be generated from a sales order via the so-called "order assembly". In the course of the sales delivery, the corresponding assembly order is posted in the background.

This functionality has been transferred to plant engineering. This means that you can enter the assembly item directly in a project plan line and generate the assembly order accordingly via the fields "Quantity for order assembly" and "Quantity for order assembly (basis)". The document number of the generated assembly order can be seen in the "Reserved by" field and the document can be called up directly from this point.

If a sales order with the corresponding item already exists in the system, it can be viewed via the fields "Sales document type = order" and "Sales document no. ".

Otherwise, they can be created from the project card via the "Tasks" > "Line" > "Documents" > "Create sales order..." info tab.

As soon as the sales line of the related assembly item is delivered via the order, the assembly order is posted.

Please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#) for the maintenance and handling of assembly items.

#### Project accounting

The sales document forms the commercial basis vis-à-vis the customer. From the project tasks, the sales calculation can be transferred into a quotation and / or order.

#### General behavior Project type

In the project type, you can set up an order type for the creation of sales documents, if required. This will be used when creating the documents.

#### Status

When creating documents, it should be noted that this is only possible from the project tasks / project plan lines if the project has the required status:

1. Quotation can be created only with project status "Quotation" as well as "Order".
2. Order as well as complaint can be created only with project status "Order"
3. An offer can only be converted into an order if the project status is "Order".
4. Only project plan lines with the Billing item "Yes" flag (line type "Budget and Billing" as well as "Billing") can be transferred to a sales document.

#### Document quantity

The documents can be created from the project plan lines as well as from the project tasks. The system uses the field "Quantity to be transferred to invoice" to determine the quantity of documents (offer, order, invoice, credit note and complaint).

#### Address data

The sales header takes over the address data from the project header. This means the sales to information of the project is transferred to the sales to information of the offer or order the same with the invoice to data. The delivery address is derived from the sales to address.

#### Position numbering

The item numbering in the sales documents depends on the creation of the plan lines as well as on the task breakdown.

#### Task planning

If you have used the task planning, the position number is filled with the planning project task.

#### Use of the project outline

The position numbering is based on the project task. The from line has the project task as item no., the plan line supplemented by the extension of the next level of the project outline.

#### Consecutive numbering

If there is no project structure, the item number is determined on the basis of the project task no. '.' and the consecutive number. If the maximum length of 20 characters is exceeded, the project task will be shortened so that the sequential number can be added up to the maximum value of 99. When the consecutive number reaches 100, an error message appears.

#### Order type

The order type represents whether the order is the initial order or a follow-up order. If, when creating a new sales document, it is determined that a document already exists, the system switches the order type to follow-up order.

#### Updating the vouchers

The project is the leading bracket in plant engineering and thus allows updating sales documents from within the project.

An update from the sales documents and thus an indirect change of the project plan by the order department is not possible. However, a maintenance of order specific data such as the assignment of the article tracking is allowed.

The project plan is updated by posting results, which are made by the system in the background.

#### Posting result depending on the line type

Please note that only lines with the line type "Billable" and "Budget and Billable" will be included in the sales document.

Billable lines do not create any items in case of deliveries, in case of billing they create a project item with the item type "Sales".

Budgetable and billable lines also generate project items with the item type "Consumption" for deliveries.

#### Function support

Below you will find the functional support for VK documents generated from a plant engineering project in tabular form:



Function call via	Function	Support
Manage rows	Attribute search	Disabled
Lines Article availability according to	Event	Active
Lines Article availability according to	Period	Active
Lines Article availability according to	Variant	Active
Lines Article availability according to	Storage location	Active
Lines Article availability according to	BOM level	Active
Rows\Line\Related information	Reservation item	Reference to project plan line
Rows\Line\Related information	Item tracking lines	Reference to project plan line
Rows\Line\Related information	Select replacement item	Disabled
Rows\Line\Related information	Dimensions	Reference to project plan line
Rows\Line\Related information	Comments	Active
Rows\Line\Related information	Article Allocation of additions/ deductions	Disabled
Rows\Line\Related information	Delivery date commitments	Reference to project plan line
Lines\Row\Linked information\Order assembly	Program production lines	Disabled
Lines\Row\Linked information\Order assembly	Calculate multilevel price	Disabled
Lines\Row\Linked information\Order assembly	Calculate multilevel costs	Disabled
Rows\Line\Related information	Document line tracking	Active
Line\Line	Calculation tracking lines	Disabled
Rows\Line\Related information	Incoming orders	Active
Lines\Row\Linked information\Document texts	Pretext	Active
Lines\Row\Linked information\Document texts	Post text	Active

Function call via	Function	Support
ROW FEATURES	Get price	Disabled
ROW FEATURES	Retrieve line discount	Disabled
ROW FEATURES	Unfold parts list	Disabled
ROW FEATURES	Insert text modules	Active
ROW FEATURES	Reserve	Reference to project plan line
ROW FEATURES	Demand creator	Reference to project plan line
ROW FEATURES	Select catalog item	Disabled
ROW FEATURES	Calculate manufacturing cost estimate	Disabled
Line order direct delivery	Order	Disabled
Line order special order	Order	Disabled

#### Offer for sale

You can create a sales quotation directly from the project via the project plan lines. The function calls can be found on the one hand on the project map via the "Tasks" info tab and on the other hand via the project plan lines.

If the document creation is triggered from the project plan line, the system tries to transfer all selected project plan lines to the sales quotation.

When creating from the project tasks, all the billable lines of the tasks are transferred to the sales document.

If you want to create a sales quotation for all lines, the "Tasks" info tab can be used to call up the quotation. By means of the row selection you can control which task rows are to be considered.

#### Note

Please note that only project tasks of line type="Budget and Billable" or "Billable" can be transferred in a UK document

Sales documents are created at the project customers. For this purpose, the information stored in the project is used. Thus, sales to customer, invoice to customer, the delivery address and the payment terms of the project are used to create the sales documents.

After commissioning, the sales quotation can be converted into an order in the system as usual using the "Create order" function.

#### Sell order

If the customer has already ordered the project, you can also create a sales order directly from the project via the project plan lines. The function calls can be found on the one hand on the project map via the "Tasks" info tab and on the other hand via the project plan lines.

If you want to create the sales order over all lines, the call via the "Tasks" info tab is suitable at this point. By means of the row selection you can control which task rows are to be considered.

Sales documents are created at the project customers. For this purpose, the information stored in the project is used. Thus, sales to customer, invoice to customer, the delivery address and the payment terms of the project are used to create the sales documents.

The order processing corresponds to the standard order processing.

## Delivery

Maintain the quantity to be delivered in the "Quantity to be delivered" field. In case of an activated item tracking please maintain the concerned serial no. or batch no. via the item tracking. Item tracking maintenance from the order is the same as item tracking maintenance from the project plan lines.

## Invoice

Maintain the quantity to be invoiced in the "Quantity to invoice" field. Please note that if item tracking is enabled, no item tracking can be specified for the billing case.

## Dimension expansion

For easy evaluation of the projects, the creation as well as assignment of dimensions has been optimized.

## Dimension specification by the activity type

Dimension specifications can be assigned to the activity type, so that when the activity type is selected in the project task, the dimension is assigned to the task.

## Project type

In the project setup you can define that for reporting purposes a dimension Project type is maintained and assigned to the system in parallel to Project type.

## Project Chart of Accounts

For effective project controlling, all project movements can be assigned and evaluated via a separate chart of accounts.

## Down payment accounting

Within financial accounting, KUMAVISION's "Down Payment Accounting" module enables the simple planning, creation and management of down payment invoices. The add-on module is fully integrated into the standard processes of accounts receivable and accounts payable, such as dunning and payment transactions, and can likewise be used for plant engineering in KUMAVISION factory365.

## Note

Please note that the "Down payment accounting" module is an add-on module that requires additional licensing. If you do not have this license integrated in your solution, the following functionality from this section will not be available to you.

### The following adjustments were made for this purpose:

#### Down payment plan

The following fields have been added to the down payment plan in KUMAVISION factory365:

Field	Description
Project task no.	Contains the project task number you assigned.
Maintenance	is possible only for projects.
Milestone	Define herewith that when completing a milestone, the defined down payment invoice is generated by the system in the background. The FiBu department then only has to post and send this.

You can access the down payment plan for projects as well as project tasks via Down payment plan in the project card.

By maintaining the project task, you specify that you want to set the down payment schedule at the project task level.

## Note

Please note that if you select a project task defined as a milestone, the system will also activate the milestone billing functionality (the Milestone field defined with a check mark). A combination of the source types Project as well as Project task is not allowed.

#### Down payment plan by milestone

If you have assigned a milestone for invoice creation in the down payment plan, the down payment invoice is created when the status of the milestone changes to completed.

For more information, see "Down payment accounting".

#### Forecast & Commitment

The goal of a project forecast is to determine a preview of the expected costs at the end of the project (Estimate at Completion EAC) as well as the currently achieved project value (Earned Value EV) on the basis of the current project planning, the costs already incurred and the assessment of the project manager.

**You can forecast the following areas in KUMAVISION factory365:**

- Project
- Project Task,
- Project planning line
- Project task account

**In the following, the fields on the "Forecast & Commitments" info tab are first explained in more detail:**

Field	Description
	<p>Indicates the planned cost price (MW) for the project.</p> <p><b>Forecast on You can enter the forecast at the following level:</b></p> <p><b>Empty:</b> No forecasting</p> <p><b>Project:</b> In addition, in the "Forecast (MW)" field on the "Forecast &amp; Commitment Amounts" info tab, specify the total costs you currently expect for the overall project.</p> <p><b>Project Task:</b> On the corresponding task line, in the "Forecast (MW)" field, you can see the total costs that you are currently calculating for the project task.</p> <p><b>Project planning line:</b> On the corresponding project plan line, in the "Forecast (MW)" field, you can see the total costs that you are currently calculating for the project plan line.</p> <p><b>Project task by account:</b> On the project plan line aggregated by project account (Project task - Edit - Project plan line aggregated by project account) you can see in the "Forecast (MW)" field the total costs you are currently calculating for the account.</p> <p><b>Note:</b> If you change the "Forecast to" setting, any existing forecast items will be disabled.</p> <p><b>Note:</b> Please note that the field "Forecast Maintainable" must be activated for the maintenance of the field "Forecast (MW)".</p>
Planned cost price (MW)	
Forecast Maintainable	Check the box to maintain the "Forecast (MW)".
Actual progress %	<p>The solution enables you to define an objective progress definition by the project manager or consultant on the levels project - project task - project plan lines in addition to the calculated progress definitions.</p> <p>The definition is made in the Actual progress % or Forecast (MW) field. The Actual progress date field is also always defined with the current date.</p>
Forecast (MW)	If you set the forecast to "Project", use this field to specify the total costs you currently expect for the entire project.

Field	Description
	<p><b>For the calculation of the forecast (MW), the system determines it as follows:</b></p> <p>(Consumption (cost price)  Time commitment Amount (MW)  Purchase commitments Amount (MW)  Stock commitment Amount (MW)  Production commitments Amount (MW))  Actual progress %  Forecast (MW)</p>
Actual progress date	Specifies the date of actual progress for the project.
Stock commitment Amount (MW)	Indicates the amount of stock allocated/reserved for the project.
Purchase commitments Amount (MW)	Specifies the amount of the captured order lines for the project.
Time commitment Amount (MW)	Specifies the amount of recorded working hours for the project.
Production commitment (MW)	Indicates the amount of production items recorded for the project.
Cost price (MW)	Specifies the cost price of the project in client currency.
Last booking day	Specifies the last booking day for the project.
Planned costs for production order (MW)	Indicates the amount of production orders assigned/reserved for a project.
Capacity costs (MW)	Specifies the capacity items for the project.
Consumption costs (MW)	Indicates the consumption costs for the project.
Actual messages (MW)	Specifies the value of the actual messages for the project.

When you change the "Forecast MW", the Forecast Argumentation window always opens. In the Forecast Argumentation window you can define or influence the creation of the plan lines. If you exit this window by clicking Cancel, your entry will be discarded. To save the change, you must have maintained the "Argumentation" field.



## Note

Please note, a subsequent deletion of the Forecast Argumentation is only possible in reverse chronological order (the last record then the second to last etc.).

Field	Description
New value	<p>Enter the new total value for the position here. In this field, the value from the forecast (MW) is transferred when creating from the project task as well as project plan line.</p> <p>The system also determines the "Additional Cost Amount (MW)" value from this.</p> <p>The "Additional cost amount (MW)" value is also transferred to the Additional sales amount (MW) field.</p>
Additional purchase price (MW)	In this field, the system displays the budget change in absolute terms in client currency.
Argumentation	Here you can justify why the task was budgeted again.
Order type	<p>Use the Order Type field to specify which type of budget adjustment you currently want to make.</p> <p><b>You can make the following selections in the option field:</b></p> <p>Option value - Description            " - Empty, No definition            Initial commissioning - First commissioning, planning            Follow-up order - Budget change, but with sales increase            Deviation - Budget change, without sales adjustment.</p> <p>The Additional sales amount (MW) field is not editable.</p> <p><b>Please note</b> that you can already make a global setup in the project setup, so this selection is hidden.</p>
Project Contract Item No.	If the point was created as a project plan line, this field refers to the generated plan line.
Additional sales amount (MW)	In this field, maintain the extent to which the budget change is also converted as an increase. The field is initialized by the additional cost amount (MW) for the order types initial order and follow-up order.

## Establishment

For the later forecast creation within a project, some settings have to be made in advance. In the following, the facilities for the possible forecast levels are explained in more detail:

## Project

Forecasting at the project level requires the following fields to be set up in the "Projects setup":

Field	Description
Art Forecasting	Specify here whether and if so via which type (and no.) you want to transfer the determined budget variance to the project.
	<b>No budgeting</b> The defined forecast has no deviation on the plan lines
	<b>Resource</b> The defined forecast is created with a project plan line of the type Resource.
	<b>Article</b> The defined forecast is created with a project plan line of the type Article.
	<b>G/L account</b> The defined forecast is created with a project plan line of the type G/L account.
No. Forecasting	<b>Project account</b> The defined forecast is created with a project plan line of type "Rework".
	Specify here whether and if so via which no. you want to transfer the determined budget variance to the project.
Only deviation in the forecast	Define here whether the forecast should create pure deviation plan lines or (deactivation of the switch) these can also be set to billable.
Forecast project task no.	At this point, define on which project tasks the recorded forecast deviation should be realized.
	The system records a new project plan line with the variance amount in the project task when versioning the forecast.  <b>The following applies:</b> - positive deviation = creation negative project plan line - negative deviation = creation of positive project plan line - neutral: No creation of a project plan line
Service type for project forecast	In case of forecasting on project, you define here with which activity type the project task for the deviation should be created.
Project Task	

Forecasting at the project task level requires the following fields to be set up in the "Projects setup":

Field	Description
Art Forecasting	Specify here whether and if so via which type (and no.) you want to transfer the determined budget variance to the project.
	<b>No budgeting</b> The defined forecast has no deviation on the plan lines
	<b>Resource</b> The defined forecast is created with a project plan line of the type Resource.
	<b>Article</b> The defined forecast is created with a project plan line of the type Article.
	<b>G/L account</b> The defined forecast is created with a project plan line of the type G/L account.
No. Forecasting	<b>Project account</b> The defined forecast is created with a project plan line of type "Rework".
	Specify here whether and if so via which no. you want to transfer the determined budget variance to the project.

In addition, the following fields must be maintained in the "Activity types":

Field	Description
Art Forecast	Define here with which type of project plan line the forecast position should be created.
Forecastnr.	Define here, depending on the type of forecast, to which master record the project plan line should be linked.
Forecast work type code	In case of the type Forecast resource, define here a work type with which the forecast should be created. (Optional)

#### Project plan line

When forecasting to project plan line, the system uses the values directly from the respective line, therefore no further setup is required.

#### Project task account

Forecasting at project task account level requires the following fields to be set up in the "Projects setup" or in the

**"Activity types":**

Field	Description
	Specify here whether and if so via which type (and no.) you want to transfer the determined budget variance to the project.
	<b>No budgeting</b> The defined forecast has no deviation on the plan lines
	<b>Resource</b> The defined forecast is created with a project plan line of the type Resource.
Type Forecasting	<b>Article</b> The defined forecast is created with a project plan line of the type Article.
	<b>G/L account</b> The defined forecast is created with a project plan line of the type G/L account.
	<b>Project account</b> The defined forecast is created with a project plan line of type "Rework".
No. Forecasting	Specify here whether and if so via which no. you want to transfer the determined budget variance to the project.

In addition, the following fields must be maintained in the "Activity types":

Field	Description
Art Forecast	Define here with which type of project plan line the forecast position should be created.
Forecastnr.	Define here, depending on the type of forecast, to which master record the project plan line should be linked.
Forecast work type code	In case of the type Forecast resource, define here a work type with which the forecast should be created. This setup is optional.

**Capture**

You define the level at which you want to make the forecast on the project map on the "Forecast and Commitment Amounts" info tab in the "Forecast on" field.

**Note**

Please note that the "Forecast maintainable" switch must be activated for maintaining the forecast. This ensures protection against error recording.

**Project**

You can enter the forecast at the project level on the respective project card, on the "Forecast & Commitment Amounts" info tab in the "Actual Progress %" field.

#### Note

The "Actual progress %" field is automatically pre-populated with the calculated progress from the system for the first time when "Forecast on=Project" is selected.

#### Project Task

You can enter the forecast at the project task level on the project card on the "Tasks" info tab or in the project task card (info tab "Lines" > "Line" > "Project task card").

The fields "Actual progress %" and the field "Forecast (MW)" are available for the entry. You can thus maintain the forecast either as a percentage or with an absolute amount. The fields calculate each other.

#### Project plan line

You can enter the forecast at the project plan line level in the project plan line as well as in the project task cards on the "Project plan lines" info tab.

The fields "Actual progress %" and the field "Forecast (MW)" are available for the entry. You can thus maintain the forecast either as a percentage or with an absolute amount. The fields calculate each other.

#### Project account

You can enter the forecast on a project account of a project task in the project task map on the info tab "Project plan line aggregated by project account".

The fields "Actual progress %" and the field "Forecast (MW)" are available for the entry. You can thus maintain the forecast either as a percentage or with an absolute amount. The fields calculate each other.

#### Release

After maintaining your forecast for a project, you can have the deviations resulting from the forecast written to the project, depending on their settings, via the call Associated\Archive\Version Release in the project card.

Please note that the Forecast field is cumulative:

	<b>Cost amount (MW)</b>	<b>Forecast (MW)</b>	<b>Variance item Cost amount (MW)</b>
Initial commissioning	5000,00 €		
Forecasting 1	5000,00 €	7000,00 €	
After archiving	5000,00 €	7000,00 €	First position 2000,00 €
Forecasting 2	5000,00 €	10000,00 €	2000,00 €
After archiving	5000,00 €	10000,00 €	Other position 3000,00 €

## Project controlling

In this section, the possibilities of project controlling are presented. It will be discussed how project results with multi-level contribution margin accounting can be presented in the Projects module with the help of the project chart of accounts. In addition, the project information that can be called up immediately is presented.

Project controlling is basically based on budgeted and actual values. The realization should correspond to the planned values. In order to be able to manage the project properly and promptly, a comprehensive evaluation of the planned values and the actual values incurred, related to the stored time periods, is immensely important. Microsoft Dynamics 365 Business Central offers this evaluation.

The project items show the actual values that are charged to the project from daily work. These are usually goods or time postings. The plan values are defined via the project tasks and its project plan lines. This enables a target/actual comparison of certain cost types. On the basis of this project chart of accounts, evaluation schemas can be formed, with which, combined with correspondingly generated column layouts, specific information can be formed from the values. The procedure corresponds to the account evaluation in the financial accounting area.

### Data basis and structure

The creation of the project account framework is fundamental for project controlling via Microsoft Dynamics 365 Business Central. This contains the most important areas (cost types and revenue types) that are important for the company for the evaluation of projects. The level of detail of the accounts can be freely selected. Thus, a very compact or also a very elaborate project chart of accounts can be the basis.

Based on this, the project items or plan values are formed. These items are combined using a project account scheme.

### Project chart of accounts and project account setup

All project entries can be posted to project accounts via the project account setup, similar to the G/L items in financial accounting. This enables evaluation possibilities to an undreamt-of extent.

The project account and the project chart of accounts have already been explained in the section "Project setup", so only the project account setup will be discussed in detail here.

Project account determination is based on the combination of product posting group, project type and activity type. Each combination is assigned a consumption and sales account from the project chart of accounts.

The information is used to determine the respective project account as follows:

Field	Description
Product posting group	From the consumed or invoiced item, resource, G/L account. The product posting group is the only mandatory field in the matrix.
Project type	From the project
Service type	From the addressed project task to which the consumption or revenue was posted or planned.

With the above information can be e.g.

- the resource expenditure for project management on research projects with internal resources
- the cost of small materials for assembly on site
- the travel times of external employees on major projects can be determined.

Depending on what is to be evaluated later, the project chart of accounts and especially the matrix must be set up accordingly.

Project items = actual values

With each posting where a project is addressed, the system creates a project item. Project items form the basis for project settlements (expense items) and reflect the revenues of these settlements (revenue items). Project valuation is also built on the project item.

For project controlling, the project item provides all ACTUAL information from consumption and from sales.

As soon as a project booking is made, a project account is assigned to the resulting project items via the matrix mentioned above. In this way, actual consumption and actual sales can be used directly for project controlling.

Down payment plan / payment schedule

Both options behave the same. The only difference is the data source. While the payment plan is a general payment plan for projects, the down payment plan is a part of the down payment accounting module.

Project account schemeta

As soon as project plan lines and bookings are formed, projects can be evaluated. How and according to which criteria these projects are evaluated on the basis of this data is mapped in the project account schemes. The thinking and procedure of these project account schemes corresponds completely to the procedure in financial accounting with the account schemes on the basis of the G/L accounts and G/L items there.

To set up the project account schemes, call up the "Project account schemes" via the user search.

Several structures can be defined via the project account schemes, which can be used to throw different views on the project results. E.g. internal projects should be evaluated differently than customer projects. The project account scheme defines the structure of the rows. In the following the setup fields are explained in more detail:

Field	Description
Code	Specifies a meaningful abbreviation of the project account scheme.
Description	Specifies a description of the project account scheme.
Standard column layout	In the field "Standard column layout" you can define the criteria for the evaluation in the column view. The column layout stored there is always used as a basis when calling up a project account scheme. However, it is possible to assign a different column layout at any time.

Project account schemes lines

A report structure is set up in the project account scheme itself, in which the corresponding project accounts are assigned to the individual lines. Totals lines or formulas can also be entered.

**The important fields are:**

<b>Field</b>	<b>Description</b>
Heading no.	A logical line numbering is to be stored in the field "Rubric no.".
Description	In the "Description" you have to enter which area you want to display in this line.
Counting type	In the "Totals type" field, specify whether an account total, a grand total or a formula should be stored.
	When specifying the account total, the values of one or more accounts are displayed.
	If the Totals selection is activated, totals lines from the project chart of accounts can be taken into account.
	If the Formula type is selected, a formula can be defined within the project accounts scheme.
Counting up	In the "Totals" field, according to the previously defined type, project accounts, totals rows or calculation formulas can be specified.
Line type	This field can be used to define whether the line is a main line or an auxiliary line.
Hide row	This field can be used to control whether the line should be shown/hidden.
Line color	By means of the selection it can be indicated whether the line is to be printed "black" or "blue".
Boldface	The check mark can be used to specify whether the line should be printed in bold.

Project account schemes column layout



When you call the "Set up column layouts" function, the Column layout project page is opened. Among other things, the column layout TARGET - ACTUAL is stored in the database.

Field	Description
Column no.	In the "Column no. " an identification of the line is to be indicated.
Column heading	In the field "Column header" you have to enter the name of the column as it should appear in the printout.
Column type	<p><b>In the "Column type" it is possible to specify what will be done in the column:</b></p> <p><b>Formula:</b> Calculations are performed between the columns.</p> <p><b>Motion:</b> Pure transaction data is displayed.</p>
Item type	In the field "Item type" the respective item type (depending on the field "Column type=Movement) must be specified.
Archive source	Depending on the "Item type" field, the archive source must be specified if necessary.
Document type	The type of document is defined in the Document type field. This field depends on the item type. E.g. Item type=Purchase line can be defined as document type "Offer".
Amount type	The "Amount type" field specifies what type it is, e.g. "Cost amount".
Assignment type filter	In this field, a filter can further narrow down this line.
Comparison date formula	In the "Comparison date formula" field, you can define which comparison period is to be displayed. The entry is made in relation to the time period specified in the date filter in the report requests. Entries can be made with the known time specifications (T, TW, W, M, Q, J).
Formula	In the "Formula" field, the formula can be entered if the column type is the Formula selection.
Rounding factor	In the "Rounding factor" field, you can specify whether and if so how to round. This allows large values to be displayed clearly.
View	<p>The "Display" field can be used to define whether the column</p> <ul style="list-style-type: none"> <li>• always,</li> <li>• never,</li> <li>• if positive</li> <li>• If negative</li> </ul> <p>is displayed.</p>

Field	Description
Red color	The display is in red color.
Green color	The display is in green color.

#### Project account schemes matrix

You can call it up via the menu item "Matrix". It shows you the values resulting from the defined rows of the account scheme and the columns of the column layout.

#### Archive project versioning and project status

The project planning in Microsoft Dynamics 365 Business Central is always supplemented and corrected, so that a comparison of different plan statuses is not possible. In the plant engineering solution, you can carry out a versioning of the project planning in order to have access to older planning statuses and to compare two planning statuses with each other.

#### Project version

To create a project version, execute the function "Release version" in the respective project via the menu ribbon. The current version of the complete project status has thus been archived and can be viewed via the number of the "Archived versions" field on the "General" info tab or via the menu ribbon under the "Project archive" menu item.

The archived project states contain a complete copy of the project map with the following additional information on the "Version" info tab:

field	description
Version number	Indicates the version number of the archived project state.
Archived by	Indicates who created the version.
Archived on	Gives the date when the version was created.
Archived at	Indicates the time when the version was created.
Archiving comment	If an archiving comment has been stored during archiving, it is displayed at this point.
Last current no. project item	Indicates the number of the last project item at the time the version was created.
Last Item Sequence No. No. Specifies the number of the last item at the time of version creation.	
Last value item no. Specifies the number of the last value item at the time the version was created.	
Last no. of resource items Specifies the number of the last resource item at the time the version was created.	
Last no. of capacity item - Specifies the number of the last capacity item at the time the version was created.	

#### Project structure version

The project structure version can be viewed via the "Project structure" menu item in the project version ribbon. This corresponds to the project structure at the time of archiving with the additional identifier of the version number.

#### Note

When archiving from the project structure, the project map is also always archived.

#### Project version comparison

By means of the project version comparison you can compare different project statuses with each other.

#### Setup

To be able to use the project version comparison to the full extent, global settings must first be defined on the "Version comparison" info tab in the "Project setup". You can find more information [here](#).

### Version comparison field setup

You can set up the version comparison field setup on the one hand via the "Projects setup" and on the other hand via the project version comparison mask. The difference between these two calls is that the call from the project setup is user-independent (field UserIDFilter = "empty") and the call from the project version comparison is made in relation to the user (field UserIDFilter = "UserID").

In the header of the version comparison field setup, general information is displayed first:

Field	Description
UserIDFilter	With the field "UserIDFilter" you have on the one hand the possibility to make a global setup for all users or to define specifically per user (by specifying the corresponding UserID) an individual comparison setup.
Number of Assigned Fields	This field shows you the number of fields that have currently been activated in the "Visible" field.

In the lines you can make the actual setup. The individual fields and their meaning are explained in more detail below:

Field	Description
Position	Use the position numbering to determine the positioning in the version comparison in the version detail overview.
Field No.	Indicates the number of the corresponding field.
Field Name	Gives the field name of the field.
Field label	Gives the field label of the field.
Visible	Check the box if you want the field changes to be displayed in detail in the version detail overview.
Consider in field comparison	<p>By activating this checkbox, you control whether a comparison of the corresponding field of two versions should be considered in the version structure.</p> <p>If the checkbox is not activated, the line will not be visually displayed accordingly in the version structure when a change or similar is made.</p>

### Compare project versions

You can compare different project versions via the respective project card using the call of the same name located in the menu ribbon.

## Note

Please note that two released project versions must exist in the system in advance for the version comparison.

The header of the project version comparison card contains the following fields:

Field	Description
Project number	Indicates the number for which a version comparison is to be made.
Calculate	The switch serves as an identifier for the calculation.
	By calling the version comparison, the system automatically creates a new calculation based on the two currently released versions.
	As soon as you change a version, the switch deactivates. By the function "Recalculate" this is activated again.  (Switch is not editable for the user)
Version left	Specifies the version to be compared with another opposite version.
	<b>Note:</b> Please note that when the project version comparison mask is called up, the two current released versions are always preset first.

To compare the versions specified in the header, the "Recalculate" function is executed in the ribbon.

A comparison structure with colored highlighting of the lines is inserted in the main window. The color scheme is similar to the one defined in the [project setup](#).

Leading for the comparison structure is always version left. Means, all lines of the version left are inserted into the version structure under consideration (appropriate coloring) with version right. If there are additional lines in version right, these are also inserted in corresponding representation and position.

If version left has no opposite version for comparison, only version left is inserted.

For a better orientation of the coloring, the legend located in the footer offers you.

In the version details, either the fields of the line or the comparison of the fields, if the line is included in both versions, are displayed to you. Which fields are displayed how in the version details is defined in the version comparison field setup.

## System logging

The activity log items from the purchase and sales document printouts are marked with the project numbers from the header and can be seen from the project via activity log items.

## Shipping preparation

When manufacturing complex articles, the situation can often arise during shipping that the manufactured article has to be disassembled and packed in a manner suitable for shipping. The plant engineering solution offers you the possibility to handle this via the "shipping units". Here, the shipping units are supported in manufacturing and logistics.

Currently 3 different scenarios can be covered by the shipping units, which are described below:

### Relocation of components

An FA is set up whose components are to be transferred to a production warehouse for assembly. The components are grouped into shipping units that are easy to transport. From a released E+D order, these components can be inserted into a stock transfer order.

To do this, select the desired component lines and execute the "Transfer selected shipping units" function.

The system checks that the components to be transferred have already been consumed.

If the appropriately marked components have been consumed, then a transfer order is created that transfers the shipping units from the component storage location to the FA storage location. The "In-Transit Code" is preassigned by the "Preferred Transit Code" field in the project setup when using the plant engineering solution. Otherwise, the first storage location is pre-populated with the "Use as transit storage" identifier.

If the storage locations are subject to goods issue or goods receipt, they can be created and posted according to the standard.

During the posting process, no new item items are created in the background because the components have already been consumed. Through the postings, shipping unit items are formed. These can be used to check the status of the shipping units (opens by the lookup on a shipping unit).

After posting the receipt, the order is completed. The shipping unit can now no longer be shipped because it has already delivered the complete quantity. In addition, it can no longer be assigned to further components.

### Shipping units in goods issue

If a production item is sold, the shipping units stored in the FA can also be inserted in a goods issue. For this purpose, the function "Insert shipping units" can be used in the goods issue.

If the sales line was reserved on a corresponding item line, then the shipping units from this FA will be automatically inserted. If there is no reservation, a selection of items will be opened and the user can decide which item to sell.

After selection, the shipping units belonging to the item are inserted into the goods issue.

If the FA associated with the item is not yet finished, the user must confirm that they wish to continue.

The original line remains, but the quantities are removed, since this item is automatically posted in the background after posting the shipping units. The posting of the goods issue with shipping units is now done as in the standard. After complete posting, the original item is also delivered and can be invoiced.

### Shipping preparation

In the production of complex articles, the situation can often arise in shipping that the manufactured article must be disassembled and packed in a manner suitable for shipping. In connection with the plant engineering solution, it is also possible to use shipping units across FAs within a project. For this purpose, it is necessary that the production orders have a project reference, e.g. that they are generated by MRP in the project.

Project-specific shipping units can now be assigned to these production orders by setting the "Project-specific shipping unit" checkbox in the component lines. This is set for all component lines of the production order.

Now shipping units can be assigned. They are no longer FA-specific, but can be assigned in all FAs that have the corresponding project number.

The assignment can also be assigned from the "Material structure" in the project. Here, all FAs linked to the project plan lines are directly visible. If the corresponding lines are transferred to a sales order, the shipping units can be used in the goods issue. For this purpose, the function "Insert project-specific shipping units" is used in the goods issue. To do this, all lines that belong to FAs that use project-specific shipping units are selected.

The goods issue can then be posted normally. After the shipping units have been fully posted, the original lines are automatically posted in the background and the sales delivery is completed. When inserting the project-specific shipping unit, the system checks whether each FA that uses one of the shipping units is also linked to this goods issue. If this is not the case, the system terminates with an error and points out the FA.

Basic information about shipping units can be found [here](#)

#### Complaint and credit note

#### Complaint

Should the case arise that a customer complains about the delivered goods, the complaint process can be started from within the project.

To do this, select the corresponding project plan line and execute "Create sales complaint" via the menu item.



A window will open where you can make the following decisions:

Field	Description
Create new document	Specify whether you want to create a new document or attach the items to an existing claim.
Archive existing document	<p>If the document is to be attached to an existing document, it is recommended to activate the "Archive existing document" button.</p> <p>The existing document is archived again beforehand when activated.</p>
Document date	Specify which document date the complaint should receive.
Attach to document	<p>If you want to add to an existing complaint (Create new document = No), you can specify the document to be updated here.</p> <p>Determine to which document you want to assign the selected lines. A list of possible documents is displayed for this purpose.</p>
Lines outline	<p>Specify here whether a row outline should be created when a new document is created.</p> <p>When adding documents, you will not be offered the choice and the outline type of the existing document will be kept.</p>

Confirm your selection with "Ok".

## Credit

Detached from a complaint process, you also have the option to create a value credit note via a project plan line.

To do this, select the corresponding project plan line and call up the menu item "Create sales credit memo".

A window will open where you can make the following decisions:

Field	Description
Create new credit note	Specify whether you want to create a new document or attach the items to an existing credit note.
Posting date	Specify which posting date should receive the credit note.
Attach to credit memo no.	<p>If you want to add to an existing credit note (Create new credit note = No), you can specify the document to be updated here.</p> <p>Determine to which document you want to assign the selected lines. A list of possible documents is displayed for this purpose.</p>

## 1.2.3 healthcare365

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### KUMAVISION healthcare365

#### Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

## Basic Setup

### Note

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## Basics

### Note

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## Sales and Marketing

### Note

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## Purchasing

### Note

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As a result, the web help describing the solution is currently available in German only.

## **Warehouse and Inventory**

### Note

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As a result, the web help describing the solution is currently available in German only.

## **Warehouse Comfort Module**

### Note

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As a result, the web help describing the solution is currently available in German only.



## Manufacturing

### Note

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As a result, the web help describing the solution is currently available in German only.

**External Production With Provision****Note**

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As a result, the web help describing the solution is currently available in German only.

## Mounting

### Note

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## Collective External Production

### Note

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As a result, the web help describing the solution is currently available in German only.

## **Batch Clean Production**

### Note

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As a result, the web help describing the solution is currently available in German only.

**Device Assignment Sn in Sn****Note**

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As a result, the web help describing the solution is currently available in German only.

**Workflow- and Notification Manager (WNM)****Note**

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As a result, the web help describing the solution is currently available in German only.

**Consultation Supplies incl. Practice Supplies****Note**

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.



## Recipe Processing

### Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

**Contracts for the "Technology & Maintenance" module for trade and equipment manufacturers****Note**

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

**Contracts for the "Technology & Maintenance" module for other service providers****Note**

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

## **Repair and Maintenance Processes For Traders And Equipment Manufacturers**

### **Note**

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As a result, the web help describing the solution is currently available in German only.

## **Technology & Maintenance for other service providers**

### Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

## Document Characteristics

### Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

**Electronic billing according to §300**

## Note

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As a result, the web help describing the solution is currently available in German only.

**Electronic billing to §302**

## Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.



**Medical Device Regulation Document Control****Note**

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

**KUMAcconnect****Note**

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

**Bridge-App for the "DMS/ECM Interface" module****Note**

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

## **Tour- and Technicianplanning**

### Note

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As a result, the web help describing the solution is currently available in German only.

## Advanced Pricing

### Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

## 1.2.4 project365

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### KUMAVISION project365

Although project-centric businesses come in many shapes and sizes, their goals are always the same: They need to deliver on time, on budget, and within scope, and be able to respond quickly to changes in the market.

Thanks to sophisticated workflows based on industry-specific, tried-and-tested functionality, KUMAVISION project365 can help these companies—which operate in sectors as diverse as service and repair, IT, equipment rental, engineering, consulting, and architecture—make the most of their resources and drive success.

Fully integrated into Microsoft Dynamics 365 Business Central, project365 empowers you to:

- keep track of your projects and resources with ease.
- make decisions based on sound data.
- identify risks early on and respond in time.
- stay on top of things when working across departments and locations.
- improve customer satisfaction thanks to reliable, effective scheduling.
- control costs at every step of a project.
- exchange data with Microsoft Office at a moment's notice.
- reduce administrative overhead.
- record times and travel expenses online—in any internet browser.

#### Topics

- [HR Cockpit](#)
- [About Resources](#)
- [Job Setup](#)
- [Create a Job](#)
- [WBS and Scheduling](#)
- [Guarantees](#)
- [Time & Materials](#)
- [Billings](#)
- [Create job from sales document](#)
- [Service Package](#)
- [Intercompany Work](#)
- [Control Costs](#)
- [Run a Forecast](#)
- [Alternate Currencies](#)
- [Earned Value](#)
- [Support Contracts](#)
- [WIP Accounting](#)
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HR Cockpit

Overview

In Microsoft Dynamics 365 Business Central, staff data typically needs to be stored in the Employee, Resource, and Salesperson/Purchaser tables. Sometimes, however, data also needs to be available elsewhere in the app. For example, you might need to add information to the Vendor table to reimburse employees for travel expenses.

Hiring a new staff member or updating staff data might therefore have a ripple effect throughout the app. The HR Cockpit was designed to offer you an easy way to create and update information across all tables at once.

Information is stored in the cockpit temporarily so that you can add or update data in the tables that include a certain staff member. For example, if you want to change an employee’s home address, changing the relevant HR cockpit field updates the field in all tables linked to this employee. Removing data from the cockpit, however, doesn’t delete the information elsewhere.

After you added or updated the relevant data, you will be asked if you want to keep or delete the HR cockpit record. We recommend that you keep it, but—as a precaution—run the Get Data action when you are about to perform the next update. This function retransfers all data related to a certain staff member, ensuring that the cockpit also shows changes made to individual tables in the meantime.

Setup

You can set up default values for some staff-related fields. Choose the Search icon, enter HR Cockpit Setup, and then choose the related link.

This opens a page where you can set up a general template or a distinct combination of values for each person working in HR. These default values are then entered in the resource record that is created when you register new staff.

If you want to specify default values for vendor-related information, you need to have the Comsol Travel Expenses app installed.

Default no. series

You can also choose in HR Cockpit Setup what number series you want staff-related tables to use. For example, you can choose if you want a field in the resource record to keep the number that you used to create the employee record.

For each table, two fields are available for setting up a series.

Resource No. Series Setup

Field	Description
Resource No. Series	Fill in this field if you want new data records to use a number from this series.
Resource Nos. Prefix	Fill in this field if you want to add a prefix to the employee number when you set up new data records with that number.

## Examples

Employee and resource number are identical.

*Employee=1235 and Resource=1235*

Resource No. Series
---------------------

Resource Nos. Prefix
----------------------

The resource uses a number from another series.

*Employee=1235 and Resource R58456*

Resource No. Series
---------------------

<b>ResourceNoSeries</b>
-------------------------

Resource Nos. Prefix
----------------------

Resource and employee number are identical, except for the prefix.

*Employee=1235 and Resource=R1235*

Resource No. Series
---------------------

Resource Nos. Prefix
----------------------

<b>R</b>
----------

### HR Field Check

On this page, you can specify what cockpit fields every user needs to fill in. To open the page, choose the Search icon, enter HR Field Check, and then choose the related link.

With the toggle turned on, the first field on the page checks whether an employee is available in sales. As for the other fields, except for the Employee No. field, which cannot be changed, the options are the same in each field.

Option	Description
Ignore	Ignores the content of the related field.
Required	Requires the related field to be filled in. If this field is blank, no data is copied to tables associated with the employee record.
Ask	Asks the user whether to continue with processing information if the related field is empty.

### HR Cockpit Card

The cockpit provides you with a central location to add and update staff data.



**Register a new employee**

1. Choose the Search icon, enter HR Cockpit, and then choose the related link.
2. On the ribbon, choose the New action. Fill in the fields as described in the following table.

## General

Field	Description
Type	Shows the type of data record, for example, New.
Employee No.	Serves as a unique reference to the new data record.
	Numbers are assigned based on the series stored in HR Cockpit Setup.
	To create a new cockpit record, go to any other field and choose Yes on the dialog page that appears. A number is then assigned automatically.
	<b>Note</b> If you follow these instructions, an HR cockpit record is created before a new employee record.
User ID	Choose an ID to link the employee to a user.  <b>Note</b> The user must already exist.
Initials	Specify initials for the employee.
Gender	Specify the employee's gender.
First Name	Enter the employee's first name.
Last Name	Enter the employee's last name.
Name	Combines the First Name and Last Name fields.
Address Address 2	Enter the employee's (second) home address.
Post Code	Enter the ZIP code of the location where the employee lives.
City	Shows the city or town associated with the ZIP code.If the field is empty, fill in a location manually.
County	Specify a county if necessary. You need to unhide this field before you can enter a value.
Country/Region Code	Shows the country or region associated with the ZIP code. If the field is empty, fill in a code manually.
Birth Date	Enter the employee's date of birth.
Record Created On	Shows the date on which the record was created.
Record Created By	Shows the ID of the user who created the record.

Field	Description
Registered On	Shows the date on which the employee was added.
Registered By	Shows the ID of the user who added the employee.
Last Imported By	Shows the ID of the user who last imported the data record.
Last Imported On	Shows the date on which the data record was last imported.
Last Updated By	Shows the ID of the user who last updated the employee record.
Last Updated On	Shows the date on which the employee record was last updated.

#### Contact Details

Here you can enter an employee's contact information.

#### Employee

Field	Description
Status	Select the employee's status. You can choose between three options: Active, Inactive, and Terminated.
Job Title	Specify the employee's role in the company.
Project Manager	Turn on this toggle if you want to create a job journal.
Trainee	Turn on this toggle if this employee is a trainee.
Social Security No.	Enter the employee's social security number.
Employment Date	Specify the starting date of employment.
Inactive Date	Enter a date in this field if the employee is unavailable for a relatively long period of time.
Cause of Inactivity Code	Select a reason for the employee's inactivity, such as parental leave.
Termination Date	Enter a date in this field if the employee's contract came to an end.
Grounds for Term. Code	Select a code that explains why employment ended. For example, the employee might have been let go or might have retired.
Emplymt. Contract Code	Shows the type of employment contract stored with HR.

## Base Data

Field	Description
Create Salesperson	Turn on this toggle if you want to create a salesperson record for the new employee.
Salesperson Code	Instead of creating a new data record, you can also enter the code of an existing salesperson here.
Create Resource	Turn on this toggle if you want to create a resource for the new employee.
Resource No.	Instead of creating a new data record, you can also enter the code of an existing resource here.
Create TE Employee	Turn on the toggle to set up a staff member for whom you want to post travel expenses (known as a TravelExpense Employee).  This field is only shown if you installed the Comsol Travel Expenses app.
TE Employee No.	Instead of creating a new data record, you can also enter the number of an existing TE employee here.  This field is only shown if you installed the Comsol Travel Expenses app.
Create Vendor	Turn on this toggle to link a vendor to the new employee. This field is only shown if you installed the Comsol Travel Expenses app.
Vendor No.	Instead of creating a new data record, you can also enter the number of an existing vendor here. This field is only shown if you installed the Comsol Travel Expenses app.

## Resource

Field	Description
Resource Group No.	Fill in this field if you want to assign the employee to a resource group.
Base Calendar Code	The code in this field determines how much capacity the resource has available. If you want capacity to be calculated automatically, turn on the Create Capacity toggle (also found on this card).
Available in Sales	Turn on this toggle if you want to use the data record for sales documents.
Show on Schedule	Turn on this toggle if you want to utilize the resource in planning.
Direct Unit Cost	Specify the resource's unit cost.
Unit Price	Specify the resource's unit price.
Work Hour Template	Choose a template for the resource's weekly working hours.
Product Commission Group	This field helps group and commission products individually.
Blocked	Turn on this toggle if you want to block use of the resource.
Create Capacity	Creates resource capacity entries automatically. To use this feature, you need to choose a Base Calendar Code, a Work Hour Template, a Capacity Starting Date, and a Capacity Ending Date.
Capacity Starting Date	Specifies the starting date of capacity planning.
Capacity Ending Date	Specifies the ending date of capacity planning.

## Bank

Here you can specify an employee's bank account information.

## Setup

Field	Description
Gen. Prod. Posting Group	Specify a general product posting group.
No. Series Vendor	Specify a number series for vendors.
Vendor Posting Group	Fill in this field if you want to map the resource to a G/L account for posting purposes.
Payment Terms Code	Enter the agreed terms of payment.
Payment Method Code	Select how payment is made, for example, by bank transfer.
Application Method	Specify how you want to apply payments for items.
Gen. Bus. Posting Group	Used to determine the relevant G/L account in VAT Posting Setup.
VAT Bus. Posting Group	Used to determine the G/L account on the VAT Posting Setup page when you post the resource.
Responsibility Center	Shows the responsibility center, such as a purchase office, to which the employee is assigned.

## Dimensions

On this tab, you can specify dimensions for the staff member. These are then copied as default dimensions to the Employee and related tables (for example, Resource).

Depending on what you entered in General Ledger Setup, this FastTab includes up to eight fields: Global Dimension 1 and 2 and Shortcut Dimension 3 through 8. You can add more default dimensions by selecting the Dimensions action on the ribbon.

## TempVision

Fill in this tab if you use the Tempras app for employee management.

## Travel Expenses

Fill in this tab if you use the Comsol app for travel expense management.

## Transfer Data

Use this action on the ribbon to create new data records in the Employee, Resource, and Salesperson/Purchaser tables, as well as the Vendor and TE Employee tables if you installed the Comsol Travel Expenses app.

You can then choose to keep or delete the HR Cockpit data.

## Update staff data

When you use the HR Cockpit card to register new staff members, data will be linked throughout the Employee, Resource, and Salesperson/Purchaser tables—and the Vendor and TE Employee tables if you installed the Comsol Travel Expenses app.

When you close the card, you will be asked if you want to keep or delete the data that you created.

### Keep the HR cockpit record

If you choose to keep the information, the card is retained in the system so that you can take another look at the data later. To ensure that the information shown on the card includes all changes users made to related data in the Employee, Resource, and Salesperson/Purchaser tables in the meantime, go to the ribbon and run the Get Data action before your next update.

Changes to employee data can be tracked by using the Type field. If the information related to an employee has been changed, the field is set to Updated. The Updated By and Updated On fields show who last updated the fields and when this happened.

To replace what is stored in the associated tables with new information, reopen the relevant card and rerun the Transfer Data action when you're finished updating. You can then again decide if you want to keep or delete the cockpit record.

### Delete the data record

If you decide to delete the data record, you need to retrieve all relevant information each time you want to look up an employee.

1. On the HR cockpit card, choose the New action.
2. In the Employee No. field, select the number of the data record that you want to update instead of having the system assign a new number to the card.

When you choose an Employee No., the program will copy to the card all information related to the employee, that is, all data stored for the staff member in the Employee, Resource, and Salesperson/Purchaser tables (and, if you installed the Comsol Travel Expenses app, the TE Employee and Vendor tables). At the same time, the Type field will be set to Updated.

To replace what is stored in the related tables with new data that you entered on the card, go to the ribbon, and select the Transfer Data action. Following the update, you can again decide if you want to keep or delete the data record.



## About Resources

### Overview

Resources are the people and machines performing the activities of a job.

With the help of a budget, you can easily define their deployment and availability on multiple capacity-related pages within the system. You can also record their impact on a company's revenues and expenses, either independently or as part of jobs and sales (which creates a link to Finance).

Resources can be part of resource groups. You can use both resources and resource groups to budget and bill highly sophisticated purchase and sales price structures.

As the resource and job functionalities are closely intertwined, the following sections will also cover some of the basics of project management, with explanations of:

- Resources and resource groups
- Units and types of work
- Unit costs and sales prices
- Resource and job journals
- Capacities
- Flextime summaries

**Resources Setup**

Before you can register and post to resources, you need to set up the functionality.

1. Choose the Search icon, enter Resources Setup, and then choose the related link.
2. On the KUMAVISION project365 FastTab, fill in the fields as described in the following table.

Field	Description
	<p>You can choose between two options in this field:</p> <p><b>Base Calendar</b> The standard calendar. This calendar is only available if you have a Premium license and use the Services functionality.</p> <p><b>project365 Calendar</b> The calendar for users with an Essentials license, which precludes access to the standard version.</p>
Resource Calendar Type	
project365 Calendar Code	<p>Fill in this field if you selected the project365 resource calendar.</p> <p>The standard and the project365 calendar both offer the same features. The standard version, however, is only included with a Premium license.</p>
Resource Base Unit of Measure	Specify a base unit of measure for resources. A typical unit is Hour.
Dimension Integration	<p>Enter a dimension that you want to link to new resources.</p> <p>When you later enter a resource in the Person Responsible field on a job card, the dimension is assigned as a job dimension to the resource.</p> <p>This way, you can evaluate the work of project managers across jobs.</p>
Auto Close Res. Costs Auto Close Res. Prices	<p>Turn on these toggles if you want the system to fill in ending dates when you select another unit cost or price with a more recent starting date. This is only useful if you work with Extended Pricing (something that we strongly recommend) and if the relevant tables include both starting and ending dates.</p>
Resource Planner Start Resource Planner End	<p>Specify a period that you want to transfer to visual resource planning</p> <p><b>Note</b> Specifying a period that is too small makes planning impossible. A period that is too large has a negative impact on performance.</p> <p><b>Example</b> -1W to 2M = one week back from the current week to 2 months into the future.</p>
Night Differential Start Night Differential End	Fill in these fields to calculate a night differential. For more information, see <a href="#">Flextime Summaries</a> .

You can now register your first resource.

**Register a resource**

1. Choose the Search icon, enter Resources, and then choose the related link.
2. On the ribbon, choose New > New to register a resource and fill in the fields as described in the following table.

## General

Field	Description
No.	<p>Serves as a unique number to identify the resource. Numbers are assigned from the series stored in Resources Setup.</p> <p>To assign a number to the resource automatically, go to any other field on the FastTab.</p>
Name	Enter a name for the resource.
Type	<p>Specify the type of resource. Person is for a company's own employees, and External is short for external resources.</p> <p>Machine covers everything the first two options don't, including vehicles and equipment.</p>
Base Unit of Measure	Also specified in Resources Setup. The unit you choose must be the same for all resources. We recommend you use Hour, even if you bill services on a per-day basis.
project365 Calendar Code	Each resource can have its own calendar. The calendar is later used to set up capacity. If you leave the field blank, the relevant calendar code is copied from Resources Setup.
Work-Hour Template	Select a code to specify standard hours per workday in capacity planning.
Default Break	<p>Specify the length of the resource's work break that is entered when you post times on CTC cards.</p> <p>If you leave the field blank, the system copies the default break from the work hour template that you selected for this resource.</p>
Employee No.	Shows the employee number associated with the resource.
Time Manager	Specify who (instead of the project lead) should approve the time entries created from the resource's recorded hours. For more information, see <a href="#">Job Journals</a> .
Substitute Time Manager	Specify who (instead of the project lead) should approve the time entries created from the resource's recorded hours if the time manager is not available. For more information, see <a href="#">Job Journals</a> .
No. of Extended Texts	Shows the number of extended texts stored for the resource.
Search Name	Enter a term that can be used to search for the resource, for example, an employee's initials.
Resource Group No.	<p>Each resource can be assigned to a resource group. This assignment is how a group receives capacity.</p> <p>You can then use the group, for example, to create a rough job budget before</p>

Field	Description
	devising a more detailed schedule for individual resources.
	A resource can only be part of one group at a time. You also cannot post an entire group but only individual resources.
Billing Resource	Turn on this toggle if you want to include the resource on sales invoices. A resource linked to billing cannot be budgeted.
Available in Sales	With the toggle turned on, the resource can be used on sales documents. Typically, this applies only to billing resources.
Use in Resource Planning	Turn on this toggle if you want to include the resource in planning. Turn it off if the resource is used in billing or for other special purposes.
Blocked	Turn on this toggle to block use of the resource.
Privacy Blocked	Turn on this toggle to limit access to resource data in day-to-day operations.
Last Date Modified	Shows the date on which the resource record was last modified.
Use Time Sheet	Turn on this toggle if you want to use a time sheet. Leave it turned off for other methods of time tracking.

## Invoicing



Field	Description
Personnel Cost Rate Personnel Cost % Personal Ovhd. Cost	These fields provide information on labor costs and determine the unit cost. All of them might be empty, as the unit cost can also be filled in manually.
Direct Unit Cost	Specifies the direct cost of one unit of the resource. This field has a lower priority than the same field in the Resource Cost table. It is only used if the system cannot find a valid direct unit cost in that table.
Indirect Cost %	Specifies the indirect cost associated with the resource. This amount is added to the direct unit cost to make up the unit cost.
Unit Cost	Specifies the cost of one unit of the resource. This is the cost budgeted and billed to a project when you post expenses.
Price/Profit Calculation	Choose if and how you want to fill in the Unit Price or Profit % fields.
Profit %	Shows the resource's profit margin. You can enter a margin or have the field filled in automatically based on the Price/Profit Calculation field.
Unit Price	Shows the resource's unit price. This field has a lower priority than the same field in the Resource Price table and is only used if the system cannot find a valid price in that table.
Gen. Prod. Posting Group	You must specify a general posting group before you can post to a resource. This also applies to postings in job or resource journals, even if entries, as in the resource journal, include no reference to Finance.
VAT Prod. Posting Group	Select the VAT product posting group that you want to use for transactions.
Default Deferral Template	Select a template that governs how to defer revenues and expenses to the periods when they occurred.
Automatic Ext. Texts	Turn on this toggle to add an extended text to sales and purchase documents that include the resource.
IC Partner Purch. G/L Acc. No.	Select a G/L account in this field if you want to post intercompany invoices to a partner company. For more information, see <a href="#">Intercompany Work</a> Intercompany Work.
Product Comm. Grp. Code	Select a code that you want to use for billing resources if salespersons receive commissions.
Vendor No.	For an external resource, enter a vendor number in this field.

Field	Description
	This number is then copied to budget lines in planning, where the vendor can be used to perform price calculations and process purchase orders.
Use Purch. Invoice Entries	<p>If external resources post work hours in the same way internal resources do, you need to ensure that a purchase invoice includes the times spent on a job only once.</p> <p>A check for duplicate entries can be run with the help of the job ledger entries that are created when you post time summaries.</p> <p>To have this check performed automatically, turn on the toggle.</p>
Service Package	Description to follow.
Service Work Type	Description to follow.
Invoicing Quantity	Description to follow.
Invoicing Unit of Measure	Description to follow.
Planning Quantity	Description to follow.
Planning Unit of Measure	Description to follow.
Unit Cost / Planning Quantity	Description to follow.

## Personal Data

Shows the personal data stored for an employee.

### Units, work types, and alternate costs and prices

After you have entered key resource information, you can create units, work types, alternate costs, and alternate prices for the resources you work with.

## Set up a unit of measure

1. Choose the Search icon, enter Units of Measure, and then choose the related link.
2. On the ribbon, choose New to create a resource unit such as Hour.
3. Fill in the fields as described in the following table.

Field	Description
Code	Enter a code that uniquely identifies the unit of measure.
Description	Enter a description for the unit.
International Standard Code	Enter the code of the UN/CEFACT-Rec20 unit that you want to use when you submit sales documents in electronic form.
Type	Select a unit of time.
Time in Minutes	Fill in this field so that you can convert between different units of time.
Inv. Qty. Rounding Precision	Specify the decimal precision for invoice quantities.

## Work types

Work types describe various ways of rendering and selling services. They allow you to set up structures that, for example, account for the difference in cost between an hour spent working on a job and an hour of travel.

All types are closely linked to alternate resource costs and prices. As part of a job or sales transaction, the work type has a significant influence over both.

When you register a resource or a resource group, you can assign a cost and a price to each type of work.

A work type can also be assigned to more than one unit of measure to differentiate between the use and billing of resources. For example, you can define that employees record times spent on a job in hours but that their work is billed on a per-day basis.

## Set up a work type

1. Choose the Search icon, enter Work Types, and then choose the related link.
2. On the ribbon, choose New to create a work type.
3. Fill in the fields as described in the following table.

Field	Description
Code	Enter a code that uniquely identifies the type.
Description	Enter a text to describe the type of work.
Unit of Measure Code	Specify the unit of measure used by the resource.
Invoice Unit of Measure Code	Specify the unit of measure used to invoice work done by the resource.

**Examples:**

<b>Code</b>	<b>Description</b>	<b>Unit code</b>	<b>Billing unit code</b>
PROGRAM	Software programming	Hour	Hour
INSTALL	Network installed for customer	Hour	Hour
CONSULT_STD_D	Consulting work billed in days	Hour	Day

**Extended resource costs****General setup**

If you want to work with the extended cost and price tables instead of the standard tables included with Microsoft Dynamics 365 Business Central, you need to turn on the Extended Pricing feature.

1. Choose the Search icon, enter Purchase & Payables Setup, and then choose the related link.
2. On the KUMAVISION tab, in the Extended Pricing field, choose Yes.

**Set up alternate costs**

You set up alternate costs for resources and their groups on the Extended Resource Cost page. When you invoice items, the values shown on this page take priority over those specified on resource cards.

1. Choose the Search icon, enter Extended Resource Cost, and then choose the related link.
2. On the ribbon, choose New to set up a unit cost for a resource.
3. Fill in the fields as described in the following table.

Field	Description
Type	<p>You can choose between the following resource cost types:</p>
	<p><b>Resource</b></p> <p>The unit cost will be used for the resource entered in the Code field.</p>
	<p><b>Group (Resource)</b></p> <p>The unit cost will be used for the group of resources entered in the Code field.</p>
	<p><b>All</b></p> <p>The unit cost applies to all resources regardless of their resource group.</p>
Code	<p>Based on the Type field, you can select a resource, a group, or nothing here.</p>
Work Type Code	<p>This field plays a crucial role in cost and price calculations. It specifies both the resource's unit of measure, such as hours, and activity, such as travel or software development.</p>
	<p><b>Examples</b></p>
	<p><i>Line 1</i></p> <p>Type = Resource  Code = MICHAEL  Work Type Code = INSTALL  Cost Type = Fixed  Direct Unit Cost (Base) = 80  Unit Cost (Base) = 120</p>
	<p><i>Line 2</i></p> <p>Type = Resource  Code = MICHAEL  Work Type Code = PROGRAM  Cost Type = Fixed  Direct Unit Cost (Base) = 100  Unit Cost (Base) = 150</p>
	<p><i>Line 3</i></p> <p>Type = Resource Group  Code = TECHNICAL  Work Type Code = INSTALL  Cost Type = Fixed  Direct Unit Cost (Base) = 110  Unit Cost (Base) = 160</p>
	<p><i>Line 4</i></p> <p>Type = Resource Group  Code = TECHNICAL</p>

Field	Description
	<p>Work Type Code = PROGRAM</p> <p>Cost Type = Fixed</p> <p>Direct Unit Cost (Base) = 80</p> <p>Unit Cost (Base) = 120</p> <p><i>Line 5</i></p> <p>Type = ALL</p> <p>Code = " "</p> <p>Work Type Code = CONS</p> <p>Cost Type = Fixed</p> <p>Direct Unit Cost (Base) = 90Unit Cost (Base) = 90</p>
Starting Date Ending Date	Fill in these fields if you want to set up period-specific costs.
	Specify how you want the system to calculate the cost. Resource costs aren't linked to a currency code. The local currency is used instead.
Cost Type	<p>You can select Fixed, % Extra, or LCY Extra.</p> <p>Fixed copies the unit cost from the Extended Resource Cost table; the other options add charges to the cost that you enter on resource cards.</p>
Personnel Cost Rate	Specifies the cost rate for work done by the resource.
Personnel Cost %	Specifies the percentage of costs for work done by the resource.
Personnel Ovhd. Cost	Specifies the labor overhead for work done by the resource.
Indirect Cost %	Indicates the percentage of indirect costs for work done by the resource.
Direct Unit Cost (Base)	Specifies the direct cost of a resource unit.
Unit Cost (Base)	Specifies the cost of one unit of work performed by the resource.
Unit of Measure (Work Type)	Shows the unit stored for the assigned work type code.
Direct Unit Cost (Work Type) Unit Cost (Work Type)	Shows the (direct) unit cost associated with the chosen work type.

**Find resource costs**

Resource costs are retrieved in the following order:

1. From a resource in the Extended Resource Cost table if both the resource and its work type are valid within the specified period.
2. From a resource group if the group and its work type are valid in the specified period.
3. From a resource with the All option if the resource and its work type are valid in the specified period.
4. From the Unit Cost field on a resource card.

**Work types and costs**

Unlike customer billing, cost calculation doesn't distinguish between activities, as it doesn't matter what resources spent their time on. Whether they travel or hold a workshop at a customer site, their pay is unlikely to change (at least when it comes to your own staff members).

If no unit cost can be found for a work type and period, a universally applicable entry linked to a blank Work Type field will be copied from a unit cost table.

This avoids having to specify the same unit cost in cost tables over and over again. The entry will then use a resource's base unit (the typical unit being Hour).

**Prices for external resources**

It should be noted that external resources can also be brought on for projects, and that they have their own, separate list of costs. For more information, see [External Resource Prices](#).

**Extended resource prices**

You set up alternate prices for resources and their groups on the Extended Resource Prices page. You can specify multiple prices per work type.

Resource prices are retrieved when you schedule resources, enter a price on a sales line, or post resource consumption (as a time and materials entry might contain not only a unit cost but also a unit price that can be used to measure job progress or bill work done on a project).

**General setup**

If you want to work with the extended cost and price tables instead of the standard tables included with Microsoft Dynamics 365 Business Central, you need to turn on the Extended Pricing feature.

1. Choose the Search icon, enter Sales & Receivables Setup, and then choose the related link.
2. On the General tab, select Never in the Find Best Price field.
3. On the KUMAVISION tab, in the Extended Pricing field, choose Yes.

**Set up alternate prices**

Resource prices and costs are set up in similar ways, with prices being assigned to resources and work types on the Extended Resource Prices page.

You can create alternate prices for individual resources, resource groups, or (most conveniently) all resources at once.



To add alternate resource or resource group prices:

1. Open the relevant resource card or the Resource Groups list. On the ribbon, choose Related > Prices > Prices.
2. If you don't want to set filters on resources or groups, choose the Search icon, enter Extended Resource Prices, and then choose the related link.

This opens a list of all alternate prices stored for each resource and group. It's also the only way to enter universally applicable prices.

To specify validity periods for prices, fill in the Starting and Ending Date fields on the Extended Resource Prices page.

### Examples

Type	Code	Work Type Code	Unit Price (Base)
Resource	GUIDO	CONSULT	90
Resource	MARKUS	INSTALL	80
Resource	MICHAEL	CONSULT	80
Resource	MICHAEL	INSTALL	100
Resource Group	TECHNICAL	INSTALL	75

### Pricing options

You have more than one option for setting up detailed unit prices for resources.

For one, you can create special project-specific prices by opening a job card and choosing Related > Prices > Resource.

What you see on this page—which looks almost exactly like the Extended Resource Prices page—has been copied from the job card.

You can also turn on the Use WBS Res. Prices toggle on a job card. With the toggle turned on, a resource price isn't retrieved the usual way when you post job usage or create a sales line manually but is copied directly from the related WBS line.

### Where to use resource prices

You can enter alternate unit prices for resources during various stages of a job.

### Planning

You can run a function to fill in extended unit prices when you schedule resources with the help of a budget. You can then change these prices manually if necessary.

### Sales

When you create a sales document such as a quote or an order in project planning, the resource prices on WBS lines are transferred to this document alongside other job information.

Should you create a new sales line, however, the price on that line might be retrieved from elsewhere in the system.

### **Time tracking**

When a resource posts hours spent on a job, the alternate unit price is added to the time and materials entries created during this process.

The price can then be used to measure job progress or see an estimated price total for unbilled services.

### **Purchasing**

For the same reason as in time tracking, a unit price is added to job ledger entries for an external resource when you post consumption from a purchase document.

#### **Find resource prices**

Prices are added to a resource or resource group in the following order:

1. If you turned on the Use WBS Res. Prices toggle, unit prices are copied from a WBS. Based on the posting or link level, a price might be copied from a budget line or a work package. It is, however, only retrieved if
  - it is stored with a resource or a group (not an item).
  - its work type and unit codes are identical to the those of the job.
 This type of setup makes sense if there's a certain latitude in how you can budget a job, that is, a unit price can be specified during planning (on the spot) and isn't copied from a list. Turning on the toggle ensures that there are no differences in price between time and materials entries created for job usage, planning and sales.
2. If the toggle mentioned under 1) is turned off, the system will try to find a suitable price among the resource prices specified for a job.
3. If no job-specific price is available for the given period, the system will try to find one in the Extended Resource Price table.
4. If that table contains no valid price either, the price will be copied from the resource card.

For any table, the system runs through the following sequence:

1. Find a price for a resource.
2. Find a price for a resource group.
3. Retrieve a universally valid price.

A price is considered valid if it has the same work type (a blank field is not taken to mean that a price is universally valid), uses the same currency and is valid between the starting and ending dates specified in the table.

#### **Sales transactions**

As part of sales transactions, resources are billed according to their work types and relations to jobs. The entry type created in this context is always Sale, as resource postings on sales documents represent project revenues. Posting revenue for a job doesn't create consumption.

For the use of job-specific prices in sales, turn on the Use Job Prices on Sales Doc. toggle in Jobs Setup. With the toggle turned off, prices are retrieved from resource cards only.

## Note

If you want to enter a resource on a sales document, you must turn on the Available in Sales toggle on the relevant resource card.

### Resource capacity

Resource capacity represents a resource's work hours available for planning.

To limit these hours, you can use the calendar that you chose in Resources Setup. You can specify in this calendar the public holidays, weekends, and other days on which employees aren't at work.

You can also set up resource-specific versions to account for differences in the number of holidays observed in different states and regions.

### Alternate base calendar

The standard calendar functionality is part of the Microsoft Dynamics 365 Business Central Premium license. Customers with an Essentials license can use the calendar that comes with KUMAVISION project365.

## Note

You must turn on the alternate calendar in Resources Setup before you can use it in place of the standard calendar on the setup page and for individual resources.

To turn on the project365 calendar:

1. Choose the Search icon, enter Resources Setup, and then choose the related link.
2. On the KUMAVISION project365 tab, in the Resource Calendar Type field, select project365 Calendar.
3. In the project365 Calendar Code field, choose a calendar.

### View and set capacity

To see the capacity of a resource, choose the Search icon, enter Resource Capacity, and then choose the related link.

This opens a page that lists capacities by day, week, and month. Capacities can be specified for several resources at once. Be aware of filters applied to the list.

To specify resource capacity:

1. Open the Resource Capacity page.
2. Go to the Resource Capacity Matrix section. On the ribbon, choose Planning > Set Capacity.

As a rule, capacity is scheduled for long periods in advance. No time sheet template needs to be specified if all filtered resources have one when you run the function. A template is only needed for resources that don't.

You can also set capacity for individual resources:

1. Open the Resource Capacity page.
2. Select a resource.
3. On the ribbon, choose Planning > Set Capacity for Resource.

### Group capacity

Resource groups don't have capacities, nor can you specify capacity for them.

Instead, the total number of hours that you can schedule for a group equals the capacities available for all resources within that group.

### Time summaries

Time summaries show you the monthly work hour totals of resources for whom you set up capacities.

These entries are mainly used for flextime arrangements but might also be linked to scenarios that involve night differential pay or bonuses for working on holidays.

### Set up time summaries (flextime) Resources setup

Fill in the Night Differential Start and Night Differential End fields in Resources Setup if you want to add extra pay for night shifts recorded by a resource.

### Holidays

To set up holidays:

1. Choose the Search icon, enter Base Calendars, and then choose the related link. Select a calendar.
2. On the ribbon, choose Actions > Functions > Maintain Base Calendar Changes.
3. Select the Holiday checkbox for each day you want to specify as a holiday.

### Causes of absence

For flextime summaries to be calculated correctly, you must ensure that when you fill in the Causes of Absence page, the Ignore for Flextime checkbox is selected for all causes that don't affect time tracking in a negative way. This includes absence due to illness, for example.

Essentially, the checkbox needs to be selected for all causes except for reductions in flextime. A code for reductions isn't strictly necessary—if work hours aren't posted to a job, the overall time available is reduced automatically. However, reductions might need to be recorded for documentation purposes.

### Example:

You set up sick leave, vacation, and flextime as causes of absence, with flextime as the only category for which Ignore for Flextime isn't selected. You then post what is shown in the following table.

Day	Daily capacity	Paid time	Absence	Flextime Day
1	8	9.5		1.5
2	8	0	Sick leave	8
3	8	4	Flextime	4
4	8	0	Flextime	8
5	8	6		-2

As said previously, registering flextime absence isn't what causes a reduction. The lack of postings on individual days is.

Additionally, full reductions are given for documentation purposes only, and absence due to vacation or sick leave doesn't affect the numbers.

### Starting summaries

To use time summaries:

1. Choose the Search icon, enter Time Summary Journals, and then choose the related link.
2. Record all existing flextime summaries of employees. Each entry must start with the last day of the prior month—such as 11/30/2023—if summaries are implemented on 12/01/2023.
3. When you recorded all summaries, go to the ribbon, and choose Post to copy all entries to the Posted Time Summary Journals.

The last step is crucial, as you cannot create starting summaries if you have already set up individual summary entries for employees. You also cannot reset a summary.

The starting summaries are then posted automatically when you choose the Create Time Summary Entries action on the Time Summary Entries page.

### Time summary entries

You can create time summary entries by running the Create Time Summary Entries function on the Time Summary Entries page. To avoid inaccuracies in time tracking, we recommend that you generate these entries at the close of every month.

A time summary entry contains all information required to fill in the Flextime, Night, Saturday, and Sunday and Holiday Summary fields per resource and month.

But whereas a flextime summary is calculated regularly from the times recorded by a resource the prior month, the other fields show mere snapshots of data. This means that they are used for informational purposes only; their contents aren't incorporated into other functions, such as updates of project estimates.

All totals are calculated from a resource's (that is, an employee's) capacity, posted work hours and periods of inactivity, with the system using the calendar and related fields specified in Resources Setup to determine night shift and holiday totals from the hours posted.

#### Note

Once created, entries cannot be changed.

For later postings (of times recorded or periods of absence), you need to rerun the Create Time Summary Entries function.

Summaries are always created for the month prior to the work date.

#### Example

Work date = 05/02/2023 = System calculates summary for April 2023.

### Corrective postings

To post adjustments to Saturday, holiday, nighttime, or flextime work hours:

1. Choose the Search icon, enter Time Summary Journals, and then choose the related link.
2. Select the resource number of the relevant employee.
3. Fill in the Quantity field. In the Reason Code field, choose a reason.
4. On the ribbon, choose the Post action to post the journal.

For tracking purposes, the relevant journal is then copied to the Posted Time Summary Journals page. This creates an entry combining a resource's latest summary and the data you entered.

### Job time journals

#### Create a time journal template

1. Choose the Search icon, enter Job Time Journal Templates, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as necessary.
4. Select a template. On the ribbon, choose the Batches action.
5. You can now fill in resources and their user IDs. If you assigned a journal to a user in User Setup, the correct journal is chosen automatically when you open the journal selection.

#### Note

A journal must be created for each resource who needs it. An error message appears if a user cannot be assigned to a time journal.

Only users for whom the Other Res. in Time Tracking checkbox has been selected in User Setup can edit other resources' journals, for example, to post times. When you assign a resource to a journal, the number of the resource is entered automatically on all journal lines.

#### Note

If employees and their resources are registered on the HR Cockpit, a time journal is created automatically. Although there are other options available—specifically, time sheets and CTC time tracking—every resource should have a journal, as it is the only means by which you can correct time postings.

### External resource prices

To set up a price for an external resource:

1. Select the External option in the Type field on the relevant resource card.
2. Enter a Vendor No. so that you can open the Resource Purch. Prices page from the resource or the vendor card.

What external resource prices, resource unit prices and resource unit costs have in common is that they can only be retrieved if the right work type has been specified.

You can specify external resource prices as early as creating budget lines for a job. This is because you can already store basic vendor data for an external resource on a resource card. This data is then copied to a budget line when you enter a resource on it, and a price is determined based on the vendor and work type specified on that line. When you later run the Create Purchase Document function from the budget line, the

pricing function enters a suitable price on the document—that is, unless you entered a price manually or selected the Manual Purchase Price checkbox on the budget line, in which case the price on that line is copied to the document instead.

## Project Setup

### Overview

In Microsoft Dynamics 365 Business Central, business transactions that occur over a relatively long period of time and might involve frequent changes to requirements and expenditures are grouped into jobs. With the help of budgets and line activities, and phase, task, and step codes, you can plan, manage, and invoice these jobs with ease.

At the heart of each job is a work breakdown structure (WBS). The structure is used to track sales and costs and provide the project team with a highly granular view of past, present, and future staff, machine, and material needs. Work packages related to a project can additionally be split into budget line activities, which you can assign as subtasks for specific resources to complete.

Thanks to integrated billing, you can also record the revenues and expenses posted to a job in Sales and Purchasing. However, to work with jobs, you need to set up the functionality first.

### Basics

#### Jobs Setup

This is where you specify number series and default values for jobs.

1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
2. Fill in the fields as described in the following table.



## General

Field	Description
Automatic Update Job Item Cost	<p>Turn on this toggle if you want usage costs in job ledger entries updated automatically to match changes in negative inventory adjustments.</p> <p>In other words, this field determines if cost changes are adjusted when you run the Adjust Cost - Item Entries function. The adjustment process and its results are the same as when you run the Update Job Item Cost batch job.</p>
Document No. Is Job No.	<p>Specifies that the job number is also the document number in the ledger entries posted for the job.</p> <p>Like the No Job Journal Doc. No. Check, this field affects job journals. But unlike the other toggle, it also affects item consumption postings to these journals.</p>
Use Deferral	<p>With the toggle turned on, the system creates job ledger entries in addition to G/L entries when you post a line with a deferral code and a job number on a purchase or sales invoice or in the general journal.</p> <p><b>Example</b></p> <p>A sales invoice created for a job needs to be deferred over a period of three months.</p> <p>Initially, the entire invoice revenue is added on the posting date. Afterward, the process is reversed, and the amount that you billed is distributed over three months according to the deferral schedule.</p>

## Numbering

This FastTab stores the most important number series for managing jobs. To set up a series, use the lookup next to a field or choose Alt + Down Arrow. Both approaches will lead you to the No. Series table, where you can create a new series.

## Note

Number series required for processing jobs, for example, in the purchase, sales, and resource areas, must be selected directly from their setup pages.

## Project Management

Field	Description
Job Posting in Quote Status	<p>Turn on this toggle if you intend to post consumption of time and materials as early as the quote stage. That is, the work status on a WBS line can be In Progress or Open while the job is still on Quote.</p> <p>Leave the toggle turned off if you want to post expenses only after you set a job to Open on both the job card and the relevant WBS line.</p>
Auto PTS Code	<p>Turn on this toggle if you want to use the internal number of a WBS line to designate a phase, task, or step. This might result in a more unique line if a work package is part of multiple WBS lines.</p> <p>All new WBS lines must be unique. A line is made unique by combining the codes of a work package, a phase, a task, and a step.</p>
Budget Filter on Time Posting	<p>Sets a filter when you want to link budget lines to a time journal.</p> <p>With the toggle turned on, only resources specified in the job budget can post to budget lines if Budget is chosen as the time posting level on a job card.</p> <p>You must turn on this toggle if you want to use line activities.</p>
Budget Filter on Documents	<p>Sets a filter when you want to link budget lines to purchase or sales lines.</p> <p>This limits postings to items and resources specified in the job budget if Budget is chosen in the Job Doc. Posting Level field on a job card.</p>
Budget Filter in Job Journal	<p>Sets a filter when you link budget lines to job journal lines.</p> <p>With the toggle turned on, only items and resources specified in the job budget can be used to post consumption if Budget is chosen in the Gen. Journal Posting Level field on a job card.</p>
No. Job Journal Doc. No. Check	<p>Turn on this toggle if you don't want the system to check for a document number when you post job journal lines, that is, when you post time spent on a job.</p> <p><b>Note</b></p> <p>This only applies to postings made by resources. A number is still required when you post items removed from inventory.</p>
Check Team at Time Release	<p>Before time entries are released, they are copied to a journal in which you can adjust the entries prior to posting.</p> <p>Turn on this toggle if you want the system to check if a user is authorized for this process.</p>

Field	Description
Auto Resource Budget Allocation	<p>Turn on this toggle if you want resource capacity to be determined based on a job budget, that is, have the system distribute planned work in linear fashion between the starting and ending dates of a budget line.</p> <p>With the toggle turned off, you need to trigger the process manually or run the appropriate function.</p> <p>Without allocation, the entire resource capacity is assigned to the starting date.</p>
Default Budget Allocation Period	<p>Specify the default period for distributing project work. This period can be changed again when you run the related allocation function from a budget line.</p> <p>You can distribute amounts on a daily, weekly, or monthly basis throughout the planned duration of a project.</p>
Multi-Use Budget Resources	<p>Turn on this toggle if you want to assign a resource or a resource group to more than one budget line on a WBS line. However, the toggle has no influence over how many activities you can assign to WBS or budget lines.</p> <p>You must turn on this toggle if you want to use budget lines for completing activities. Items and G/L accounts can be budgeted on any number of lines.</p>
Auto Budget Relation at Posting	<p>Establishes a link to a budget line when you post job ledger entries if a link hasn't already been created by a user or a function before posting.</p> <p>The link can then be used for budget-to-actual comparisons on the budget line. A link is only created automatically if a budget line contains a unique type-number combination related to revenues or expenses on the associated WBS line.</p>
Calculate Work Package BOM	<p>With the toggle turned on, the budget of a bill of materials is multiplied by the quantity on a WBS line if you enter a work package related to the BOM on the budget lines set up for the WBS line.</p>
Confirm WBS Update from Budget	<p>Turn on this toggle to request confirmation when a user attempts to copy new budget values to a WBS line after changing the budget and closing the related budget lines.</p> <p>This confirmation dialog only appears when the user sets up a WBS line for storing the budget line total (<i>by selecting the Copy Budget checkbox</i>)."</p>
Use Purch. Invoice Entries	<p>Turn on this toggle if you want the system to select the checkbox with the same name on the cards of external resources (where you can also clear the field again manually).</p> <p>With the field selected, resource-related purchase documents can only be posted with the help of invoice entries.</p>

Field	Description
	The toggle is needed when external resources can post times to a job, as purchase receipts might then lead to duplicate postings.
No JLE Posting Date Check	Changing a job ledger entry in fields where this is possible is typically only allowed during the posting period specified in General Ledger Setup. Turn on this toggle to forgo the posting date check.
Job Status Reset on Final Invoice	Turn on this toggle if you want to see a project unblocked after a final invoice has been created for it.
	Turn on this toggle if you want to start with the project365 industry solution but don't have a clear idea of what job accounts you'll be using for a certain job.
No Job Accounts	This prevents an error message about non-existent or incomplete accounts when you budget and post to a project. After you created the accounts, and set up the related matrix, you can use a batch job to add the existing ledger entries and budget lines.
Job Field Check	Turn on this toggle if you want users to fill in certain fields before they can proceed with a job.
Job Completion Reason Required	Turn on this toggle if you want users to specify a reason for setting a job to Completed.
	With the toggle turned on, the system checks if the amounts stated on a job-related payment plan match budgeted sales amounts.
Auto Job vs. (Advance) Pmt. Plan Check	<p>To put it another way, the system checks if plan prices differ from those on the WBS.</p> <p>Turning on this toggle, which is only relevant when you bill projects based on invoice suggestions, prevents situations in which the WBS related to a plan was changed (or the line quantity reduced) but the change was never carried over to the plan (in other words, you would invoice too little or too much by using the original plan).</p>
Total WBS Job Budget Name	<p>Select the name of a job budget to specify an active WBS version linked to this budget as the target structure to which to copy the results of calculations and change orders.</p> <p>You must fill in this field before you can use the Main WBS feature.</p>
Do not totalize Invoicing Quantites	With the toggle turned on, invoice quantities found on lines copied to a main WBS will not be totaled but replaced with a quantity of 1. The toggle does not apply to sales amounts and unit costs.
Service Package Work Type	Description to follow.

Field	Description
Service Package Sales Price List	Description to follow.
Service Package Purchase Price List	Description to follow.

## Job Billings

Field	Description
Fixed Sales Budget when Ordering	With the toggle turned on, you can set a job to Open without affecting the sales budget of the job's active WBS.
Use Job Prices on Sales Doc.	<p>With the toggle turned on, a price entered for a job will also apply to sales documents if the job is linked to a sales line.</p> <p>Turn on this toggle if you want to create quotes and orders both from a WBS and manually by using job-specific unit prices.</p>
Check Team at Invoice Suggestion	Checks if a user has permission to create invoice suggestions for a certain job. Only users that are part of the project team can create suggestions.
Sales Job Budget Sync.	Turn on this toggle if you want data synchronized automatically to ensure that certain sales line changes are also copied to project planning.
Sales Job Budget Sync. Error Handling	<p>If you turned on synchronization (see the previous field), you can use this field to specify what you want the system to do if synchronization fails.</p> <p><b>Cancel</b></p> <p>You receive an error message while the process is canceled entirely, that is, there's no change to the sales line either. Choose this option if you want to ensure the highest level of synchronization between jobs and sales and put the focus on correcting problems in a job first.</p> <p><b>Ask</b></p> <p>You see an error message asking you if you want to change the sales line. Choose No if you want to cancel the entire process and restore the original line.</p> <p>Choose Yes if you want the sales line changed but not the job itself. At the same time, the problem is logged.</p> <p><b>Notify</b></p> <p>You are only informed about the problem, without synchronization, and the change is only made on the sales line. The issue will be logged, however.</p>
Sales Job Budget Sync. Notification	Turn on this toggle if you want the system to tell you if synchronization was successful. With the toggle turned off, the system doesn't provide feedback to users, except in the form a log entry.
Performance Date Formatting	<p>When you bill services based on time and materials, the invoice includes a service period. This period can have the following format:</p> <ul style="list-style-type: none"> <li>• [month]/[year]</li> <li>• [month]/[day]/[year]</li> <li>• [month spelled out] [day], [year]</li> </ul>



Field	Description
Customer Change Despite Revenue	Typically, the customer of a job can be changed only if no job ledger entries of type Sale have been posted to the project. But with the toggle turned on, a customer can be replaced even after posting revenue.
Qty. to Invoice vs. Invoice Entry Check	Description to follow.
No Separate Invoice for Payment Plan	Description to follow.
Posting Date for Payment Plan Invoices	Description to follow.
Purchase	
Field	Description
Default Purchase Document Type	Description to follow.
Default Req. Wksh. Template	Specify the template that you want to use when you run the function for creating requisition worksheets from a job budget.
Default Req. Wksh. Name	Specify the worksheet that you want to use when you run the function for creating requisition worksheets from a job budget.
Type Filter to Create Purchase Orders	<p>Specify the default filter that you want to use when you run the Create Purchase Document function from a WBS.</p> <p>In most cases, the default setting, Item, is sufficient.</p> <p><b>Note</b> Users can change the content of this field on the WBS at any time.</p>

## Manufacturing and Warehouse

Field	Description
Job Purchase Incl. Inventory	<p>With the toggle turned on, an item is posted to inventory when you post its receipt. This doesn't cover consumption, which must be posted manually at the appropriate time.</p> <p><b>Warning</b> This is an extremely sensitive toggle. Please contact your Business Central partner before changing it.</p>
Auto Assign Job Inventory	<p>Turn on this toggle if you want all item receipts linked to a budget line through order tracking or reservations (<i>assembly and production output, receipt and purchase, and transfers</i>) to be posted to the location and bin assigned to the line.</p> <p>The relation to the line is then stored with the item ledger entry.</p>
Post ILEs on Job Correction	<p>Turn on this toggle if you want to reclassify an item stored at a location without bins when you remove the link between the related item ledger entry and job.</p> <p>With the toggle turned off, the system will only delete job-related fields from the entry.</p> <p>If a location has bins, the item will be reclassified regardless.</p>
Default Location Non- Job Inventory	Specifies the target location when reclassifying items from a cancelled job.
Default Bin Code Non-Job Inventory	Specifies the target bin when reclassifying items from a cancelled job.
Default Prod. Req. Wksh. Template	<p>Specifies the worksheet template that will be used when you create a production order from a budget line.</p> <p><b>Note</b> This field is only available to users who have purchased the premium edition of Microsoft Dynamics 365 Business Central.</p>
Default Prod. Req. Wksh. Name	<p>Specifies the worksheet name that will be used when you create a production order from a budget line.</p> <p><b>Note</b> This field is only available to users who have purchased the premium edition of Microsoft Dynamics 365 Business Central.</p>
Prod. Order Status for Budgets	Specifies the status of a production order created from a budget line for an item with a production BOM.

Field	Description
Return Shipments to Job Inventory	<b>Note</b> This field is only available to users who have purchased the premium edition of Microsoft Dynamics 365 Business Central.
	This feature only applies to items. When you post a return shipment to a job—that is, when you post negative consumption, credit the project, and then post the item back to inventory—the toggle determines if an item is returned to the general inventory or to the inventory specific to the job.
Approval Flow Code	Adds time sheets to the role center.

## Dimensions

Field	Description
Dimension Integration	<p>Specify the dimension that a value should be created for automatically when you set up a new job, with the value matching the number of the project.</p> <p><b>Example</b> To integrate the Cost Object dimension into job 1000, cost object 1000 will be created for the job.</p>
Dimension Integration Prefix	<p>The dimension specified for integration into jobs can be given a prefix in this field.</p> <p><b>Example</b> A job with the number 1000 will show a dimension value of P1000 if the prefix entered in this field is P.</p>
Dimension Integration (Main Job)	<p>Specify the dimension that a value should be created for automatically when you set up a new main job, with the value matching the number of the main project.</p> <p><b>Example</b> To integrate the Cost Object dimension into job 1000, cost object 1000 will be created for the main job.</p> <p>The dimension is then passed on to all jobs assigned to the main project. Those jobs, however, will not be updated should you later decide to change the dimension.</p>
Dimension Integration Prefix (Main Job)	<p>The dimension specified for integration into main jobs can be given a prefix in this field.</p> <p><b>Example</b> A main job with the number 1000 will show a dimension value of P1000 if the prefix entered in this field is P.</p>
Main Job as Dimension Total	<p>Turn on this toggle if you want the system to add a total line to the dimension entered in the Dimension Integration (Main Job) field.</p> <p>The Totaling field on the line then lists the numbers of all jobs linked to the main job. With this feature, you can easily analyze, for example, the cost objects assigned to a main project.</p>
Use WBS Line Dim. as Default	<p>With the toggle turned on, the WBS line dimensions used in job planning are copied to <i>(sales, purchase, and job)</i> documents and to <i>(time, job, and G/L)</i> journals when you assign a unique identifier to a WBS line. This way, you can copy manual dimensions from planning to ledger entries.</p> <p>Leave this toggle turned off if you want dimensions entered automatically</p>

Field	Description
	based on the job number, the relevant work package, and other data, such as the number of a resource or an item.
Use Budget Line Dim. as Default	Works in the same way as the previous toggle, the difference being that the system will copy manually created dimensions from budget lines instead of WBS lines.
Update Job Dimensions from Resource	Turn on this toggle if you want the system to transfer to a job the dimensions stored for the relevant project manager resource.  These dimensions are then copied to the job when you fill in the Person Responsible field on the job card.
Job Type Dimension Code	Specify the dimension that a value should be created for automatically when you set up a job type, with the value matching the code of the type.

#### Show Team Roles (Job List/Cards)

Here you can specify up to 10 team roles that you want to show on the job list or job cards. This way, you can see immediately who works on which project in what area or capacity (for example, as the architect or as someone in billing or cost control).

#### Measurement

For more information about the fields on this FastTab, see [Job Measurement](#).

#### Indicators

Used to set up indicators that change color based on job performance.

Field	Description
Budget Indicator Green	Specifies up to which consumption level the light in the Budget field will be green. At higher consumption levels, the light will turn yellow.
Budget Indicator Yellow	Specifies up to which consumption level the light in the Budget field will be yellow. At higher consumption levels, the light will turn red.
Profit Indicator Green	Specifies the margin up to which the light in the Budget field will be green. At lower margins, the light will turn yellow.
Profit Indicator Yellow	Specifies the margin up to which the light in the Budget field will be yellow. At lower margins, the light will turn red.

#### Time Tracking

Here you can set up your preferred method for recording time in the system. Many companies pick one method for all employees to use.

Nevertheless, we recommend that you leave the job time journals turned on even if you opt for CTC time tracking or time sheets. The journal is still the easiest way for you to post corrections to time entries.



Field	Description
	With the toggle turned on, the Print on Customer Doc. checkbox is selected automatically for each additional comment created in time tracking.
Time Comments on Customer Doc.	<p>Time tracking comments marked in this way are later printed on proof of service statements sent to customers when billing by time and materials.</p> <p>You can clear the checkbox again manually if you want to exclude certain comments from those statements.</p>
Use Job Time Journal	Adds job time journals to the role center (recommended).
Check by Time Manager	Turn on this toggle to have resource hours approved by a time manager instead of the project lead. A time manager must be specified for each resource individually. See also <a href="#">Job Journals</a> .
Team Filter on Time Posting	Limits the available resources in time tracking to members of the project team. This option is used when the Check Team at Time Posting toggle is turned on for a job.
Strict Team Filter	<p>This toggle expands on the preceding field. With the toggle turned on, users who aren't authorized to post to certain jobs cannot do so even if they fill in the No. field manually.</p> <p>For general jobs, where the Check Team at Time Posting toggle is turned off, there is no team to manage so that all resources can post to the job.</p>
General Time Recording Resource	Description to follow.
Use CTC Time Tracking	Adds CTC time tracking to the role center
Use CTC Card	Adds CTC cards to the role center
Validate Unique Hit at Job Search	With the toggle turned on, a job is entered in a time journal or on a CTC card automatically when it is the only project found with the help of the Job Search feature. If the toggle is turned off, the job must be selected manually.
	Select a method for posting entries from CTC cards:
CTC Posting As	<p><b>Time Entry</b></p> <p>Requires the project manager to post and release time entries before job ledger entries can be created.</p> <p><b>Ledger Entry</b></p> <p>Posts job ledger entries immediately. This option might affect resource-related</p>

Field	Description
	evaluations, as no time entries are created by the system.
	<p><b>Time and Ledger Entries</b></p> <p>Posts both entries at the same time. Because job ledger entries are posted immediately, the project manager doesn't need to retrieve and release time entries here, although the entries can be used for project evaluations.</p>
CTC Time Tracking Incl. Start/End Times	With the toggle turned on, you need to specify a start and an end time instead of filling in the Qty. field on a CTC line.
Check Break Total in CTC	With the toggle turned on, the amount of time that is specified in the Break (Hours) field at the top of a CTC card must be distributed across the lines by filling in the fields with the same name there.
Deactivate Break Minimum	Turn on this toggle if want the system to skip the check for minimum breaks.
Use Time Sheets	Adds time sheets to the role center.
Time Sheet Mgt. Approval	Turn on this toggle if you want an employee's time sheet released, that is, checked by a resource (manager) before a batch job can be used to post time entries or job ledger entries from that time sheet.
	Select a method for posting work hours from time sheets:
	<p><b>Time Entry</b></p> <p>Requires the project manager to post and release time entries before job ledger entries can be created.</p>
Time Sheet Posting As	<p><b>Ledger Entry</b></p> <p>Posts job ledger entries immediately. This option might affect resource-related evaluations, as no time entries are created by the system.</p>
	<p><b>Time and Ledger Entries</b></p> <p>Posts both entries at the same time. Because job ledger entries are posted immediately, the project manager doesn't need to retrieve and release time entries here, although the entries can be used for project evaluations.</p>
Auto Archive Time Sheets Older Than	Enter a formula to define when you want the system to archive time sheets. For example, -1Y means the system will archive all time sheets older than a year.
	The actual process is performed by the Move Timesheets to Archive batch job in the task queue.
	When you enter a negative quantity in a time sheet, an attempt will be made to post a reversal entry instead.

Field	Description
Post Neg. Time Sheet Qty. as Correction	More specifically, the system will search for a reversal entry that matches the number, WBS line, budget line activity, date, and quantity of the job for which the time sheet was created.  Alternatively, you can cancel quantities through the time journal.

CTC Calendar Colors

Stores colors and styles that are used in CTC time tracking to visualize the progress of time capture on different calendar days.

Set up a user

- 1. Choose the Search icon, enter User Setup, and then choose the related link.
- 2. Select a user and choose Edit.
- 3. Fill in the fields as described in the following table.

General

Field	Description
Jobs Resp. Ctr. Filter	Assign a responsibility center so that users only see jobs that match their area of responsibility.  <b>Note</b> This filter doesn't apply to time tracking.

## Project Management

Field	Description
Resource No.	Specify the resource associated with the user. If the resource isn't an employee, enter a number manually.  Filling in this field is crucial, for example, to assigning a resource to a time journal.
Other Res. in Time Tracking	With the toggle turned on, a user can see other resources' time sheets and CTC cards. Turn on this toggle for administrators only.
Plan Own Resource	With the toggle turned on, users with the relevant read/write permissions can schedule their own resources. Usually, only resource managers have these kinds of permissions; other employees can do little more than read entries.  Turning on the toggle expands (and at the same time, limits) access to a resource by granting write permission only to the user that is linked to the resource.
Planning Location Code	A resource manager's default filter when handling resource requests. You can clear this filter on the Resource Request page to see all requests made so far.
Resource Manager	Turn on this toggle if the user is a resource manager.  Resource managers handle requests posted by coworkers and distribute them among employees with available capacity. A resource manager can see all requests; others only see their own.
Team Filter on Resource Requests	Select a code that you want to set as a filter when you open the Resource Planning page from a resource request.
Planning Department Filter	Select a code that you want to set as a filter when a planner opens the Resource Request page.  You can clear this filter on the page if necessary.
Default Doc. Type for Sales Doc. Creation from Job	Description to follow.
Show Miscellaneous Article Information for all Employees	Description to follow.

## Specify posting groups

Before you can include a project in your financial reports, you need to specify posting groups and accounts for it.

## General Posting Setup

You record WIP and recognize revenues from a project by posting consumption and sales to different G/L accounts in Finance. To set up two of these accounts:

1. Choose the Search icon, enter General Posting Setup, and then choose the related link.
2. Fill in the fields shown in the following table.

Field	Description
Job Sales Adjmt. Account	<p><b>(Sales)</b> In the context of the Post Job Work In Process to G/L batch job, the balancing (P&amp;L) account to the WIP Sales (balance sheet) account.</p> <p>You post to this account income from services rendered but not yet billed during an accounting period.</p>
Job Costs Adjmt. Account	<p><b>(Consumption)</b> In the context of the Post Job Work In Process to G/L batch job, the balancing (P&amp;L) account to the WIP Costs (balance sheet) account.</p> <p>You post to this account items that were consumed during an accounting period but haven't been posted as expenses (through a purchase invoice).</p>

Of course, both accounts are also used when you recognize revenues and expenses by running the Post Job Recognition to G/L function.

## Job posting groups

The job posting groups contain other accounts through which you can post project-related WIP and recognition amounts to Finance. To add accounts to these groups:

1. Choose the Search icon, enter project365 Job Posting Groups, and then choose the related link.
2. Fill in the fields shown in the following table.

Field	Description
WIP Costs Account	<b>(Consumption)</b> Stores the costs of unfinished jobs.
WIP Sales Account	<p><b>(Sales)</b> The account to which unit prices are credited when you Post Work in Process to G/L and debited when you Post Job Recognition to G/L.</p> <p>When you record WIP, the Job Sales Adjmt. Account from General Posting Setup is used as the balancing account to this account.</p> <p>For revenue recognition, that role is assumed by the Job Sales Account.</p>
Job Costs Account	<b>(Consumption)</b> An income account to which unit costs are debited when you run the Post Job Recognition to G/L batch job.
Job Sales Account	<b>(Sales)</b> A P&L account to which unit prices are credited when you run the Post Job Recognition to G/L batch job.
G/L Expense Account	Used when posting to job-related G/L accounts. Amounts are credited to the account when job usage is copied to sales lines.
WIP Profit Account	Stores prorated profits according to the percentage of completion (POC) method as defined by IAS.
WIP Profit Applied Account	Contra account to the WIP Profit Account.

For more information, see [Job Measurement](#).

#### Set up job types

You can use job types as filters on jobs, for example, during measurement. The types are also crucial to specifying job accounts. To set up a job type:

1. Choose the Search icon, enter Job Types, and then choose the related link.
2. Specify default settings as necessary, including for posting levels, internal jobs, and fixed time periods.

#### Create job templates

Several fields can be filled in automatically when you create a job.

You will want to create at least one template for each type of project you might work on. A template includes basic (and identical) data for setting up a certain kind of job. This data is then copied to new job cards immediately.

1. Choose the Search icon, enter Job Template List, and then choose the related link.
2. On the ribbon, choose New to create a template. Fill in the fields as described in the following table.

#### General

Field	Description
Code	Specify a code for the template.
Description Description 2	Enter a description that you want to copy to new job cards.
Language Code	Specify a default language. If you don't, the system will use the code that is stored with the customer. This field controls the language used on new sales documents and for descriptions (translations) of item text.
No. Series	Specify the number series that you want to use when creating jobs.
Date Formula Sales Job Acc. Entries	Enter a formula for dates.  For example, entering +1M specifies that revenue estimates should be recorded for cost control one month after expected consumption of an item or a resource.
Active Start WBS	Turn on this toggle if you want a new job to start on an active WBS. As the structure doesn't need to be released, you can start posting to the job right away.
Job Type	Choose the type that you want to assign to new jobs by default (see <a href="#">Job Types</a> ).
Status	Specify the status in which jobs created from the template should start.
Dimension Integration	Specify the default dimension that you want created and assigned to new jobs automatically.
Dimension Integration Prefix	Enter a prefix to distinguish the dimension integration value stored in the preceding field from the number used for a new job.  For example, choosing IT as the prefix creates cost object IT2365 for job 2365.

The remaining fields are described in other help articles ([see Create a Project](#)).

#### Lines

On this FastTab, you can set up a WBS that you want to copy to new jobs so that you can specify structural elements such as begin- and end-totals early on. You can store one WBS per template. For more information on how to set up a WBS, see [Work Breakdown Structure](#).

## Job budgets

You can also create budget lines for work packages entered on a template WBS. But unlike actual jobs, templates don't include a pricing function. This means that a work package line entered in a template isn't updated when you create budget lines for it.

To set up budget lines:

1. Open a job template.
2. Go to the Lines FastTab and select a WBS line.
3. On the ribbon, choose Line > Job Budget Lines.

For more information about the fields found on budget lines, see [Budget Lines](#).

## Predecessors / Successors

You can link a WBS or a budget line to both preceding and following lines in a template. These relations are later retained when you create work breakdown structures from the template.

See also [Line Dependencies](#).

## Actions Copy Template

Copies the template WBS, dimensions, extended texts, measurement methods, and other data from an existing to a new template. This function can only be used, however, if you haven't yet created a WBS for the new template.

## Assign Position Nos.

Adds a position number to every line of the work breakdown structure.

## Renumber Lines

All WBS lines are automatically given internal numbers in 10 000 increments so that you can insert more lines between them. For example, the first line you add between 10 000 and 20 000 will be assigned internal number 15 000.

Done too often in one place, however, the line numbers will eventually go outside the integer range, and insertion will no longer be an option. To create the space required for inserting more lines, you can use this action to reassign the numbers throughout the work breakdown structure.

## Create Template from Job

You can use this action, found on the ribbons of job cards and the job list, to copy a project and its work breakdown structure to a new job template.

When you run the function, a dialog page shows the job number and the active WBS version that are copied by default. You can, however, choose another version if necessary.

You can then enter a unique template code on the page. The system will check whether this code already exists and will show an error message if it does. You can also use multiple toggles here to specify the job-related data that you want transferred.



Example

The Copy Job Data option tells the system to transfer the contents of all fields that are—or can be made—visible on job cards.

Specify job accounts

Consumption and sales that you post to jobs are shown on a chart of job accounts. This chart provides you with both cost estimates and analytical tools for monitoring job progress and performance. The accounts available on the chart are specified in Job Accounts Setup.

Note

When you start using the project365 industry solution but have yet to decide on the structure of your chart, turn on the No Job Accounts toggle in Jobs Setup. This will avoid an error message because of non-existent or incomplete job accounts when you budget and post to jobs.

After you created the accounts, and set up the related matrix, you can use a batch job to add ledger entries and budget lines that already exist. For more information, please contact your Business Central partner.

Chart of job accounts

The account chart is used for cost control and provides you with a detailed view of all job-related revenue and expense accounts. None of them are related to the chart in Finance. To set up the chart:

- 1. Choose the Search icon, enter Chart of Job Accounts, and then choose the related link.
- 2. Enter a number and name for the account.
- 3. In the Account Type field, select one of the options shown in the following table.

Option	Description
Posting	Specifies an account to which you can post.
Heading	Specifies a line of text for structuring a chart.
Total	Specifies a sum derived from totaling job account fields.
Begin-Total	Specifies from where to start totaling account lines. Calculation extends from the Begin-Total to the End-Total field.
End-Total	Specifies the point up to which account lines should be totaled. Calculation starts in the Begin-Total field. The overall sum is shown in the Total field.

- 1. On the ribbon, select Actions > Indent Chart of Accounts.
- 2. You are then asked to confirm that you want to indent the chart. Choose Yes.

Comments

Allows you to add information not included in the Job Account card fields. To enter a comment, select a line, and choose Related > Account > Comments on the ribbon. Each comment can have a maximum of 80 characters.

Job Accounts Setup

This page looks almost exactly like a posting matrix in Finance. Here you can assign revenue and expense accounts to general product posting groups. You can then use these accounts to budget and post job usage and sales.

You can specify what accounts are selected for posting with the help of job types or work packages, or both. A job ledger (or budget) entry is then assigned to an account according to its entry type (Sale or Usage). The following fields stored with all entries are later used to find an account:

- **Gen. Prod. Posting Group**  
Shows the general product posting group of a posted resource or a posted item.
- **Job Type**  
Shows the type selected for a posted job.
- **Work Package Code**  
Shows the code from a posted WBS line.

#### Project operations

Project work is typically broken down into different sections called work packages. These packages are then assigned to stages of a project by using phase, task, and step codes.

#### Work packages

Work packages (packages of services or material) are among the most important components of any work breakdown structure. You can assign budget values to a work package, post to the package, or use it in cost control.

You can also split a work package into subtasks, known as budget line activities in project365.

Each time you enter a package on a WBS, the system copies the same basic data for fields with the same name from the Work Package table. In most cases, you can then change their contents again if necessary.

For more information about work packages, see [WBS Lines](#). The following table will describe only those work package fields that you cannot find on the WBS.

Field	Description
Billing Base	Specifies the base for billing a job. This base is used if the work package, that is, the WBS line, is copied to a sales document, such as a quote or an order (with resource being the most common choice here).
Blocked	The work package code can no longer be used on WBS lines. The block, however, doesn't affect lines that already contain the code.
Billing No.	Depending on the selected billing base, this field shows the number of a resource, an item, or a G/L account that you want to use on sales lines.  Often, a special billing resource and not a person is entered here.
Info BOM Total Cost (LCY)	If a bill of materials has been specified for the work package, this field shows the total unit cost value of that BOM.
Info BOM Total Price (LCY)	If a bill of materials has been specified for the work package, this field shows the total unit price value of that BOM.
Last BOM Recalculation	Shows when the work package BOM was last recalculated.
Use in Resource Planning	Specifies if the work package is available in resource planning. With the toggle turned off, the package contains only material costs.
Budget Type Resource	With the checkbox selected, you can budget the work package on a WBS that includes resources.
Budget Type Item	With the checkbox selected, you can budget the work package on a WBS that includes items.
Budget Type G/L Account	With the checkbox selected, you can budget the work package on a WBS that includes G/L accounts.
Budget Allowed	This checkbox needs to be selected if you want to assign budget lines to a WBS line created from the work package.

**Example:**

<b>Code</b>	<b>Description</b>	<b>Working type code</b>	<b>Unit code</b>	<b>Type for billing</b>	<b>Billing no.</b>	<b>Billing type</b>
AP007	Training	DL	HOURL	Resource	BILL0001	Time & Materials
AP008	Support (T&M)	DL	HOURL	Resource	BILL0001	Time & Materials
AP009	Introduction	DL	HOURL	Resource	BILL0001	Time & Materials
AP010	Services	DL	HOURL	Resource	BILL0001	Time & Materials

**Work package texts**

Work packages can include additional text. To add text:

1. Choose the Search icon, enter Work Packages, and then choose the related link.
2. Select a work package. On the ribbon, choose Edit.
3. This opens a page where you can edit the package. On the ribbon, choose Extended Texts.

When you enter a work package with extended texts on a WBS, the texts are copied alongside other data to the relevant line. When you later create sales documents, such as quotes and orders, from the WBS, the texts are copied to these new documents as well. By selecting one of the Print checkboxes on extended text lines, you can specify on which kind of document you want to print the text that you entered.

**Alternative sales texts**

When you enter a work package on a WBS, the Description and Description 2 fields stored with the package are copied alongside other data to the relevant WBS line, where they can be changed again manually if necessary.

Both fields are also copied to sales lines when you create sales documents. If you, however, want documents to show another description than the one used in-house, you can specify an alternative sales text for the package.

To specify an alternative description:

1. Choose the Search icon, enter Work Packages, and then choose the related link.
2. Select a work package. On the ribbon, choose Edit.
3. This opens a page where you can edit the package. On the ribbon, choose Alternative Sales Texts.

All packages offer a default setting for alternative descriptions and support various language codes for texts relevant to sales. These are then copied to the Description in Sales and Description in Sales 2 fields on WBS lines depending on what language is used for the job.

**Work package BOM**

For each work package on the Work Packages page, you can specify a simple bill of materials that can be used as the default BOM for detailed planning. This BOM is later copied to the budget lines that you set up for lines containing the package.

### Work package info

You can track the consumption of work packages across jobs and document types in the purchasing, sales, and jobs areas with the help of a FactBox. This FactBox indicates how often a package has been retrieved so that you can, for example, identify and delete unused packages. To see the FactBox:

1. Choose the Search icon, enter Work Packages, and then choose the related link.
2. Select a work package. On the ribbon, choose Edit.
3. This opens a page where you can edit the package. On the ribbon, choose Related > Work Package > Info.

### Phases, tasks, and steps

Project activities can be divided into phases, tasks, and steps. Additional levels can be set up for work packages on the WBS.

**Phases and tasks** specify inter-job structures. Steps group all activities specified for a certain job.

### Job budget names

You can define several budget names and manage, side by side, several budgets for a job. However, only one of these budgets can be active at any given time. To set up a budget:

1. Choose the Search icon, enter Job Budget Names, and then choose the related link.
2. Choose New to create a name for the budget.
3. Fill in the fields as necessary.

You can also select a default name here and block certain budgets across jobs.

### Journal templates

#### Job journal templates

Every project manager must be assigned a separate job journal. It is enough to use a job journal template named JOB for this.

From the template, you can then create journals for employees who will post to jobs. Creating one journal per project manager and per person responsible for job-related HR matters should be sufficient. For more information, see [Job Time Journals](#).

To specify journals for users:

1. Choose the Search icon, enter Job Journal Templates, and then choose the related link.
2. On the ribbon, choose New to create a template. After filling in the fields, use the Batches action on the ribbon to assign users.

You are then directed to the journal assigned to you when you open the Job Journals page. A user for whom no journal has been created will see an error message.

### Job time journals

Employees are assigned to job time journals in the same way as to job journals. The difference is that instead of a user ID, resource numbers are used for the assignment process. These numbers are also added to journal lines when times are recorded.

#### Job measurement journals

These journals are set up like journals in Finance, which also means that you cannot assign employees or users to them. Creating a template is sufficient here.

#### Invoice suggestions

These are best created per person to bill. You cannot assign employees or users to suggestions. You need to use the Search icon and go to the Invoice Suggestion page manually the first time you want to create a suggestion.

## Create a Project

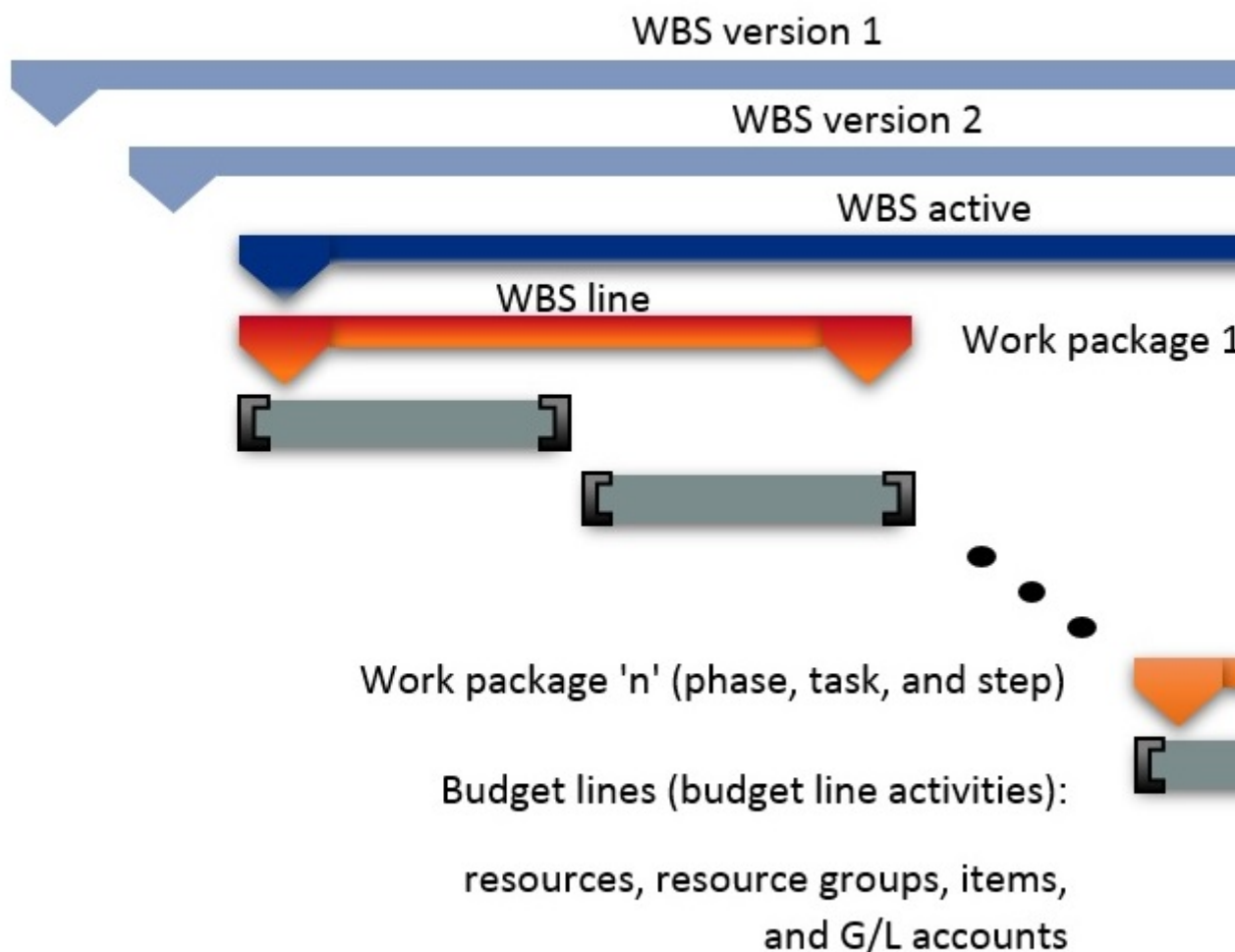
### Overview

A detailed work breakdown structure (WBS) can be a great help in project management.

For this reason, you can enter both a work package code and a group of phase, task, and step codes on the WBS lines of a job. Combined, the four codes not only provide you with a more granular view of your project but uniquely identify each WBS line. As a result, you can enter the same package on more than one line if at least one of the other codes differ.

You can then create budget lines for WBS lines that store work packages and—if you need an even deeper breakdown of project activities—use these budget lines to keep track of tasks assigned to individual resources.

If, on the other hand, you don't want to work with budget lines (that is, with a budget view), you can schedule activities directly on the work breakdown structure. You can also assign a job to a main job. The following chart shows you how jobs are structured within project365:



#### Fill in basic job data

To set up basic job information:

1. Choose the Search icon, enter Jobs, and then choose the related link.
2. On the ribbon, choose New > New to create a job.
3. Fill in the fields as necessary.

See the following tables for more information about the most important fields on job cards. Some are filled in automatically when you use a job template (as noted in the Description).



**General**

Field	Description
No.	Uniquely identifies a job. You can enter both numbers and letters or have the system assign a number from a series automatically. (This field might be filled in from a job template.)
Customer No.	Shows the number of the customer for whom you want to create quotes and orders.
Sell-to Contact No. (Cust.)	Shows the number of the person or company entered in the Customer No. field. If the job is set to Quote, you can select a contact who hasn't been made a customer yet.  As in the sales area, however, a contact must be turned into a customer before a quote can be converted into an order.
Sell-to Customer Template Code	If a job in the Quote stage is set up for a contact who has yet to be made a customer, the code you select here will be used to fill in the fields that are needed to create quotes for the job. The code is also used when you turn a contact into a customer.
External Job No.	Specifies a document number that refers to the customer's numbering system.  <b>Note</b> This number is only available on the job card and isn't copied to sales documents created from the job.
External Document No.	Specifies a document number that refers to the customer's numbering system.  When you create a sales document, this number is copied to the document field with the same name.
Your Reference	Specifies the customer's reference.  When you create a sales document, the value in this field is copied to the document field with the same name. It will also be printed on the document.
Status	All jobs require a status. You can choose between Planning, Quote, Open, and Completed. The status must change in exactly that order.  If you created the job from a template, the only status in which you can bill customers is Open.  (This field might be filled in from a job template.)
Final Invoice Created	

Field	Description
	<p>Part of the end stage of a job. Turned on, the toggle confirms you created a final customer invoice so that the job can now be posted to G/L.</p> <p>The project is then set to Completed.</p>
Person Responsible	<p>Indicates who manages the project. When you fill in this field, the job is added to the My Jobs list of the person linked to the selected resource.</p> <p>The system then copies to the job the dimension values entered for this resource in the Dimension Integration field in Resources Setup, allowing you to evaluate cross-job performance.</p> <p>The resource in this field is also used as a filter when time entries are posted to the job journal. This way, a change in who manages the job will only affect new time postings.</p>
Fill-In for Person Responsible	<p>Enter the deputy project manager. This field has no functionality besides providing textual information.</p>
Job Type	<p>Enter a classification code for the job. The type plays an important role in setting up accounts for monitoring job progress and performance.</p> <p>For example, you can use the type to analyze the cost and profit margins of certain types of projects.</p> <p>(This field might be filled in from a job template.)</p>
Use WBS Res. Prices	<p>With the toggle turned on, the resource prices stored on WBS or budget lines are used for pricing.</p> <p>For more information, see <a href="#">About Resources</a>.</p> <p>(This field might be filled in from a job template.)</p>
Manual Update on Opening WBS Lines	<p>With the toggle turned on, fields on total lines aren't updated when you open a work breakdown structure. This might be necessary if the process is causing performance issues.</p>
Responsibility Center	<p>Like selecting a responsibility center for a sales or purchase document, selecting a center for jobs limits a user's view to projects that fall under the specified area of responsibility.</p>
Blocked	<p>Prevents users from posting to the job in the following ways.</p> <p><b>Posting</b></p> <p>Blocks postings of both revenues and expenses but permits changes to basic job information and planning data.</p> <p><b>All</b></p>

Field	Description
	<p>Blocks both postings and changes to job planning (WBS and budget).</p> <p><b>Times</b></p> <p>Blocks time recording, for example, in time journals and on CTC cards. Allows postings elsewhere, including in job journals, on purchase credit memos, and on sales credit memos. Also allows changes to basic data and work breakdown structures.</p>
Main Job Assignment	Description to follow.
Contact No. for Time Tracking	Description to follow.

Posting

Field	Description
Time Posting Level	Specifies the level at which times can be posted by resources. This field is used on time sheets, CTC cards, and intercompany orders.
	<b>WBS</b>
	Hours are posted at the work package level (on WBS lines) of an active work breakdown structure.
	<b>Budget</b>
	Hours are posted at the budget line level. When you post a time entry, the system also retrieves the related line activity number for use in budget-to-actual comparisons.
	<b>Note</b>
	When it comes to time postings, the Budget option also posts WBS lines for which there are no budget lines.
	This is because some WBS lines—such as those to record travel times—are not fine-tuned so that no budget lines are made available for them.
	(This field might be filled in from a job template.)
	Specifies the level at which costs are allocated to purchase documents. For an explanation of the options shown here, see the Time Posting Level field.  (This field might be filled in from a job template.)
Job Doc. Posting Level	Specifies the level at which costs are allocated to a job document, such as a job (vendor) shipment. For an explanation of the options shown here, see the Time Posting Level field.  (This field might be filled in from a job template.)
Gen. Journal Posting Level	Specifies the level at which postings are assigned to general journals. For an explanation of the options shown here, see the Time Posting Level field.  (This field might be filled in from a job template.)
Job Journal Posting Level	Specifies the level at which costs are allocated in job journals. For an explanation of the options shown here, see the Time Posting Level field. (This field might be filled in from a job template.)
Sales Posting Level	Don't worry if this field doesn't show. It isn't strictly necessary, as every WBS line includes a checkbox (Copy to Sales Doc.) that specifies how the line will be posted to sales.
Check Team at Time Posting	With the toggle turned on, only the project team can post to the job. The project will also be hidden from anyone who isn't a member of the team.

Field	Description
Strict Time Budget	<p>This field will become active after you turned on the Team Filter on Time Posting toggle in Jobs Setup.</p> <p>If the toggle is turned off, the job is assumed to be a general job to which all resources can post.</p> <p>(This field might be filled in from a job template.)</p>
	<p>With the toggle turned on, resources cannot exceed the time budgeted for them. Attempts to enter more than the budget allows will result in an error message.</p> <p>A crucial factor in this context is the level at which times are being recorded. The WBS budget is used as the baseline if hours are recorded on WBS lines, that is, for work packages.</p>
	<p>If they aren't, the system uses the values on budget lines (the line activities) when comparing budgeted amounts against the amounts posted and times captured but not yet posted.</p> <p><b>Note</b></p> <p>A check is only performed for budget or WBS line quantities greater than 0.</p> <p><i>(This field might be filled in from a job template.)</i></p>

## Invoice and Shipping

Field	Description
Bill-to	Shows the customer whom you want to invoice. This customer can be different from the person or company entered in the Customer No. field.  The Bill-to field also determines the invoice currency that is copied to the job. However, you can still change the currency manually if necessary.
Bill-to Contact No. (Cust.)	Shows the customer contact to whom invoices are sent. This contact can be different from the person or company entered in the Customer No. field.  If a job is set to Open, you can also choose a contact who isn't a customer yet.
Payment Terms Code	Filled in automatically based on the Bill-to field but can be changed manually. The code in this field is also copied to sales documents created from the job.
Gen. Bus. Posting Group	Filled in automatically based on the Bill-to field but can be changed manually. The group in this field is also copied to sales documents created from the job.
VAT Bus. Posting Group	Filled in automatically based on the Bill-to field but can be changed manually. The group in this field is also copied to sales documents created from the job.
Payment Plan Level	Creates a payment plan for an entire job or for individual WBS lines.
Ship-to Code	Contains the code of a shipment address that you want to store with the customer.
[Other Ship-to fields]	These fields show the exact address for job shipments. Nearly all of them can be changed manually.
Invoice Currency Code	Specifies the currency used to bill the job. Prices can then be budgeted on a WBS in local and in invoice currency.  All sales documents, including follow-on invoices, however, only show amounts in the invoice currency.  <b>Note</b> As both currencies are already in use when you budget prices for time and materials entries, you can no longer change this currency after job ledger entries have been posted.
Invoice Currency Date	Specifies the date used to convert budgeted prices into the invoice currency.



**Duration**

<b>Field</b>	<b>Description</b>
Starting Date	Indicates the date on which work on the job started.  This field must be maintained manually.
Fixed Starting Date	With the toggle turned on, planning cannot occur before this date.
Ending Date	Indicates the date on which work on the job is expected to end.  This field must be maintained manually.
Fixed Ending Date	With the toggle turned on, you can no longer schedule something on the WBS after this date.
Ending Date on Order	Shows when the job was set to Open. This makes it possible to check later if the originally planned ending date changed throughout the duration of the job.
Creation Date	Shows the date on which the job was created.
Closing Date	Shows when the job was set to Completed.

**Planning**

Field	Description
Planning Direction	Specifies the planning direction for automatic planning.
Sales Job Acc. Entries From	<p>When you monitor project progress and performance, job account entries represent the budget of a job, with time and materials entries time-linked to this budget.</p> <p>Sales budget values, on the other hand, can be linked to either the budget or a payment plan.</p> <p>Choosing Payment Plan copies the plan stored with the job to cost control in the form of a revenue plan.</p> <p>Choosing Job Budget in this field copies the sales budget instead. You can then use the following two fields to decouple sales from consumption over a certain period.</p>
Base Sales Job Acc. Entries	If you choose Job Budget in the preceding field, you can select in this field whether you want the system to use the expected date of consumption to create analysis entries or a formula based on that date.
Formula Sales Job Acc. Entries	<p>If you choose Job Budget in the Job Sales Job Acc. Entries From field, fill in this field with a formula to decouple budgeted sales from consumption.</p> <p>For example, if you're expecting an item to be used in June, the revenue generated from it can be moved to July by using the formula +1M.</p> <p>The formula applies to an entire job; you cannot decouple consumption for individual entries.</p>
Active Job Budget Name	Shows the name of the job budget used for the active WBS.
Active Version No.	Shows the version number of the active WBS.
Fixed Time Period	<p>With the toggle turned on, times posted by resources are checked against the periods specified on the WBS or for the budget line activity (depending on which time posting level you selected).</p> <p>If CTC cards are used to post time spent on jobs, the check is performed when a card is released.</p>
Cost Status	This field, set by the project manager, shows the job's cost performance. It is part of multiple role centers, such as Project Accountant. The system uses the following colors to indicate performance:

Field	Description
	<ul style="list-style-type: none"> <li>• On Budget = Green</li> <li>• Warning = Yellow</li> <li>• Alarm = Red</li> </ul>
Time Status	<p>This field, set by the project manager, shows the amount of time spent on the job. The system uses the following colors to indicate whether projects are on track:</p> <ul style="list-style-type: none"> <li>• On Time = Green</li> <li>• Warning = Yellow</li> <li>• Alarm = Red</li> </ul>
Scope Status	<p>This field, set by the project manager, shows how the job is progressing. The system uses the following colors to indicate if projects are on track:</p> <ul style="list-style-type: none"> <li>• In Scope = Green</li> <li>• Warning = Yellow</li> <li>• Alarm = Red</li> </ul>

## Internal Information

Field	Description
Cause of Absence Code	Specifies for special jobs to which codes users can post inactivity.
Last Date Modified	Shows when the job was last modified.
Job Template Code	When you create a job, you can select a job template to have several fields filled in automatically. For more information, see <a href="#">Create Job Templates</a> .
Copy WBS From Template	<p>Specify from which job template you want to create the WBS.</p> <p>This field is filled in automatically with the template used to create the job.</p> <p>You can choose a different template in this field after you set up a job but before you create a WBS.</p>

**Dimensions**

<b>Field</b>	<b>Description</b>
Global Dimension Code 1	Specify a global dimension that will be posted to the lines.
Global Dimension Code 2	Specify a second global dimension that will be posted to the lines.
[Other fields]	All these fields contain other shortcut (default) dimensions from the Dimensions table.
	Fill them in if you want to use certain dimensions and values from the standard table as the default for making postings that include this job.
	For more information about dimensions, see the Microsoft Dynamics 365 Business Central documentation.

**Job Billings**

On this FastTab, you can specify if and how you want proofs of services to be printed when you bill work based on time and materials.

All fields on this tab also show up on sales documents such as orders and invoices. The values in these fields are copied there from the job card.

You can, however, edit them again in the sales area.

Field	Description
Print Attachment	<p>With the toggle turned on, an attachment—which provides proof of services rendered—is printed alongside an invoice.</p> <p>Leave the toggle turned off if you want users to decide whether to print the attachment.</p>
Print Hours Worked	With the toggle turned on, documents show both the services rendered and the hours spent providing those services.
Print Not Billable	With the toggle turned on, documents show services that aren't billed.
Print Grouping	<p>Specifies according to which criteria you want to group services rendered:</p> <ul style="list-style-type: none"> <li>• Resource</li> <li>• Resource/Line Activity</li> <li>• Line Activity</li> <li>• Line Activity/Resource</li> </ul>
Print Document No.	Turn on this toggle if you want printouts to show document numbers—for example, from purchase invoices—together with the services rendered.
Print Item Lines	Turn on this toggle if you want item lines printed on attached documents. Proof is often only requested for services.
Print Resource Name	<p>With the toggle turned on, attachments show the names of employees who worked on the project.</p> <p>Leave the toggle turned off if you want proofs of services to show only the resource numbers and descriptions of activities.</p>

## Intercompany

Field	Description
No. of IC Partners	Specifies the number of IC partners to which the job was sent.
Source IC Partner Code	Indicates if the job was created by another company and then copied from there.
Source IC Partner Job No.	Shows the number given to the job by the company that set up the project. This field is blank if the job wasn't created by another company.
IC Review Status	Jobs transferred from other companies must still be processed by using the IC Review action. This field shows if the review has already occurred.
IC Review Res. Prices Open	Indicates if new resource prices were transferred from a partner and require review.
IC Review WBS Lines Open	Indicates if new WBS lines were transferred from a partner and require review.
IC Review Budget Lines Open	Indicates whether new budget lines were transferred from a partner and need review.

## Job status

The status options are crucial to determining the next steps you need to take when managing a project.

**Planning**

Preliminary estimates can be created. You can also specify the job structure, that is, you can choose work packages and phase, task, and step codes. You can then add budget lines to WBS lines of the work package type. You, however, cannot post anything at this point. Strictly speaking, this status isn't required, and most jobs start on Quote.

**Quote**

Services can be offered to customers. Preliminary estimates are again possible as well. You can also change the structure and budget of the job.

However, unless the Job Posting in Quote Status toggle is turned on in Jobs Setup, you still cannot post anything to the project.

**Open (=Order)**

When the job is set to Open, you can record and post times and purchase costs and use sales invoices and credit memos to post revenues. WBS lines can also still be changed at this point. And if you didn't turn on the Job Posting in Quote Status toggle in Jobs Setup, this is the only project stage in which you can post something.

**Completed**

You can no longer edit the job structure and budgets. This status is used to perform post-job calculations. Actual job costs can then be compared to budgeted amounts. You cannot post to completed jobs.

## Create a job from a template

There are two ways to create a job from a template:

1. Choose the Search icon, enter Jobs, and then choose the related link. On the ribbon, choose New > New. Alternatively, open a job card and—on the ribbon—choose New.
2. Go to a job card or the job list. On the ribbon, choose New > Walkthrough.

Both methods are explained in the following.

### Use the New action

Choosing the New action on the job list or card creates a new record with a blank No. field.

You can now enter a number from a series, or you can exit the field.

Exit the field. You are asked if you want to use a job template. Choose Yes and then choose a template so that a number can be assigned automatically.

The template will also fill in multiple fields on the new job card. The rest needs to be filled in manually.

Additionally, if the Check Mandatory Job Fields toggle in Jobs Setup is turned on, the job will be blocked until you entered something in all fields required for new projects. For more information, see [Mandatory Field Check](#).

### Use the wizard

Choose the Walkthrough action on a job card or the job list if you want help in setting up a job.

A wizard will then guide you through the steps required to fill in basic job data. This includes when the project is set to start, who will manage it, and who the customer will be.

For the wizard to work, you need a job template. At the end of the process, you are asked if you want to import the work breakdown structure stored with the template. You can forgo this step if you want to add the WBS later.

### Edit jobs

Not every field can be changed all throughout the life of a job. For example, you can no longer choose another customer after revenues have been posted to a project.

Changes in dimensions can also lead to inconsistencies after you posted to a job. As job ledger entries are unaffected by those changes, an analysis by dimensions might no longer produce accurate results.

If the Check Mandatory Job Fields toggle in Jobs Setup is turned on, you must select the Edit Job action (found on job cards) before you can alter information related to a job. Other users will then be blocked from editing the project.

### Delete jobs

You can no longer delete a job to which you have posted something, for example, job ledger or job time entries. The system also checks for cross-references to document lines before deleting the project.



**Job responsibility centers**

You can assign responsibility centers to jobs just like you can to sales and purchase documents.

To assign a center to a job:

1. Choose the Search icon, enter User Setup, and then choose the related link.
2. Choose a code in the Jobs Resp. Ctr. Filter field.

If you fill in one of the other fields but leave the Jobs Resp. Ctr. field blank, you will see only sales, purchase, or service documents associated with a particular center but all jobs with and without a center.

The Job Resp. Ctr. Filter affects all pages related to a job and cannot be changed by users on those pages. The filter can also be set on some cost control reports.

**Note**

The responsibility center filter is unavailable for time tracking, given that members of one center might work on jobs of another. You can still restrict the selection by using the project team feature.

However, because of the special nature of job-related pages, users will not be able to open the job card or view other data of a project from time tracking.

**Advertising groups**

Extended texts that you enter for an advertising group are copied to a job if the group is set up as a general-purpose group or if it has been assigned to the customer of the job. This works in much the same way as when you copy extended advertising group texts to sales documents.

You use extended texts to store general information such as notes on trade shows, special offers, and company holidays.

**Selected actions explained****Create WBS from Job Template**

Creates a work breakdown structure for a job from the template stored in the Copy WBS from Template field. This field is filled in automatically together with the Job Template Code field when you create a project from a job template.

You can no longer choose this action when you have set up a WBS for a job.

**Change job**

Description to follow

**Create Interaction**

Creates an interaction. This function mostly relates to customers and their contacts but might also cover marketing campaigns.

An interaction can be tailored to a specific job and work package.

**Update Addresses**

Unlike job shipment addresses, bill-to and sell-to addresses cannot be changed on job cards.

If you need to update them, run this function.

#### Copy Job to IC Partner

Copies a job to an intercompany partner. This function is used to review a job transferred by an intercompany partner.

#### Create User Task

Creates a user task associated with a job.

This function uses the Related Table and Related Record fields to connect a task to a job.

#### Job Dimensions

The following options are available if you select Dimensions on the job list; else, the associated dimensions can be viewed on the job card.

##### *Dimensions-Single*

Shows the dimensions entered for the selected job. You can also enter new ones or change and delete existing dimensions here.

##### *Dimensions-Multiple*

Shows the dimensions that have been filled in for the selected jobs. Also shows the dimension value codes, which are the same for identical fields.

#### Statistics

Shows the budgeted and actual amounts stored for a job, including budgeted values on the WBS.

#### Comments

Available for entering comments. These are used internally within a company and aren't copied to subsequent documents created from a job.

#### Beginning and ending text

Beginning and ending texts are copied to sales documents created from a job and can be printed there as well. As the name implies, beginning texts are shown before, ending texts after sales lines on printouts.

#### Online Map

Opens the map service that you specified in Online Map Setup to show where a job is located.

#### Sales doc. job budget change log

Shows a log of all sales document changes copied to jobs.

#### Interaction log entries

Shows a list of logged correspondence, such as printed cover sheets or sales orders, letters sent and received, phone calls made, and meetings held. Entries are filtered based on the page on which you selected the action. For example, if you select the action on a job card, the log contains all correspondence logged for this specific job.

## User tasks

Shows all user tasks associated with a job.

## Documents

Shows all documents available for a job. Purchase and sales documents are listed separately, as are open and posted documents.

To view a document, select one and then choose Show on the ribbon. Alternatively, use the lookup on the selected line.

## Opportunities

Gives you access to opportunities that were automatically or manually linked to a job through a sales quote.

## Steps

Used to manage job-specific partial activities. Steps are set up for every single job, whereas phase and task codes are the same for each of a company's projects.

## Contacts

Used to enter information about the people and companies you're expected to be in frequent contact with during the duration of a job. You can also assign one of them to a WBS line (for informational purposes).

When you set up a job, the customer selected for it will be entered on the Job Contacts page automatically. The same will be done with contacts specified on sales and purchase documents if the number of the job is entered on the document header.

Additionally, if all lines of a purchase document are assigned to the same line on a work breakdown structure, the WBS line will be linked to the relevant job contact when you release the document.

## Project Team

For more information, see [Project Teams](#).

## Budget line activities

Shows work package-related activities at the WBS line or work package level. For more information, see [Budget Line Activities](#).

## Project IC Partners

Shows a list of all IC partners related to a job. For more information, see [Intercompany Work](#).

## Job measurement

Shows the options for measuring job progress and performance.

For a true representation of a company's scope of services in accounting, revenues and expenses must be compared from period to period.

## History

Shows job ledger entries, time entries, and posted invoice entries.

## Payment plan

To specify under which conditions and at which times you want to invoice a job, go to the relevant job card and, on the ribbon, choose Related > Job > Payment Plans > Payment Plan.

Billing can include fixed partial amounts or a percentage of the total. You can also invoice by milestones. Plan entries are used when you create invoice suggestions.

## Resource prices

Whereas item and resource costs are maintained independently of a specific project, the unit prices for items, resources, and other expenses (overhead) can be stored for each job individually.

Unit prices can be set up for items, resources, and G/L accounts. For each, you can enter a distinct unit price or specify a surcharge on unit costs in percent (=unit cost factor). You can also enter a percentage-based line discount.

Additionally, resources can have different unit prices depending on the type of work being performed.

As for unit costs, they aren't typically maintained for G/L accounts. But you can still store costs you would typically expect for them on the Job G/L Account Prices page. This can be useful in budgeting a project.

You can also specify resource prices per job and IC partner. When a project is later transferred to a partner, the prices are copied to the partner's Job Resource Prices page. When you then review the transfer, they are assigned to the budget fields on copied WBS lines.

Likewise, they will be added to the times posted by IC partners so that the partners can later bill their services at agreed-on prices.

## Planning

Includes all options for job planning. For more information, see [WBS and Scheduling](#).

## WBS (Work breakdown structure)

Work breakdown structures divide a job into individual stages. They are used to plan, budget, manage, and monitor jobs. A WBS can be created from a stored job template and customized.

## Budget line list

Lists all budget lines created for a job.

## Budget line activities overview

Lists line activities (=budget lines set up for resources and resource groups) by work package.

## Budgeted resources

Lists all resources and resource groups set up for a job. Entries are aggregated per resource or resource group.

## WBS scheduling

Used in project planning. For more information, see [WBS Scheduling](#).

## Budget vs. actual

Performs a budget-to-actual comparison based on current job data.

## Reports

Shows you a list of job reports. As a rule, these are filtered based on the current job.

## Documents

Shows all documents for jobs related to the main project.

## Budget Line Activities

Shows the line activities that have been set up on the work breakdown structures of jobs related to the main project.

### Project teams

You can create a project team per job. To set up a team:

1. Open a job card.
2. On the ribbon, choose Related > Job > Project Team.

Project teams are formed by combining resources. A resource can be assigned to a job only once.

In the Job Title field, choose Project Manager, Deputy Project Manager, Secretary, Subproject Lead, or leave the field blank.

A project team is changed or amended when you:

- Enter a project manager on a job card.
- Fill in a deputy manager on a job card.
- Enter a subproject lead on a WBS line (=work package).
- Set up a resource budget line (=line activity).

In each case, a resource is added to the team and, if necessary, the role of (deputy) project manager is assigned or changed. The Time Posting checkbox is selected for all members added automatically to the team.

When a team member is added as project manager, deputy PM, subproject lead, or secretary (by a user or automatically), the Invoice Suggestion checkbox is selected as well. Besides providing details about members, the project team feature governs access to:

- Time entries (to post to a job)
- Job ledger entries (to release posted times)
- Billing (to create invoice suggestions for a job)

For a quick and easy overview of who is a member of a certain team, you can unhide a FactBox on the job card or list.

## Time entries

To control the posting of times through project teams, you must:

1. Turn on the Check Team at Time Posting toggle so that only certain resources can post to a job.  
With the toggle turned off, all resources can post to a project, as it is considered a general-purpose job.
2. Maintain a project team after turning on the Check Team at Time Posting toggle.
3. Set up resources who post times to a job as project team members and select the Time Posting field for them on the Project Team Setup page.
4. Turn on the Team Filter on Time Posting toggle in Jobs Setup.

This ensures that the filter on the job list in time tracking is tailored to the relevant resource (=user) and lists mainly jobs for which the resource has been authorized.

It also shows the jobs to which all resources can post. If the toggle isn't turned on, an employee can see all projects. A check against the project team will only be carried out later, during posting.

5. Turn on the Strict Team Filter toggle in Jobs Setup.

This ensures that when a job is set to Check Team at Time Posting, but a certain resource isn't part of the project team, the related user can't enter a job number (that is, without using the jobs list) in time tracking.

Any attempt to post resource hours to jobs for which the user hasn't been set up will then prompt an error message and posting will be blocked.

## Billing

To control which resource is allowed to start a billing proposal for a project, the following must be set up:

1. The general setup in the Proj.team field at Abr.proposal in the project setup must be set.
2. There must be at least one entry in the Project Team table for the project, otherwise each resource may perform billing!
3. Each resource (user) that is to create billing proposals for a project must be created as a project team member and the switch in the Billing proposal field must be active.

### Note

During the check, the resource is matched to users who are part of the project team to determine if a user has permission to invoice the job.

If the job is part of the team filter but the current user isn't authorized to bill the job, a message appears when an attempt is made to create a suggestion, noting the lack of permission. The user can then display the jobs blocked for posting.

## Resource teams

Not unlike a template, the resource team page allows you to add multiple resources to a project team at the same time.

1. Choose the Search icon, enter Resource Teams, and then choose the related link.
2. Choose New on the ribbon to create a resource team, and then choose New > Members to add members to the team.
3. To remove a member or an entire team, use the Delete function on the pages.

When you add a resource team to a team set up for the job, a note about the origin of each member of the resource team will appear on the relevant project team lines.

### Project team roles

The roles that you can assign to members of a project team are limited to the options available in the Default Project Team Role field on resource cards. An individual extension would be required if you wanted to add more options here.

There is, however, an alternative solution that can be used to customize a role:

1. Choose the Search icon, enter Project Team Roles, and then choose the related link.
2. Fill in the fields described in the following table for each role you want to assign to a resource.

Field	Description
Code	Specify a unique code for the role.
Description	Enter a description for the role.
Default Role	Select one of the team roles available in the system to create a link between the role on this line and one you want to assign in jobs.
Invoicing Responsible	Description to follow.

For example, you can specify a role named Architect on the page and link this role to the Subproject Lead, one of the standard options on the resource card:

Field	Description
Project Team Role	Shows the role assigned to the resource for work in project teams.  The roles that you can choose in this field are set up on the Project Team Roles page, where they are mapped to the default team member roles available in the system.

Following on from our example, the role of architect is assigned to a resource. If added to a project team, the resource is then shown as not only the architect but also the subproject lead for the job.

In Jobs Setup, you can specify up to 10 team roles that you want to show on the job list or job cards. This way, you can see immediately who works on which project in what area or capacity (for example, as the architect or as someone in billing or cost control).

#### My Jobs and profitability chart

The My Jobs tab in the Project Lead role center can be maintained manually. But the tab is also filled in automatically when you enter a resource as a Person Responsible (that is, as the project manager) on a job card.

Related to the My Jobs tab is the Job Profitability chart. This chart shows all the jobs listed under My Jobs unless their Exclude from Business Chart field is filled in.

#### Main jobs

Main jobs sum up multiple projects. They are essentially a higher-order category. If you filled in the fields for main job dimension integration in Jobs Setup, the system creates and adds a dimension to a new main job automatically. It will also copy that dimension to any job that you later assign to the main project.

#### Note

A dimension assigned to a job through a main job will not change after replacing the dimension in the main project.

To see a list of all main jobs:

1. Choose the Search icon, enter Main Jobs, and then choose the related link.
2. On the ribbon, choose Related > Main Job and one of the following actions.

#### Statistics

Shows a budget-to-actual comparison for all jobs assigned to the main job.

#### Comments

Used to enter notes about the main project.



## WBS and Scheduling

### Overview

Each job requires at least one work breakdown structure (WBS).

You can use this structure, in conjunction with a graphical planning tool, to allocate staff to a project according to available capacity and to budget the consumption of resources and items on its lines.

### Work breakdown structure

A work breakdown structure organizes a project into smaller components, making it more manageable. The smallest element of a WBS is often called a work package.

In some cases, a package might again be divided into subtasks, which are known as budget line activities in the system. These are assigned to individual resources.

You can enter one package code on each line. The system then combines this code with a phase, a task, and a step code to create a unique identifier for a line. You can therefore use a package multiple times for the same WBS if at least one of the other codes differ. What you assign as a phase, a task, or a step code is solely a matter of company organization.

If you want the system to create phase, task, and step codes for you, you can turn on the Auto PTS Code toggle in Jobs Setup.

Each WBS consists of a header, where you see the General FastTab, and lines. You can assign multiple structures to each job. To view a WBS set up for a project:

1. Choose the Search icon, enter Jobs, and then choose the related link.
2. Open a job.
3. On the ribbon, choose Job > WBS or WBS Incl. Budget View.

There are several ways to set up a work breakdown structure for a job:

### Copy a WBS

A convenient way for you to create a WBS is to copy a structure from another similar or sample job. The copy function is also used to create new versions of a WBS. For more information, see [Copy WBS](#).

### Create a WBS from a template

Another easy way for you to create a WBS is to copy all relevant fields from a job template.

For more information, see [Create Job Templates](#).

### Insert a block from a job template

Block-type WBS lines can be used to copy a group of field values from a job template to any part of the structure. We recommend that you set up special job templates for this purpose, as the entire WBS is copied as a block from the template.

After you selected Block on a WBS line, you can choose in the No. field the template from which you want to copy a structure. You then explode (copy) the block by using the Explode Block function on the WBS Lines FastTab.

#### WBS Header

On the header, you can see the number of the job for which you created the WBS, the name of the related job budget, and the version of the work breakdown structure. All structures are managed based on these three fields.

For a complete list of WBS header fields, see the following table.

Field	Description
Job Budget Name	Shows the name of the job budget tied to the work breakdown structure.
	This field is filled in with the default name specified on the Job Budget Name page, although you can change the name here if necessary.
	For each job, you can set up any number of work breakdown structures with different or identical job budget names. A name included more than once in the same job will receive a version number, which is incremented every time the name is reused for the project.
Version No.	Shows the version number of the WBS. The number is assigned automatically.
Job Description	Shows the content of the Description field from the job.
Description	Shows a text that describes the WBS.
Blocked	With the toggle turned on, the WBS is blocked for all users
Sales Budget Blocked	Turning on the toggle keeps the current sales budget fixed.
	Whereas unit costs can still be changed, budget lines can no longer be added to the job, as they provide sales prices automatically.
	If the Fixed Sales Budget when Ordering toggle is turned on in Jobs Setup, this toggle is turned on automatically when you set the job status to Open.
Active	Specifies the WBS that is currently active. If the toggle is turned on, the WBS is in use. You must release a WBS before you can set it to Active, and you cannot have more than one active WBS per job.
Budget Status	Specifies if the work breakdown structure and its budget entries are pending approval, have been released, or have been rejected.
Released By Released On	These fields show who released the structure and when. Users can only post to a job and an active WBS upon release.

**Lines**

The lines of a work breakdown structure are set up with certain project criteria, such as deliverables or phases, in mind. For each line, you can specify whether to make it a Work Package, a Heading, a Begin-Total, an End-Total, or a Total. The Block option, on the other hand, isn't used as a structural element but is a function to copy a group of fields from a job template to an active WBS.

A begin-total marks the beginning of a series of line values to be totaled, the result of which is given as the end-total. Calculations enclosed by begin- and end-totals might be nested inside one another. The sum of all calculations is then shown on a line of the total type. This line, in turn, is linked to the heading entered above the first begin-total. To budget and post revenues and expenses to a job, you need lines of the work package type.

The most important line fields are explained in the following table.

Field	Description
Position No.	Shows the number of the WBS line.
	When you create a WBS, you can use a series to add numbers to lines automatically by choosing Actions > WBS Functions > Assign Position Numbers on the ribbon.
	However, you can also fill in a number manually.
Type	Specifies the nature of the WBS line.
	<b>(blank)</b> The line contains text only.
	<b>Work Package</b> The No. Field specifies a work package for the job.
	<b>Heading</b> The Description field contains a heading, shown in bold on printouts.
	<b>Begin-Total</b> The line marks the starting point for totaling numbers and amounts.
	<b>End-Total</b> The line shows the result of adding up numbers or amounts since a Begin-Total.
	<b>Note:</b> Begin- and end-total calculations might be nested.
No.	<b>Total</b> The line shows the sum of all subtotals.
	<b>Note:</b> Total fields cannot be nested. To calculate the values on the line, you need to run the Assign Position Numbers function.
	<b>Block</b> Fills in the current WBS line with a group of job template values.
Starting Date	Shows for a work package when the job usage budgeted on the WBS line is supposed to start.
	This field is filled in automatically with the starting date of the job. However, you can change the date manually if necessary.
Ending Date	Shows for a work package when the job usage budgeted on the WBS line is supposed to end.

Field	Description
	<p>This field is filled in automatically with the ending date of the job. However, you can change the date manually if necessary.</p>
	<p>Indicates how services included in a work package are billed to customers.</p>
	<p><b>(blank)</b> Treats the line as if it were set to No Billing. Used for lines that structure the WBS view, that is, headings, begin-totals, end-totals, and totals.</p>
	<p><b>Time &amp; Materials</b> Invoices the line based on posted, unbilled costs, for example, because hours were posted to it. For each job ledger entry, you can also enter an invoice quantity that is different from actual expenditures.</p>
	<p><b>Fixed</b> Bills the line at agreed-on rates after job usage has been posted. The price is then copied to an invoice suggestion. For installments, the price suggested is a portion of the total price.</p>
	<p><b>No Billing</b> Posts the line without billing a quantity.</p>
	<p><b>Milestone</b> Bills the line at agreed-on rates as part of a milestone-based payment plan. The related plan line is copied to an invoice suggestion when the Milestone Reached checkbox has been selected here. You can set up milestone plans for individual WBS lines or an entire job.</p>
Billing Type	<p><b>POC</b> Bills the line at agreed-on rates based on the Job Completion % field. The suggested invoice total is proportionate to measured progress, minus the amounts already billed for the project.</p>
	<p><b>TE Flat Rate</b> Specifies a lump sum for travel expenses. You can only use this option if you installed and (set up) the Comsol Travel Expenses app.</p>
	<p>The line that contains the TE flat rate must show the total price on which you agreed with the customer. You don't need to plan anything here.</p>
	<p>The WBS might have other work packages that contain app-related travel expenses. However, these should be set to No Billing unless, for example, you want to additionally invoice a customer for miles travelled.</p>
	<p>Posting travel expenses through the Comsol app will post these expenses to TE work packages and copy a job ledger entry with no unit cost but with the rate to</p>

Field	Description
	<p>the TE Flat Rate package. When you settle the invoice, only this rate is then suggested for each business trip on an invoice.</p> <p><b>Package Invoice</b> Bills the line based on actual effort but for work packages where the effort is of a different nature.</p> <p>This includes, for example, travel expense scenarios where you cannot add up times and routes and simply multiply them by a line amount but where you collect receipts, such as for parking fees and hotel bills.</p> <p>During billing, all expenses you want to charge to the customer are then entered in sum with a quantity of 1 on the relevant invoice line. The proof of performance report, however, lists the different kinds of work expenses separately, as usual.</p> <p>Because expense items are often difficult to budget—as you don’t know how many package invoices you will need for a certain job and what price you will need to set on each invoice—having an order line reference the work package is enough in this context.</p> <p>The line doesn’t require a quantity or a price: The invoice suggestion feature ensures that the correct amount will be billed for it. Meanwhile, the quantity on the order is increased by 1 so that you can rebill the order as often as you want.</p>
Ignore Payment Plan	<p>If selected, decouples the line from being billed based on a payment plan.</p> <p>For example, despite a payment plan covering the entire job, you can select this field if you want to bill business travel on invoice suggestions based on actual costs incurred. These costs are then excluded from the final invoice.</p> <p>This field is only relevant if you use a payment plan for the project and have set the Payment Plan Level field on the job card to Job.</p>
Suspend Billing	<p>Selecting the field removes the line from invoice suggestions temporarily but retains the original billing type. This option is used in milestone billing.</p>
Copy to Sales Doc.	<p>Specifies what information is copied to sales documents.</p> <p><b>WBS Line</b> Copies the values stored on the current line.</p> <p><b>Budget Lines</b> Copies the values stored on the budget lines related to the current line.</p> <p><b>No Transfer</b></p>

Field	Description
Billing Integration	Ignores the line in transfers. This option is primarily selected for a line that is used for informational purposes only or has been transferred previously.
	Specifies if a fixed-price entry was copied to a sales document from a WBS or budget line so that the system knows at which level to include the entry in an invoice suggestion after billing has occurred.
	Essentially, the billing level has already been indicated in the Copy to Sales Doc. field. The difference is that you might set a filter there when you create follow-on orders.
	<p>For example, when you create an order with only new WBS lines, you need to select No Transfer in the Copy to Sales Doc. field on existing lines before you run the Create Sales Document function.</p> <p>This means, however, that information required for billing will be lost. The value in the Billing Integration field, on the other hand, matches that of the Copy to Sales Doc. field unless you select the No Transfer option.</p> <p>You cannot edit this field manually.</p>
Status	Shows the status of the line. A line can be set to Quote or Open.
	This field is inextricably linked with the Status field on the job header. If the status there is set to Open, the status in this field changes to Open as well. However, if the status on the header is Planning or Quote, the status of this line cannot be Open.
	When you create a sales order from a quote, the status of both the job and the WBS line is set to Open, and lines with a work package need to be filled in immediately.
Work Status	Specifies the status of individual work packages.
	The consumption of resources can only be posted to work packages set to In Progress. Purchase order and inventory usage, on the other hand, can be recorded in any status.
	Statuses only differ in the information they provide to the project manager. They have no other purpose.
	<p><b>Note:</b></p> <p>The work status can only be set to In Progress if the status of the job is set to Open.</p> <p>The following options are available in this field:</p>



Field	Description
	<p><b>(blank)</b> Used for lines structuring a WBS view. This includes headings, begin-totals, and end-totals.</p>
	<p><b>Open</b> The line has been set up.</p>
	<p><b>In Progress</b> The line can be filled in.</p>
	<p><b>Postponed</b> The line has been filled in but put on hold for job-related reasons.</p>
	<p><b>Finished</b> Work on the line has been completed.</p>
	<p><b>Accepted</b> Work on the line has been accepted by the customer.</p>
	<p><b>Canceled</b> The work package was canceled for job-related reasons</p>
Blocked	<p>If selected, the WBS line is blocked, and budget values can no longer be changed. You can still post to the line, however.</p> <p>Deselect the field to unblock the line for editing.</p>
Requisition	<p>Specifies if items on related budget lines are included in purchasing.</p> <p>Select this field if you want the system to check to what extent items stored on these lines are available or up to when they're available through an order.</p>
Phase Code	<p>Structures work packages. Phase codes are specified across jobs.</p> <p>A code can be selected by using the lookup to the right of the field.</p>
Task Code	<p>Structures work packages. Task codes are specified across jobs.</p> <p>A code can be selected by using the lookup to the right of the field.</p>
Step Code	<p>Structures work packages. Step codes are specified for each job individually.</p> <p>A code can be selected by using the lookup to the right of the field.</p>
Copy Budget	<p>The Copy from Budget function copies the sum of all unit costs and total prices from the job budget to certain WBS lines. If this field isn't selected, the line will be excluded from the transfer.</p>

Field	Description
	You deselect this field if you don't want to use a budget view for the WBS line but multiply the unit price and cost from the billing resource with the quantity or invoice quantity directly on the line.
Description Description 2	<p>These fields describe the line. Headings, begin-totals, and end-totals are shown in bold. Work package descriptions (which are retrieved when you select a package) are shown in normal font.</p> <p>When you create a WBS from a job template, both descriptions are copied from the template but can still be changed manually. They are also copied to sales quotes and orders you create from the WBS by running the Create Sales Document function (unless you also filled in the Description in Sales and Description 2 in Sales fields).</p>
Description in Sales	These fields contain alternate descriptions for use in sales.
Description 2 in Sales	<p>They specify notes that are shown to customers so that you can use the standard description fields for internal comments.</p> <p>When you enter a work package code on the line, translations that might exist for this package are copied to the fields by default. You can also fill them in as early as creating a job template.</p>
Job Completion %	<p>The project manager can use this field to specify how far the job on the line has progressed in relation to overall job performance.</p> <p>This field affects the completion values in job statistics and calculations of earned values and variances in budget-to-actual comparisons. It's also used on invoice suggestions when you bill by time and materials.</p>
Posting Progress %	<p>Shows how much of the job budget has already been used. The calculation is based on the following formula:</p> $\text{Posting Progress \%} = \text{Usage Total Cost (LCY)} * 100 / \text{Unit Cost}$ <p>This field cannot be changed manually.</p>
Line Activity Progress %	<p>If a work package includes budget line activities, an employee can report in time tracking how far a certain activity has progressed.</p> <p>Activity values are weighted if a package contains more than one of them. The average value across all activities is then shown on the WBS line.</p> <p>This field cannot be changed manually.</p>

Field	Description
Comments	<p>Shows the number of comments stored on the line. This field cannot be changed manually.</p> <p>To see or edit the comments, choose Line &gt; Texts &gt; Comments on the ribbon.</p>
Beginning Text	<p>Specifies whether text lines have been created for the line. Beginning texts are used, for example, as headings for a work package.</p> <p>To create a text, choose Line &gt; Texts &gt; Beginning Text on the ribbon or use the drill-down option.</p> <p>You can only create and edit text for the selected line. You can also specify through checkboxes on what kinds of documents you want to print the text.</p>
Ending Text	<p>Specifies whether text lines have been created for the line. Ending texts are used, for example, as additional descriptions of a work package.</p> <p>To create a text, choose Line &gt; Texts &gt; Ending Text on the ribbon or use the drill-down option.</p> <p>You can only create and edit text for the selected line. You can also specify through checkboxes on what kinds of documents you want to print the text.</p>
Work Type Code	<p>Shows the work type of the WBS line.</p> <p>This field is filled in from the work package by default but can be changed manually. The code is also copied to available budget lines for the detailed planning of resource budgets.</p> <p>Additionally, work types can be used to post usage and sales, for example, to a job, a resource journal, or a sales document. They indicate the kind of work a resource can be tasked with, such as overtime or transportation.</p> <p>For example, you can link work types to prices for budgeting and posting job usage based on the kind of work performed by resources or resource groups. Each type comes with its own unit of measurement, although you can assign several units to a resource or group.</p>
Cost Center Code	<p>Specifies the first global dimension to which the line has been assigned. Here the field is filled in with a cost center code.</p> <p>Choose the lookup to see the codes that you have set up for this dimension.</p>
Cost Object Code	<p>Specifies the second global dimension to which the line has been assigned. Here the field is filled in with a cost object code.</p> <p>Choose the lookup to see the codes that you have set up for this dimension.</p>

Field	Description
Subproject Lead	<p>Specifies the subproject manager in charge of the chosen work package. This field is used for informational purposes only.</p> <p>If you enter a manager, the project team will automatically be expanded to include this resource.</p>
Quantity	<p>Specifies the planned quantity per unit for a work package.</p> <p>Multiplied by the cost and price per unit, this results in the amounts budgeted for the line.</p> <p>For lump sums, we recommend that you enter a quantity of 1, especially if you use the Copy from Budget action to fill in this line with values from the budget lines through detailed planning.</p> <p>If the WBS and budget lines use the same unit, such as hours, the function also transfers the budgeted quantity alongside other data to the WBS.</p>
Unit of Measure Code	<p>Shows the unit of measure used for the specified quantity.</p> <p>If you set up budget lines for multiple kinds of entries, including resource groups, items, and G/L accounts, we recommend that you select the unit stored for the work package with a quantity of 1 in this field.</p> <p>Running the Copy Values from Budget will then refresh price data.</p>
Location Code	<p>Specifies the code of the location where items shown on the line are stored. Choose the lookup to the right of the field to select a code.</p> <p>This field can be filled in with a default value to maintain item lines from a job budget.</p>
Direct Unit Cost (LCY)	<p>Specifies the unit cost for the line if you use a work package to plan items or resources.</p> <p>If you use detailed planning, the direct unit costs are stored on budget lines and aren't copied to the WBS line.</p>
Unit Cost (LCY)	<p>Specifies the unit cost. This field can be filled in manually.</p> <p>If you use detailed planning and copy entries to a WBS line, this field is filled in with the average unit cost, calculated by dividing the unit cost from budget lines by the quantity on the WBS line.</p> <p>If detailed planning includes multiple units of measurement—such as hours and pieces—a quantity of 1 is entered for this work package line and the unit cost is equal to the cost amount.</p>

Field	Description
Total Cost (LCY)	Shows the result of multiplying the quantity with the unit cost.
Invoice Qty.	<p>The value in this field is copied from the Quantity field and can be changed manually, as the quantity quoted or billed to the customer might differ from the budgeted usage quantity.</p> <p>You can also use the Copy Budget action to copy this quantity from budget lines if the unit of measure stored there is identical to that of the WBS line.</p>
Invoice Unit of Measure Code	<p>Specifies the unit of measure in which services are billed.</p> <p>This unit might differ from the unit in which services are rendered. For example, work might be recorded in hours but invoiced in days.</p> <p><b>Note:</b> The unit of measure is retrieved based on the work type entered for the line. You must change the work type if you want to use another unit.</p>
Billing Cap	<p>Specifies an amount by which you can exceed billing by time and materials.</p> <p>Select this field if you agreed with the customer on a billing cap. This cap is then used on invoice suggestions.</p>
Billing Cap %	<p>Specifies the billing limit as a percentage.</p> <p>If you enter 0, a bill cannot exceed the sales budget, that is, the total price on the WBS line. For example, if you enter 10, invoices can include amounts that exceed the budget by up to 10%.</p>
Unit Price (LCY)	<p>Shows the unit price. This field can be filled in manually.</p> <p>If you use detailed planning and choose to copy budget values to a WBS, the total price is averaged according to the following formula: total budget price / sales quantity on the WBS line.</p> <p>If a work package is budgeted with a quantity of 1 because detailed planning includes differing units, such as hours and pieces, the price for a unit equals the total price.</p>
Total Price (LCY)	<p>Shows the result of multiplying the invoice quantity with the unit price and then subtracting the line discount.</p> <p>This field cannot be changed manually.</p>
Line Discount %	Shows the line discount in percent. This field is used to calculate the total price and is copied to a quote or order line.

Field	Description
	If you use detailed planning and choose to copy budget values to the WBS, this field shows the percentage average of all discounts on those lines.
Line Discount Amount (LCY)	If you use detailed planning and choose to copy budget values to the WBS, this field shows the average of all discounts on those lines.
Budget Lines Quantity	Shows the total quantity budgeted (in detail) on the line.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Budget Entries page.
Budget Lines Total Cost (LCY)	Shows the total unit cost budgeted (in detail) on the line.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Budget Entries page.
Budget Lines Total Price (LCY)	Shows the total unit price budgeted (in detail) on the line.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Budget Entries page.
Usage Qty. (Base)	Shows the quantity consumed on this WBS line so far.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Ledger Entries page.
Usage Total Cost (LCY)	Shows the total unit cost consumed on this WBS line, that is, how much time and how many materials budgeted for the project have been spent. The sum of all usage cost fields on a WBS equals total job usage.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Ledger Entries page.
Usage Total Price (LCY)	Shows the unit price of job ledger entries consumed on this WBS line.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Ledger Entries page.
Sales Qty. (Base)	Shows the quantity sold (billed) to the customer on outgoing invoices.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Ledger Entries page.
Sales Total Cost (LCY)	Totals the unit cost of sold quantities.  This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Ledger Entries page.

Field	Description
Sales Total Price (LCY)	<p>Totals the unit price of sold quantities per line, that is, the sales generated on this line. The sum of all WBS lines equals total job sales.</p> <p>This field cannot be changed manually. For more details on the value in the field, select the entry to open the Job Ledger Entries page.</p>
Profit Profit %	Shows in number and percent the profit margin expected for the line.
Current Profit Current Profit %	Shows in number and percent the profit margin achieved on the line so far. This field is only relevant if, in addition to consumption, sales are posted to the line.
	<p>Specifies based on the billing type of the line how the system calculates the value in the Unbilled Work field.</p> <p>Basically, this field is only relevant if you bill by time and materials. For every other billing type, it serves informational purposes only.</p> <p><b>Fixed</b>  <i>Calculation base: Budget - Invoice</i>  The total price stored on the work package, that is, the WBS line, is compared to the amount billed for the package so far, with the difference between them shown in the Unbilled Work field. To compare the values, the system retrieves the total price from a sales line linked to the WBS line. If none is available, the budgeted total price entered on the WBS line is used.</p> <p><b>No Billing</b>  <i>Calculation base: (blank)</i>  The Unbilled Work field shows 0.</p> <p><b>Time &amp; Materials</b>  <i>Usage - Invoice or Invoice Entries</i>  If you choose the first option, invoice entries will not be considered.</p> <p>Choosing the second only makes sense if you do work with invoice entries; otherwise, the Unbilled Work field will remain unchanged throughout the life of the project.</p> <p>Invoice entries are meant to document on which invoice and when you billed a certain usage quantity so that no entry is billed twice.</p> <p><i>Calculation base: Usage - Invoice</i>  Actual consumption for a WBS line (total price of a usage entry) is compared to the quantity for billing to ensure that you bill neither too little nor too much.</p>

**Field****Description**

In short, the value in the Usage Total Price (LCY) field is compared to that of the Sales Total Price (LCY) field. If an invoice doesn't match exact expenses, however, the field might never go down to zero.

**Example**

1. Consumption of 10 hrs. at \$100 = total price of \$1,000

2. Consumption of 10 hrs. at \$120 = total price of \$1,200

Invoice total: \$1,960

Total price remaining = \$240

*Calculation base: Invoice Entries*

The system checks every consumption entry included in a work package for whether an invoice entry has been created for it, that is, if the entry denoting usage has been billed.

It doesn't matter in this context if the usage entry was invoiced at a higher or lower price (or based on a greater or fewer number of hours) than previously recorded. Only job ledger entries without an invoice entry are added together in this field.

1. Consumption of 10 hrs. at \$100 = \$1,000

2. Consumption of 10 hrs. at \$120 = \$1,200

Invoice:

1. Ledger entry of 10 hrs. at \$100 = \$1,000

2. Ledger entry of 8 hrs. at \$120 = \$960 (changed on invoice)

-> Invoice total = \$1,960

Total price remaining = 0

**Milestone***Calculation base: Milestone*

The payment plan set up for a WBS line is understood to be a milestone plan. All plan lines that haven't been invoiced but for which the Milestone Reached checkbox has been selected are regarded as billable, and their total is copied to this field.

**Percentage of Completion***Calculation base: Budget \* Percentage of Completion - Invoice*

Calculates the value in this field based on a formula that relates the budgeted total price to job progress (the percentage of completion) and then subtracts the amount billed so far.

The system retrieves the total price from a sales line linked to the WBS line. If none is available, the budgeted total price entered on the WBS line is used.

**TE Flat Rate**



Field	Description
	<p><i>Calculation base: Invoice Entries</i></p> <p>Calculates based on invoice entries linked to a TE work package can still be billed using this work package.</p> <p>Package Invoice</p> <p>Calculation base: Invoice Entries</p> <p>Calculates based on invoice entries what billable costs remain.</p>
Unbilled Work	Shows the difference between consumed and billed amounts based on the Rem. Total Price Calc. Base field.
Sell-to Customer No.	<p>Shows an invoice recipient who isn't the customer of the job. A recipient can be entered but only if you selected WBS Line in the Billing integration field as the level at which to create sales documents.</p> <p>Alternatively, you can fill in the field on the budget lines (if billing integration is available there).</p> <p>If this field is filled in, the system will create separate documents when you create a sales document or an invoice suggestion for the WBS.</p>

#### WBS functions

##### Assign Position Nos

Adds a position number to every line of the work breakdown structure.

##### Renumber Lines

All WBS lines are automatically given internal numbers in 10 000 increments so that you can insert more lines between them. For example, the first line you add between 10 000 and 20 000 will be assigned internal number 15 000.

Done too often in one place, however, the line numbers will eventually go outside the integer range, and insertion will no longer be an option. To create the space required for inserting more lines, you can use this action to reassign the numbers throughout the work breakdown structure.

##### Calculate Predecessors

Requires the Milestone, No. of Predecessors and Predecessor Position Nos. fields, which specify WBS line dependencies. Predecessors can be assigned to WBS lines that were selected as milestones, and you can enter more than one predecessor on each line manually. Running this function then fills in the Predecessor Position Nos. field for informational purposes.

##### Update Totals and Unbilled Work

Refreshes the totals and the Unbilled Work value if, after opening the WBS, you have made changes to the structure—for example, by posting something or by creating an invoice. Continuously updating the data stored on a WBS isn't a sensible strategy for performance reasons.

Entries are updated, however, each time the structure is reopened.

#### Create Sales Document

Creates a sales quote or order from the WBS.

You can specify the information you want transferred to the document in the Copy to Sales Doc. field on individual lines. You can select there whether to copy values from the WBS line, transfer information from its budget lines, or ignore the line altogether.

#### Create Purchase Document

Helps with job purchases. You can create both requisition worksheets and purchase orders from the WBS to procure the items and external services that you specified in the job budget. For more information, see [External Resources](#).

#### Create Job Shipment

For more information, see [Job Shipments](#).

#### Create Job Vendor Shipment

For more information, see [Job Vendor Shipments](#).

#### Create User Task

Creates user tasks associated with the current job. The function connects a task to the job through the TableRelation property and Record.Relation method.

#### Copy WBS

Copies a structure from the same or another job.

Budget values from the WBS template can be copied as well. This function is mainly intended for the creation of new WBS versions. We recommend that you set up new jobs from a job template.

You can transfer an entire WBS or only selected lines. To copy a group of lines, turn on the Selected Lines Only toggle, and then choose OK to specify the lines you want transferred. You can also use this option to copy part of the current WBS onto itself.

If you transfer to a WBS that already has lines, the new lines are moved to the end of the structure. However, you must turn on the Auto PTS Code toggle in Jobs Setup to ensure that the function creates unique work package lines in this case.

Copy WBS is most often used to create a new version of a work breakdown structure so that an ongoing project can be frozen. The new WBS is based on the same up-to-date values as the old one—except for job budget entries, which need to be managed separately. For posted ledger entries, only a relation is created.

A WBS line can no longer be deleted after you have posted something to it. For data security reasons, this remains true even if the related work breakdown structure was copied by mistake, and the line must be set to Finished instead.

#### Copy from Budget

Copies to a WBS line the values from its budget lines, in effect totaling them at the work package level.

This function is only used on lines on which the Copy Budget field has been selected.

#### Update Job Account Entries

Updates job account entries. If you change quantities or prices on WBS lines, the budget entries used to monitor the job will change as well.

This action is also available unfiltered on the jobs list.

#### WBS Incl. Budget View

Shows the entire WBS in detail. For more information, see [WBS Incl. Budget View](#).

#### Statistics

Shows the WBS budget from two different perspectives.

1. The WBS Budget FastTab indicates the values stored on all WBS lines by adding up their Total Price and Total Cost fields.
2. The values entered on budget lines, on the other hand, are shown on the Detailed Planning FastTab, where they're broken down by budget type. Any WBS line without dedicated budget lines, that is, with no detailed plan, will not be included here. The values on this tab are identical in content to the sum of the job's Budget Lines Total Cost and Budget Lines Total Price fields.

#### Comments

Shows comments about the WBS. You can also use this action to create new ones.

#### Documents

Shows all open and posted documents for the job.

You can view a document by selecting an entry from the list.

#### Budget vs. Actual

Compares project targets to actuals.

For more information, see [Budget to Actual Comparisons](#).

#### Job Account Entries

All budget values entered in jobs are turned into job account entries. Stored with the chart of accounts, these values can be used to perform additional analyses based on a variety of criteria and your own methods of tracking job progress.

The function considers all account entries in each WBS version related to the current job. Like in finance, however, posting procedures must be set up in advance.

#### Line actions

#### Move Line

Rearranges WBS lines. You need to select a line before you run this function. Once you have started the process, you need to choose OK to see a list of all lines related to the current job.

On this list, you can then decide above which line you want to insert the one that you selected at the beginning. To move it, choose Yes again.

Afterward, you must run the Assign Position Nos. function to ensure that all position numbers on the WBS are in the right place.

### Change Dates

Moves the starting and ending dates of a WBS line by a period of your choosing.

### Formula Calculation

Specifies what other WBS lines you want the system to use for determining budget values on the selected line automatically. You can specify a formula as early as creating a job template.

Fill in the Use as Calc. Base and Use as Calc. Base (Total Price) fields if you want the calculation of the Budget Lines Total Cost and Budget Lines Total Price on the line to be based on different sets of values.

You can then enter a percentage in the Share to Allocate % and Share in Total Price % fields, for example, to cover a scenario where maintenance costs stored on a WBS line were determined to be 15 % of the total value that you entered on two other lines representing the cost of production and procurement.

You can also specify in the Auto Assign New WBS Lines to Purchase Calc. and Auto Assign New WBS Lines to Sales Calc. fields whether you want to link every other part of the WBS in this scenario to a special line that you set up for this purpose while the entered formula will be used on new lines automatically.

### Skills

Stores qualifications needed to fulfill a work package. These can be set up as early as creating a job template.

The skills are later used to filter for suitable resources when you run the Assign Skill-Specific Resource function.

### Dimensions

Shows the dimension values assigned to the selected WBS line.

### Work Package Info

Shows the documents that contain the work package of the job.

To open a document, select an entry from the list.

### Interaction Log Entries

Shows entries that are generated when you create interactions.

If you turned on the synchronization feature to update a job from sales documents, you can choose Related > Job > Sales Doc. Job Budget Change Log to see a list of all changes made to interactions.

### Texts

This action provides the following options:

#### Beginning Text / Ending Text

Beginning and end texts are copied to job sales documents, on which they can also be printed. Whereas beginning texts are printed before sales lines, end texts appear after the lines.

## Comments

Stores line-related comments.

### Note

None of these comments are copied to documents created from the WBS.

## Budget lines

WBS lines help you assign budget values to a project. You can later compare these targets to the actual numbers generated over the course of the job.

A roughly planned job-related value can also be budgeted in detail. This means that quantities are allocated to the lowest planning level, where you directly assign them to resources and resource groups, items, and G/L accounts.

Some of these values then serve as the basis for scheduling capacity. For example, you might want to assign a certain task to a specific staff member.

Although the budgeting process itself involves no more than one work package, you can use an extended page to see the budget lines set up for all packages related to a job. For more information, see [WBS Incl. Budget View](#).

## Use budget lines

To be able to use detailed planning in a meaningful way, you might need to make a few settings on the WBS line from which you want to create budget lines.

### Copy Budget

Select this field on the WBS line so that you can copy to it the sum of all values from the Total Cost and Total Price fields on its budget lines.

If a WBS uses the same unit of measurement on both the budget lines and the WBS line, the system also copies the planned quantities to show the average total cost or price.

### Copy to Sales Doc.

Used to specify if the WBS line itself or individual budget lines are copied to a sales quote, a sales order, or a sales invoice.

Regardless of the option you choose in this field, users can still record expenses, for example, from time tracking, on WBS and budget lines based on the posting level set for each kind of expense on the relevant job card.

## Set up budget lines

To create budget lines:

1. Open a job card.
2. Choose Job > WBS Incl. Budget View on the ribbon. If you have already opened a structure without the budget view, choose Related > WBS Incl. Budget View on the header.
3. You can also open a WBS without the view and choose Related > Budget Lines on the WBS Lines FastTab.

The options available for budget lines are described in the following table.

Field	Description
Budget Type	Specifies what is being budgeted on the line.
	<b>Resource</b> Includes in the budget a resource that isn't a billing resource.
	<b>Item</b> Covers materials and finished goods.
	<b>Group (Resource)</b> Includes a resource group. This group can later be replaced with a specific resource.
	<b>G/L Account</b> All costs that don't fall under the previous categories are budgeted through G/L accounts. You can use any account for which Direct Purchase has been turned on (see the toggle on the relevant G/L account card).
No.	Specifies the number of a resource or a resource group, an item, or a G/L account, based on what you selected in the preceding field.
Item Reference No.	Contains a reference assigned by the customer to help you find a specific item.
Starting Date	Shows the planned start of the line. This field is filled in from the WBS line but can be changed manually.
Ending Date	Shows the planned end of the line. This field is filled in from the WBS line but can be changed manually.
Description	These fields describe the item, resource, or account entered on the line. The descriptions are copied from a table containing base data (for example, the Item table) but can be changed manually.
Description 2	Both are additionally copied to sales or purchase quotes and orders you create from the structure through the Create Sales Document or Create Purchase Document function—that is, unless you also filled in the Description and Description 2 in Sales or Purchase fields.
Description in Sales Description 2 in Sales	These fields contain alternate descriptions for use in sales.
	They specify notes that are shown to customers so that you can use the standard description fields for internal comments.
	When you enter an item or a resource on the budget line, translations that might exist for the language code specified for the job are copied to the fields by default.



Field	Description
	You can also fill them in as early as creating a job template or change them here manually.
Description in Purchasing	These fields contain alternate descriptions for use in purchasing.
Description 2 in Purchasing	They specify notes that are shown to vendors so that you can use the standard description fields for internal comments.
	When you enter an item or a resource on the budget line, translations that exist for the vendor's language code ( <i>as specified for the item or resource</i> ) are copied to the fields by default. You can also fill them in as early as creating a job template or change them here manually.
Language Code (Vendor)	Shows the language code of the vendor entered on the budget line.
	The code is used to find item or resource translations for filling in the Description in Purchasing and Description 2 in Purchasing fields.
	If changing vendors also leads to a change in languages, the system will search for translations in the new language. You can then decide which of these should be copied to the budget line.
Work Type Code	This field is filled in if you selected Resource as the budget type on the line.
	Work types specify usage and sales posted, for example, to job or resource journals or to sales invoices. They describe the kind of work a resource can be tasked with, such as overtime or transportation.
	Depending on the work performed, the types can help you in setting up a variety of prices and units of measure for the consumption and billing of resources and resource groups.
	This field is filled in from the WBS line and cannot be used for items or G/L accounts.
Copy Budget Text to Purch.	If selected, the system copies budget text (lines) to purchase orders that you create from this line.
Copy Budget Text to Sales	If selected, the system copies budget text (lines) to sales documents that you create from this line.
Customer Price Group	Specifies the code of a customer price group.
Quantity	Specifies the quantity planned for the line. If you press Enter to confirm the quantity in this field, the system generates job budget entries automatically
Quantity (Base)	

Field	Description
	<p>Gives the quantity in the base unit of measure.</p> <p>This field cannot be changed by the user, as quantities are budgeted in the unit of measure specified for the Quantity field.</p>
Reserved Quantity	<p>Shows the item quantity reserved for this line.</p> <p>The quantity is reserved through a purchase requisition workflow process that includes all budget line items for which the Requisition checkbox has been selected.</p>
Requisition	<p>If selected, the item on the line is requisitioned during a planning run.</p>
Buy-from Vendor	<p>Shows the vendor from an item card (or resource card in the case of an external resource).</p> <p>This field is filled in automatically if you selected Item or Resource in the Budget Type field but can be changed manually if necessary.</p> <p>It can later be changed again should you run the Create Purchase Order function from the WBS.</p>
Qty. on Purch. Quote (Base)	<p>Shows the quantity available on purchase quotes related to this line (a link to the field is created when you use the Create Purchase Document action to make job purchases).</p>
Qty. on Purch. Order (Base)	<p>Shows the quantity available on purchase orders related to this line (a link to the field is created when you use the Create Purchase Document action to make job purchases).</p>
Qty. Received (Base)	<p>Shows the line quantity already delivered by the supplier.</p>
Usage Qty. (Base)	<p>Shows the quantity consumed on the line.</p> <p>Posted job ledger entries are shown here regardless of their source. This means they might originate with a job purchase, stock consumption (for items), or a time posting (for resources).</p>
Outstanding Qty. (Base)	<p>Shows the result of subtracting the quantity planned for the line from the quantity consumed on it so far.</p>
Unit of Measure Code	<p>If you selected Resource or Item as the budget type, this field is filled in with the base unit of measure specified on a resource or item card.</p> <p>The field can be changed for items but not for resources, as their unit of measure depends on the specified work type.</p>

Field	Description
Location Code	Shows the code of the location where an item entered on the line is stored.  You can chose the lookup to the right of the field to select a code from the Storage Location page.
Bin Code	Shows the code of the item's storage bin. To make use of this field, you must select a storage location on the line.
Variant Code	Specifies an item variant.
Direct Unit Cost (LCY)	Shows the purchase price specified for a resource or a resource group, an item, or a G/L account as stored on the relevant card  You can also fill in this field manually.
Unit Cost (LCY)	Filled in automatically with the unit cost of the selected budget type and the number associated with the type.  The field can be changed manually if necessary.
Total Cost (LCY)	Shows the result of multiplying the quantity with the unit cost.  This field is part of the Job Budget Entries page and is copied from there.
Invoice Unit of Measure	Specifies the unit in which you budget invoice quantities.  The base unit of the item is filled in automatically in this field, although you can change the unit manually if necessary. You cannot change the unit for resources, as theirs depends on a work type.
Invoice Qty.	This field can be filled in if the customer receives sales quotes and invoices for quantities that differ from budgeted expenses.  Otherwise, the quantity is identical to the quantity to bill.
Invoice Qty. (Base)	Gives the quantity to bill in the base unit of measure. You cannot change this field manually.  <b>Note:</b> This quantity is budgeted in the unit specified in the Invoice Unit of Measure field.
Unit Price	Shows the unit price specified for a resource or a resource group, an item, or a G/L account as stored on the relevant card or as set up for the job.  You can also fill in this field manually.
Line Discount %	

Field	Description
	<p>Like the Unit Price field, shows a value from a card or a job-specific price.</p> <p>This field cannot be changed manually.</p>
Line Discount Amount	Filled in based on the line discount in percent. This field cannot be changed manually.
Total Price	Shows the result of multiplying the invoice quantity with the unit price. The field is also used to create in the background job budget entries that match the calculated value.
Custom Unit Price	<p>Specifies if a unit price has been changed manually. This ensures that the price entered on the line isn't replaced when a price-relevant field, such as Date or Resource No., is changed here.</p> <p>You can select and deselect the field to control when to update the price. However, some field changes require a price update even if this field has been selected. For more information, see <a href="#">Custom Unit Prices</a>.</p>
Cost Center Code	<p>Specifies the first global dimension to which the line has been assigned.</p> <p>This field is filled in automatically with the dimension that you specified for a resource, an item, a work package, or the job. It is also renamed to match the name of the dimension you chose.</p> <p>You can change the field manually if necessary. To see the codes that you have set up, choose the lookup to the right of the field.</p>
Cost Object Code	<p>Specifies the second global dimension to which the line has been assigned.</p> <p>This field is filled in automatically with the dimension that you specified for a resource, an item, a work package, or the job. It is also renamed to match the name of the dimension you chose.</p> <p>You can change the field manually if necessary. To see the codes that you have set up, choose the lookup to the right of the field.</p>

The FactBox that appears on the page at the bottom (*when you use the Budget Lines action*) or on the right (*when you choose WBS Incl. Budget View*) shows you the total costs and prices for resources, for items, and for budget lines posted directly to G/L accounts from the lines.

## Custom unit prices

<b>Budget Type</b>	<b>Type</b>	<b>No.</b>	<b>Quantity</b>	<b>Work Type</b>	<b>Starting Date</b>
Resource Group	Type changes from one resource to another: No Changes to item or G/L account: Yes	No	Yes	No	
Item	Yes	Yes	No	n/a	No
G/L Account	Yes	No	No	n/a	No

The FactBox on the right of the page shows the total costs and prices for resources, for items, and for budget lines directly posted to G/L accounts from the lines.

The resource section also includes the total number of hours spent on job activities, as seen on the related WBS line.

Additionally, all sections show the discounts for the relevant budget type, the profit, the profit in percent, and the actual amounts in local currency.

## Line activities

For rough planning, budget lines can be assigned to resource groups. This kind of budgeting includes the expected number of hours it will take to complete a certain work package.

However, budget lines can also be used to assign job activities to specific resources or their groups. By providing a detailed structure for activities, these lines are then no longer just planning lines but also contain budgeted activities, which resources and resource groups can use to record the time they spent on the job.

A unique number is assigned to each activity from the series that was chosen for this purpose in Jobs Setup. This number cannot be changed manually.

Basically, line activities provide you with a highly granular job budget. Whereas the rough planning capabilities provided by the system might be sufficient in the early stages of a job (while quoting and costing), long-term projects in particular might become increasingly difficult to manage over time.

In this case, you can use the Split Line action to create a resource-specific activity from a budget line that belongs to a resource group. If you cannot assign a certain activity to a specific resource, it can also remain with the group.

To see all activities for a certain job:

1. Open a job card.
2. Choose the Search icon, enter Budget Line Activities Overview, and then choose the related link.

The fields required for line activities are described in the following table.

Field	Description
Line Activity No.	<p>Consecutive numbers are assigned to activities performed by a resource or a resource group on budget lines. As a result, each activity number created within a company is unique.</p> <p>This field is filled in with a number from the relevant series entered in Jobs Setup and cannot be changed manually.</p>
Priority	Indicates task priority. This field is used for informational purposes only.
Status	<p>Shows how far the line activity has progressed.</p> <p>Each new activity is set to Not Started. The status changes to In Progress when you post to the activity for the first time.</p> <p>Employees can use only these statuses to post work hours; activities in a different status aren't visible to them in time tracking.</p> <p>An activity is set to Completed when the resource working on the activity reports it as completed. All other statuses are set by the project manager, who can also reset a task from Completed to In Progress so that it can be posted to again.</p> <p><b>Note</b></p> <p>Budget lines of type Item or G/L Account are set to In Progress automatically when consumption is posted for them. The project manager can also change their status manually.</p> <p>When an attempt is made to set these budget lines to Completed, the system will check for unfulfilled commitments (reserved and open quantities, as well as open purchase, time, and inventory commitments) to ensure that the lines can still be posted to. If the check fails, the lines cannot be set to Completed.</p>
Completion %	<p>In time tracking, staff can record the progress of their activities in percent or by using the Qty. to Complete field.</p> <p>Filling in one of these fields will fill in the other field on the budget line, as well as the Estimated Total Qty. and Estimated Total Amount (LCY) fields, based on the budgeted quantity and the hours posted by staff, that is, the values in the Usage Qty. (Base) and Time Commitment Qty. (Base) fields.</p>
Quantity	Shows the quantity budgeted for the line activity.
Usage Qty. (Base)	Shows the hours spent on the activity and released by the project manager.
Time Commitment Qty. (Base)	Shows the hours posted to the job but not released by the project manager.

Field	Description
Qty. to Complete	Shows a quantity that was calculated automatically, as in the Completion % field, or was entered by an employee in time tracking.
Estimated Total Quantity	Shows a quantity calculated automatically. See the Completion % field.
Estimated Total Amount (LCY)	Shows a quantity calculated automatically. See the Completion % field.
Profit Profit %	Shows the profit margin budgeted for the activity.
Current Profit Current Profit %	Shows the current profit margin for the activity. This field is only used if, in addition to expenses, sales are posted to the line.
Sell-to Customer No.	Shows an invoice recipient who isn't the customer of the job. A recipient can be entered but only if you selected Budget Lines in the Billing integration field as the level at which to create sales documents.  If this field is filled in, the system will create separate documents when you create a sales document or an invoice suggestion for the line.

#### Actions

#### Explode BOM

Adds a line for each component of a bill of materials that has been assigned to the budgeted work package on the Work Packages page.

#### Note

You can use this function for more than one work package line at the same time by selecting multiple lines on the upper part of the WBS Incl. Budget Lines page.

#### Explode Assembly BOM

Adds a line for each component of an assembly bill of materials assigned to an item on a budget line. This involves removing the original budget line and distributing the component quantity across the new lines.

#### Allocate Qty

Distributes the line quantity evenly over the period between the starting and ending date entered on the line. You can choose whether you want the quantity distributed across weeks, months, or a day. A default interval can be specified in Jobs Setup.

The budget entries set up for the job are adjusted when you run this function. This means that a quantity of 20 is broken up into quantities of 10 a month over a period of two months.

#### Split Line



Assigns to a resource part of a line activity that has already been roughly budgeted for a resource group.

For a better estimate of how much work can be split off, the function will list all line-related quantities. After you have specified in the New Type and New No. fields the resource or resource group to whom a portion of the task should go, you can enter a quantity in either the Distributed Qty. New Line field or Remaining Qty. Old Line field, with the system filling in the value in the other based on the total quantity budgeted on the line.

#### Note

You cannot increase a line quantity in this way but must do so following the split.

To have the system assign identical numbers to the new lines, turn on the Keep Line Activity No. toggle before you choose OK. This might be useful, for example, if a line pairing needs to be considered in combination at some future date.

### Change Work Package

Copies the budget line, and entries posted to it, to another WBS line. To move more than one budget line, you can select multiple lines on the upper part of the WBS Incl. Budget Lines page and run the Change Work Package Multiple function.

#### Note

Moving a budget line in this way might lead to a change in prices.

### Order Tracking

Checks if line demand is met, for example, by a purchase order.

Running this function opens the Order Tracking page, where you can see the supplier who meets demand originating from the budget line. This line, in turn, can be seen by choosing Order Tracking on the related purchase order.

### Search for Attributes

Searches for items based on certain attributes, a feature also available on purchase and sales documents.

### Send to Calendar

Sends a line activity as an Outlook task to a staff member.

This function requires that a valid email address has been stored for the employee (resource) in User Setup. After you hit Send, the employee receives an email with a calendar event and the relevant

- Line Activity Description
- Starting Date
- Ending Date
- Job No.
- Line Activity No.
- Project Manager Name
- Customer Name
- (Customer) Company Phone No.

If a line activity is canceled or put on hold, the calendar task is deleted from Outlook automatically.

### Change Dates

Reschedules a budget line.

When you run this function, you are asked to specify by way of a formula the amount of time that the line should be moved up or back.

The formula must include at least one mathematical operator and a time expression such as D = day(s), W = week(s), M = month(s), Q = quarter(s), or Y = year(s).

A message appears if you make an incorrect entry, explaining the reason why.

You can use this function, for example, to adjust a job budget because of a change in shipping dates for the job. The starting and ending dates of the affected budget lines are then edited automatically to match the new schedule.

### Allocate to Dates

Opens a matrix that shows the budget lines set up for the job, with activities broken down on each line based on the interval you chose in the Period field on the header. All project work is initially put on the starting date.

You can use this matrix to budget quantities in detail, specifically at the budget entry level, that is, you can schedule quantities for resource and item lines on the calendar in steps that go from 24 hours to a year.

Each time you assign a budgeted quantity to a resource or an item in a calendar field on the page, the system will create job budget entries. These entries are the smallest elements of a job budget and the basis for planning resource capacity (see [Capacity Planning](#)).

### Change Type & No

Allows some flexibility in planning. Typically, you can change the Type and No. fields until hours have been posted to a budget line.

To move a resource from one line onto another, you can simply change the No. field on the lines themselves. However, to move a line from a resource group to a specific resource, you must run this function for technical reasons.

After hours have been posted, you need to use the Split Line action to assign part of a quantity to a new line type and number.

### Reserve

Creates a reservation on the line for tracked supplies, for example, from inventory or a purchase order.

### Take

Assigns stock to the job from non-reserved quantities. Stock that has been assigned previously can be identified by its filled-in Job No. field. This function can only be run from item-type lines.

Running the function opens a page on which you can see the job inventory items you specified on the line and assign new item entries. Entries you want to remove from a location entered on the line must contain a positive value and be open. Moreover, the entries cannot be reserved or assigned to a job. You can clear the job number filter should you want to move items from one job to another.

You can then specify how many items you want to remove from the warehouse. The number of items you take can, of course, not exceed the total number held onsite.

Choose OK to post the selected quantities to job inventory. A reference to the job (or, more specifically, to the budget line) is then added to each item entry that you move in this way. Afterward, you need to create a job shipment to post consumption of the item while removing it from the stock assigned to the project.

### Assign Job Ledger Entries

Typically, when you post usage for a job, the number of the budget line from where consumption originates is assigned to the related job ledger entries automatically.

Sometimes, however, a number might need to be assigned manually, for example, if you entered an item on more than one budget line created from the same WBS line.

You can then use this function to assign all job ledger entries stored on the WBS line to the budget line provided one of the following criteria is met:

- If a resource has been stored on the budget line, consumption entries must refer to the same resource.
- If a resource group has been stored on the line, consumption entries must refer to the same resource group (with the resource for whom consumption is posted being a member of that group).
- If an item has been budgeted on the line, all entries must refer to the same item number.
- If a G/L account has been budgeted on the line, selected G/L account lines must refer to the same account.

### **Connect**

Assigns all selected entries.

### **Disconnect**

Deletes existing assignments (as indicated in the Budget Line No. field).

### Card

Opens the line activity card.

### Item Availability

Provides multiple item availability lists designed for the same purpose and function as those used for sales documents.

### Dimensions

Shows the dimensions assigned to the line.

### Reservation Entries

Shows the items reserved for the line.

### Predecessors / Successors

Assigns predecessors or successors, or both, to work scheduled on the line.

### Beginning Text / Ending Text

Specifies line-related texts, which can be copied to sales or purchase documents.

## Comments

Stores internal comments regarding the line.

## Navigate to Line Activity

Indicates where a line activity is being used.

Line activity numbers are stored on purchase and sales documents, with job ledger and time entries, on CTC lines, and in time sheets.

## Resource by Job

Shows the budget entries created for the WBS and resource. Making another WBS the active structure will change these entries on printouts.

Choose the lookup if you want to see more details on an entry. You cannot edit the entry on that page, however.

## Resource Group by Job

Identical to Resources by Job, except that this function filters for resource groups, not individual resources.

## Capacity Plan

Shows the capacities assigned to resources. You can fill in the fields on the Options FastTab to filter for a specific resource if necessary. The page includes all capacity-related values stored on the active WBS. For more information, see [Capacity planning](#).

## Assign Skill-Specific Resource

Copies resources with certain qualifications to the budget.

This function requires that you have assigned skills to the relevant resources. These skills can then be assigned to work packages, that is, WBS lines, or you can set them as filters manually. Resources are indicated with their capacity values, including their overall capacity, their times of absence, and their quote and order entries.

For a quick and easy way to include resources in a budget, you can select a resource, navigate to the Values FastTab, and then choose Manage > Quick Assignment on the ribbon. Afterward, you can use the budget lines to plan a resource's capacity in more detail, for example, by entering quantities.

You can also choose Detailed Assignment on the same ribbon to open a page where you can budget resource hours per week.

## WBS Incl. Budget View

This function shows the active work breakdown structure of a project in combination with the budget lines set up for the job.

Information about the structure itself can be found on the header, whereas the other parts of the page show text lines, comments and, most of all, the budget lines set up for a WBS line. All entries always relate to the currently selected WBS line.

The line statistics on the right show the planned resource quantity, key values broken down by budget type, and the total cost and price of the WBS line. Budget entries are added up under Budget Line Total. You can

compare these to the values found under WBS Line, which allows you to immediately spot differences in amounts between the work breakdown structure and the detailed budget.

The Usage section, on the other hand, indicates usage based on total cost and price, whereas Billings shows the amount invoiced so far and the amount that you have yet to invoice to the customer based on job progress and the billing type of the WBS line.

The actions on the WBS Incl. Budget Line page are the same as those described for the individual WBS and Job Budget pages.

Main WBS

To track the impact of additive and deductive change orders on initial cost estimates, you can create what is called a main WBS.

This involves setting up non-active versions of a structure so that you can log negative and positive adjustments to a job. When you release those versions, their values are then merged and transferred to a WBS version that serves as the main—and active—structure for the project.

Note

This feature can only be used to copy values changed on WBS lines; detailed schedules with budget lines must be created from the main WBS.

Set up a main WBS

- 1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
- 2. On the Project Management FastTab, fill in the fields described in the following table.

Field	Description
Job Budget Name (Main WBS)	Select the name of a job budget to specify an active WBS version linked to this budget as the target structure to which to copy the results of calculations and change orders.  You must fill in this field before you can use the Main WBS feature.
Keep Invoice Qty. Separate	With the toggle turned on, invoice quantities found on lines copied to a main WBS will not be totaled but replaced with a quantity of 1. The toggle does not apply to sales amounts and unit costs.

Main WBS

This toggle shows whether a structure is used as a main WBS. Found on the header of the relevant structure, it turns on automatically if the budget name specified for the project is identical to the name entered in the Job Budget Name (Main WBS) field in Jobs Setup.

**Copy Structure Only**

You can select this toggle when you run the Copy WBS function (found on the ribbon of work breakdown structures).

With the toggle turned on, the function copies the main WBS to a new structure but leaves the quantity fields blank so that you can edit WBS lines that already exist (see the following example).

**Example**

You set up a new WBS, enter Default as the budget name, and perform a calculation in one or more versions. None has been released yet.

After the customer places an order, you set up another structure with a budget called Main WBS, the name entered in the Job Budget Name (Main WBS) field in Jobs Setup. You release the structure and turn on the Active toggle on the header.

You then release the ordered version with the Default budget name so that its lines are copied to the main WBS. (You could have also run the calculation on the main WBS, but that would have meant no version of the base calculation would have been archived.)

The result is a released and active structure to which you can post.

Afterward, you set up a WBS for a change order, entering Additive as the budget name. You run the Copy WBS function from the main WBS and, on the dialog page, turn on the Copy Structure Only toggle to copy the WBS lines without quantities to the new version. You then specify the details of the change order:

- You enter a quantity on an existing WBS line, with a positive quantity representing an increase and a negative quantity a decrease in what is being ordered.
- You add WBS lines and calculate their values.
- You keep or delete the WBS lines that remain unchanged from the new version (lines deleted here aren't deleted from the main version).

You release the order. The adjustments you made will be copied to the main WBS as follows:

- Quantities changed on existing lines will be adjusted.
- Lines created on the non-active WBS will be added to the main WBS.
- New descriptions will replace the old ones.

Changes to quantities and prices that you made to existing WBS lines will be copied as well. For example, if a line used to contain 100 hours at a rate of USD80, but the change order includes 20 hours at EUR100, the main structure will show 120 hours at an average rate of USD83.33 following the update.

As a result, the latest changes to the job have now been incorporated into the main WBS. You can view the original estimate by opening the Standard job budget and the adjustments through the Additive budget.

The Additive budget name can also be reused later to set up another non-active version for an additive change order.

## Note

When updating a main WBS, the system always includes all versions of the work breakdown structure. Therefore, none of them should be deleted. Please also note that manual changes you make to the main WBS will be discarded during the next update.

### Capacity planning

Capacity planning can help outline your company's resource needs by setting limits on the time employees can spent on projects.

Only after you have set a total number of hours that employees are available overall and assigned part of their daily, weekly, or monthly capacity to one or more jobs will you be able to draw meaningful conclusions from the data presented here.

For more information on how to specify resource availability at the resource (group) level, see [View and Set Capacity](#). Each resource, or collectively, each resource group, has a limited supply of hours, which you can assign to lines on a WBS. These hours, the differences between resource availability and utilization, and the demand left for projects can then be shown on a capacity plan.

Assuming you have specified enough capacity for all resources working on a certain job, setting up such a plan provides a way for you to quickly implement changes to a rolling wave schedule. The feature also uses a base calendar to account for time off, such as on weekends and holidays. You can open plans from:

- Resources
- Jobs (Resources > Capacity Plan on the Job Budget FastTab)
- Budget lines

Depending on where you run the function from, the Date Filter field might be filled in by default. Resources are shown on a plan by resource group, with the total capacity of a group being displayed as well. Resources with no assignment to a group will be the first on the list.

The following table describes the fields found on every capacity plan.

Field	Description
Capacity	Shows the capacity entries available for the resource. Total lines are also created per resource group.
Absence	Shows a resource's non-work hours based on absence registrations.
Net Capacity	Specifies the net capacity of the resource.
Budget (Quote)	Show for which job the system has already created budget entries. All data is displayed at the resource level.
Budget (Order)	A line added for each job shows how many hours the resource is expected to spend on a project. The status of the job determines in which of the fields the budget value is entered.
Job Time Posted	Shows how many hours spent on a job have been posted for the resource.
Utilization	Shows the resource's (target) utilization.
Variance	Indicates available resource hours.
	Based on how you set up the variance filter, the lower area of the page shows one of the following:
	<b>Net Capacity - Budget</b> Shows available capacity (total capacity less absence, for example, vacation or flextime) minus all budget values.
	<b>Net Capacity - Time Posted</b> Shows the difference between net capacity and hours recorded so that you can determine whether a resource is still expected to post time to a project.
	<b>Capacity - Time Posted</b>  Same as before, except that you see the difference between how high the total capacity is for the resource and the hours the resource worked on jobs. Can be useful when posting certain kinds of absence, such as vacation, to a special job.
	<b>Budget - Time Posted</b> Shows the total budget value minus the work hours recorded.  When you change the variance filter, you need to exit the page, choose OK, and then reopen the plan to refresh the budget values. Reopening it also resets the filter so that values are again shown as described for the first option.



To export the plan values to an Excel workbook, choose Export to Excel on the ribbon and select a date filter.

#### Work sequence

Whereas job planning has so far been discussed only in terms of quantities and line values, the following paragraphs will focus on the scheduling feature that is part of project365. This feature uses starting and ending dates, durations, fixed dates, and task dependencies on WBS and budget lines to provide you with several options for indicating the time and sequence of job activities.

#### Line dependencies

The relationships between activities are the basis for job scheduling. They can be set up at either the work package or budget line level.

To specify how one line activity is related to another based on its type and duration in days, you can use the Assign Predecessor and Assign Successor actions on the Job Budget or WBS Lines FastTab. The types are modelled after those used for task dependencies in Microsoft Project.

#### Duration in Days

In addition to starting and ending dates, you can maintain a duration in days on both work package and budget lines. If you store this information, starting and ending dates are calculated automatically from the workdays available over the course of a job. For an example, see the following table, where red means changed by the user and green calculated by the system.

Starting Date	Ending Date	Duration in Days
08/10	09/03	19
08/10	09/13	27
08/14	09/09	19

#### Fixed starting and ending dates

You can also set fixed starting and ending dates on both WBS and budget lines.

#### Note

The values entered in these fields aren't checked until they are included in a planning run.

#### Ignore in Planning

Shown on WBS lines, this field can be selected to exclude from job planning work packages that are used solely to collect receipts, such as for travel expenses and license fees, that is, those for which capacity cannot be budgeted.

#### Scheduling Direction

In this field found on job cards, you can set the scheduling direction of a project to forward or backward.

## WBS Scheduling

Actual scheduling is performed on a separate page. To view the page, open a work breakdown structure and choose WBS Scheduling on the ribbon.

A schedule shows the WBS and budget lines created for a certain job, as well as the information required for indicating the start and end of project operations. Activities are planned on both types of lines at the same time.

If a schedule already exists for a WBS, you see a message that asks if you want to overwrite current planning data. Choosing Yes will delete all entries from the page.

The values shown are used to simulate a requested planning scenario. Following a review and potential revisions to the schedule, you can choose Accept Planning on the ribbon to copy the data from the page to the related work breakdown structure.

The simulated entries are stored in the Planned Starting Date, Planned Ending Date, and Planned Duration (Days) fields on a schedule and can be edited manually. You can identify the status of each entry by its color and style. The following indicators, explained in the system by way of a legend, are available for this purpose:

- **Red and bold**

Indicates that the scheduled values exceed the starting or ending date of the job (as specified on the job card).

- **Red**

Indicates that, according to the schedule, the line should be in progress, but the work status is still set to Open.

- **Green**

Indicates that the value was changed manually or during a planning run.

- **Blue**

Indicates that the value can be changed neither manually nor during a planning run.

Scheduling a job manually only makes sense after the first automated planning run. However, you can already prepare for manual entry on the relevant work breakdown structure by specifying the duration, fixed starting and ending dates, and line activity relationships relevant to your situation, as every automated planning run is based on these WBS or budget line fields.

To start a planning run, choose Start Planning on the ribbon. This puts each WBS line and its budget lines onto the plan based on the duration, the fixed dates, and the line dependencies set up for the line. The results of the simulation are then entered in the Planned Starting Date, Planned Ending Date, and Planned Duration (Days) fields.

Depending on what option you selected in the Scheduling Direction field, the system will begin to schedule activities from the starting date or the ending date entered for the job.

## Graphical (line activity) planning

Line activities (budget lines) can also be scheduled by using the integrated graphical resource planner. In graphical planning, line activities can be dragged on the timeline and onto other resources on Gantt charts.

However, before you can work with this feature, you need to make some settings on the pages described in the following.

#### Jobs Setup

Select Day in the Default Budget Allocation Period field.

#### Resources Setup

In the Resource Planner Start and End fields, specify the period you want to copy to the chart. Choose a period that you're comfortable scheduling with. The longer this period is, the greater its drag might be on tool performance and resource utilization.

#### Example

-1W / 2 M means that the data copied to the chart includes all information available for scheduling from the prior week until 2 months into the future.

#### Resource card

Only resources and resource groups for which the Use in Resource Planning toggle has been turned on will be copied to the chart. To copy resource capacity, you also must specify at least a planning period.

#### Line activities

Budget lines must meet the following requirements for inclusion:

- The job must have been set to Quote or Order.
- The WBS line must have a work status of Open or In Progress.
- The budget line must be of the resource or resource group type.
- The budget line must be Not Started or In Process.
- The budget line must have a starting and an ending date (and at least a 1-day difference between them).

#### Absences

Absence registrations are automatically copied over, which means that additional settings aren't required here.

#### Open graphical planning

To open the scheduling tool:

1. Choose the Search icon, enter Resource Planner, and then choose the related link.
2. Alternatively, open a budget line view. On the Job Budget FastTab, choose Resources > Resource Planner on the ribbon.

#### Rough planning

Graphical resource planning starts on the Initial Planning page, with multiple weeks being visible at once.

For performance reasons, resource utilization isn't shown at this point. Instead, you see an overview of all activities related to a project. To show resource use, you need to switch to Detailed Planning and choose the refresh spinner.

### Detailed planning

On the Detailed Planning page, you can see resource utilization per week. You can also use the ellipsis in the upper-right corner to show resource deployment during other weeks.

### Visual information

On the left of the chart, you can see a list of all job-related resources, broken down by resource group. On the timeline to the right, bars in different shades of blue show the activities assigned to the related resource or group. Activities that have been started are in dark blue. Line activities in parentheses belong to a job that is still in the Quote stage.

A yellow background indicates the degree of resource utilization on a given day. An example of an event that lowers daily capacity is vacation, where yellow is filling out the day entirely.

By selecting a bar, its utilization values will be shown in a FactBox on the right-most side of the view. Areas of overscheduling are displayed in red.

Hovering the mouse over an activity bar shows a FactBox that describes the activity.

### Reschedule

To reschedule activities, you can drag them on the timeline or move them from one resource line onto another.

#### Warning

There is no preview for this function. As a result, the new schedule will be copied to the relevant budget line immediately.

### Reduce / extend activity time

You can also use the mouse to reduce or extend the time that a resource will spend on an activity by dragging the ends of the relevant bar to the left or right.

### Filter jobs

By using the right mouse button on an activity bar, you can open a context menu to set a filter on the activity, limiting the planning view to a certain job.

### Split lines

The Split Line action works in the same way on the chart as it does on budget lines.

### Resource planning (without line activities)

In an ideal world, resource schedules would align perfectly with the goals you have for your business. Unfortunately, experience shows that allocating the right amount of capacity can be a very time-consuming task.

This is because it might take a while before you can schedule resource hours at the budget line level, that is, at the level of line activities, and it can take even more time to update these plans regularly.

To provide you nevertheless with a reasonable degree of control over the time that you have available, you can use an alternate job-based plan that is decoupled from individual activities.

#### Requirements

Before you can schedule in this way, you must have

- set capacities for the required resources.
- created one or more jobs on which you want them to work.

#### Setup

Besides the requirements already mentioned, only a few settings might need to be made before you can work with job-level resource planning.

#### Resource Planning Setup

On this card, you can specify which fields must be filled in before you can schedule resources for a job. You can also turn on one or more toggles on the Filter FastTab to set filters on the Resource Planning page. Additionally, you can choose if you or the resource who will work on a resource request should be notified by email when the request is completed.

If you want to copy absences to planning, you need to fill in the Resource Absence Job Name field on the Planning FastTab. You can enter any name in this field. The name of an actual job isn't required, as the label is only used to group absences on the Resource Planning page.

#### Planning Types

Planning types help you distinguish between different kinds of resource scheduling. For example, you can use them to separate the hours budgeted for internal projects from those spent on customer jobs.

They also make it easy for you to spot absence, such as the time a certain resource will be on vacation, immediately. You can specify in which order entries appear on a resource schedule and assign a style to a type on the Planning Types page.

The styles you can choose on the page serve the same function as elsewhere in the system.

#### Copy absence to resource planning

To include resources' sick time or time off, you can copy absences from the Absence Registrations page to scheduling. This page includes the causes of absence that you specified in the Planning Type field on the Cause of Absence Page.

Each cause set up with a planning type will be copied to the schedule. A shared type is often enough. You only need to create more than one if, for example, absence due to vacation needs to be separated from other causes.

On the Resource Planning page, you can then choose Insert Absence Registration on the ribbon to copy absences to the page.

#### Overscheduling Setup

On this page, you can specify the resources for whom you want to display a warning message in the case of overplanning, that is, if the work hours scheduled are greater than the resource capacity remaining. You set up the warning for every department to which resources are assigned.

#### Resource Planning page

The core element of job-level resource scheduling is a matrix that shows the number of hours budgeted per week. On the lines, a schedule can be broken down by job and planning type. The types are shown in different colors (and styles) to make it easy to differentiate between them.

#### Options

For a better overview, filters can be set on the schedule. If the user who opens the Resource Planning page has been linked to a resource, the department assigned to that user is filled in automatically, based on the assumption that schedules created by one's own department are of the most interest in this situation.

You can also turn on the No Date Filter field on the header if you want the system to show what resources aren't included during the selected period but have been in the past or will be in the future.

#### Values

This FastTab initially shows one line for each resource scheduled for a job. You can, however, expand the lines section to view a more detailed breakdown of employees' work schedules. The columns on the right indicate the number of hours allocated to the resource for tasks per week.

#### Resource lines

The resource-type line represents the upper-most level of the section. At this level, the fields on the right show the quantity and total capacity set for resources during the week specified in the relevant column. This helps you gain a quick overview of their availability and detect overscheduling.

#### Planning types

The second level in the hierarchy covers scheduling by planning type. Ideally, these types can be distinguished by their color and style (see [Setup](#)).

#### Jobs

The lowest line level contains schedule items related to individual jobs. The lines are in the same color as the planning type to which they have been assigned.

#### Requests

The Requested By, Requested On, and Request Type fields at the bottom of the page can be used as a template to create more schedules.

#### Actions and overview

#### Insert Absence Registrations

Before you start planning your next project, we recommend that you use this action to copy all current absences to the Resource Planning page.

## Note

Only resource managers see this feature (see [User Setup](#)). Transferred absences are updated automatically when you change them or remove them altogether.

## New

Before you choose this action, you need to ensure that you have selected the correct line on the page, as the resource related to that line will be suggested for scheduling.

When you run the function, the values in the Default FastTab fields are copied to the new schedule automatically. The default planning period is the current week.

You can then enter a number or a starting date to specify the week during which you want to add the resource to the schedule; an ending date isn't relevant here. You can also turn on the Fixed Date toggle if the starting and ending dates that you specified on the tab should be included when you reschedule job activities. However, the fixed dates can be changed later if necessary.

On the Base Data tab, you must enter a type and job number; filling in the other fields is optional. A new schedule that leads you to allocate too much work to a resource in a week will prompt a warning message if you chose this option when you entered the resource's department in Overscheduling Setup

## Distribute

On this page, you can create several schedules at once. The total budget needs to be entered in the Distributable Hours field. These hours are then reduced by the amount of time planned on the lines, and the result is shown in the To Distribute field.

Overplanning on this page will prompt a warning message. However, you can choose Yes on the dialog that appears to raise the value in the Distributable Hours field.

## Show Time Available

This function displays for each resource the available capacity per week, calculated by subtracting a resource's total capacity from the hours scheduled for the resource in that time.

## (Planning) Overview

On this page, you can not only filter planning entries according to your requirements, but you can edit them as well, which provides you with a quick and easy method for changing more than one entry in resource planning. You can also choose New on the ribbon to draw up another schedule.

Alternatively, you can run the Overview function from a line on the Resource Planning page to filter entries for a specific week and resource (and potentially planning types and jobs).

## General Planning

Creates a regular workload for resources over a longer period, for example, to offset unexpected events.

## Planning Resource Matrix

Shows resource planning from the perspective of resources, that is, how many hours have been scheduled for a resource in a certain week.

You can set filters on the Matrix Options FastTab to see, for example, only the jobs a specific resource has been assigned to work on and at what time.

### Job Planning Matrix

Same, but from the perspective of jobs. You can again use the filters on the FastTab to see who will work when on a job.

#### Plan own resource

As a rule, all those with read/write access to resource management can see and edit resource activities in the system. Typically, however, the task of creating a plan for a week-by-week breakdown of these activities falls to one or more resource managers.

But there are also companies where at least some staff members can set their own hours. By selecting the Plan Own Resource field in User Setup, these employees not only gain read/write access to scheduling but also prevent other users from adding them to their resource schedules.

#### Where am I needed?

This page, which is built into the Project Lead role center, shows logged-in users to which project schedules they've been added over the next three weeks.

Selecting a number on the page and drilling down will then open the planning entries related to a specific job.

#### Resource requests

Requests for resources are typically created by a project manager. Each request is then forwarded to a resource manager, who will reserve the hours required based on available resource capacity.

Once scheduling is completed, an email will be sent to the resource scheduled for a job and the person who created the request (if the relevant toggles have been turned on; see the following).

### Resource Planning Setup (resource requests)

If the project manager or the scheduled resource should be notified by email after a request has been handled by the resource manager, you must use one or both of the toggles that can be turned on for this purpose in Resource Planning Setup.

Field	Description
Email User at Request Completion	With the toggle turned on, the person who submitted the request will be notified by email upon its completion.
Email Planned Resource at Request Completion	Selecting Internal in this field will send an email only to internal resources after requests have been handled.  Choosing All will do so for both internal and external resources.
Sender Address	Specifies the email address from which notifications are sent.



Each email sent to the project manager or resource contains information about who has been scheduled to work on which project task, as well as the effort estimated for completing the activity, and the starting and ending date of work.

#### Create a request

Project managers can only see requests they've created, whereas resource managers see all requests from every department. To create a request:

1. Choose the Search icon, enter Resource Planning, and then choose the related link.
2. Choose Actions > New Resource Request.
3. Fill in the fields as necessary.

Key fields found on the request page are described in the following table.

Field	Description
Job No.	Specifies the job for which a request is made.
Requested Resource No.	Specifies the resource requested for the job.  If the field blank is left blank, the Requested Resource Group No. Field should be filled in instead.
Requested Resource Group No.	If the preceding field is left blank, a resource group should be entered in this field.
Planner	Specifies a resource manager.  You don't need to fill in this field, as planners retrieve open requests on their own ( <i>as described later</i> ).
Planning Department Code	This field is only filled in if you work with planning departments.
Planning Location Code	This field is only filled in if you work with planning locations.
Line Activity No.	Specifies a concrete line activity from the job.  However, when you work with resource planning decoupled from line activities, you don't need to select an activity here.
Work Package Code	Specifies the number of a work package (WBS line) used in the job.  However, resource planning decoupled from line activities requires neither a concrete activity nor a work package.
Planning Type	Specifies the planning type.  This type determines where on the Values FastTab (on the Resource Planning page) the resource schedule is inserted.  You can use planning types to distinguish between internal and customer jobs, for example.
Estimated Effort in Hours (Total)	The value in this field is probably the most important piece of information a resource manager requires for scheduling.
Planning Comment	This field is typically filled in by the resource manager but can also be used by the project manager to recommend a certain resource.
Description	Describes the requested work so that the resource manager knows what resource might be suitable for the job.

Field	Description
From Week	Specifies the week when a resource should start working on the job. The week is determined automatically based on the current date.
	<b>Example</b> The current calendar date is part of CW49.
	50 = CW50 of the current year 10 = CW10 of the following year
	The system will enter the Monday of CW50 as the starting date.
Starting Date	Specifies the Monday of the requested starting week.
	The date is entered automatically when you fill in the From Week field. Changing the date manually will also change the value there.
	<b>Note</b> The starting date must be a Monday.
From Year	Specifies the year of the starting week.
To Week	Specifies the week when a resource should finish working on the job. The week is determined automatically based on the current date.
	<b>Example</b> The current calendar date is part of CW49.
	50 = CW50 of the current year 10 = CW10 of the following year
	The system will enter the Friday of CW10 in the Ending Date field.
Ending Date	Specifies the Friday of the requested end week.
	The date is entered automatically when you fill in the To Week field. Changing the date manually will also change the value there.
	<b>Note</b> The ending date must be a Friday.
To Year	Shows the year of the ending week.
Fixed Date	With the toggle turned on, the request needs to be fulfilled in the time stated.

Once all necessary fields have been filled in, a request can be submitted through the Release Planning function on the ribbon, after which the data entered on the page can no longer be changed.

A request not yet handled by a resource manager can be cancelled by the project manager at any time through the Cancel Planning function.

#### Handle a request

A resource manager (who might not yet be specified as one in the system) begins handling a request by opening it and choosing Start Planning.

This fills in the Planner field with the resource manager's user ID and assigns the schedule immediately to the manager's page views (*by adding the plan to the relevant filter*).

On the Lines FastTab, one or more resources can then be allocated throughout the requested period. One line is created per resource and calendar week.

#### Example

A line activity is budgeted at 40 hours of work performed by two resources over two weeks, which results in a schedule as described in the following table.

Resource No.	(Calendar) Week	Quantity
R100	5	10
R200	5	15
R100	6	15

The page provides resource managers with ample information, including a resource's current utilization status on calendar week lines.

The Planning in Requested Period FactBox on the page shows the availability of a resource in the relevant period if a resource was specified in the request. Additionally, the Show Planning action can be used to open the Resource Planning page from a request, with all lines already filtered for the staff member.

After allocating hours to resources and calendar weeks, the resource manager can choose End Planning on the ribbon to finalize the schedule. The system then creates resource budget entries from the lines and notifies the budgeted resource(s) and project manager(s) by email.

To suspend planning temporarily and take it up again later, a resource manager can choose Cancel Planning on the ribbon.

## Guarantees

You store background information about letters of guarantee on the following pages:

- Guarantee Types
- Guarantee Status
- Guarantee Posting Groups

The pages are for informational purposes only and don't affect other areas of Microsoft Dynamics 365 Business Central. You can fill in the fields on them in any way you want.

## Setup

Before you can work with guarantees, you also need to set up a number series for them. To set up a series:

1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
2. On the Numbering FastTab, select the series that will be used for letters of guarantee.

**Register a letter of guarantee**

To register a guarantee in the system:

1. Choose the Search icon, enter Guarantees, and then choose the related link.
2. On the ribbon, choose New.
3. Fill in the fields as described in the following table.

Field	Description
No.	Exit the field to have a number assigned automatically from the series that you set up for this purpose.
External Guarantee No.	Specify the number that the bank uses on the letter of guarantee.
Description	Specify a description for the guarantee.
Guarantee Type	Select the type of guarantee.
Guarantee Type Description	Shows the description of the type of guarantee.
Guarantee Posting Group	Specify the posting group that will be used for the guarantee.
Guarantee Status	Specify the status of the guarantee. You can set up statuses on the Guarantee Status page.
Guarantee Direction	Choose if you received a guarantee or had one issued for a certain vendor or customer.
Account Type	Specify if the account that a bank guarantee was applied for was set up in the name of a customer or vendor.
Account No.	Specify the number of the account.
Account Name	Shows whom the account belongs to.
Issuing Bank (Contact No.)	Specify the name of the person who you can talk to at the bank that provided the guarantee.
Issuing Bank (Contact Name)	Shows the name of the contact person.
Starting Date	Specify from which date the guarantee will be valid.
Ending Date	Specify when the guarantee will expire.
Amount (LCY)	Specify the guarantee amount (in local currency).
Commission Amount (LCY)	Specify the commission fee that the bank will receive for the guarantee.
Commission %	Specify the commission fee in percent.
Job No.	Specify the number of the project that the guarantee is for.
	<b>Note</b>



Field	Description
	If you want to see all guarantees registered for a job, open the relevant job card and choose Related > Job > Guarantees on the ribbon.
Document Type	Specify the type of the purchase that the guarantee is for.
	Shows the number of the purchase document created from the job.
Document No.	<b>Note</b> If you want to see all guarantees registered for a purchase document, open the relevant document and choose Related > Guarantees on the ribbon.

#### Actions

To enter notes about a guarantee, select a line on the page and choose Related > Comments on the ribbon. To open the purchase document or project related to a guarantee, select a line and choose Related > Open Purchase Order or Open Job.

## Time & Materials

### Overview

Job usage can be recorded in several ways. Whereas the hours worked on a project can be entered in time journals and on CTC cards, the consumption of items can be specified through adjustments to inventory and job purchases.

By using budget-to-actual comparisons, you can then compare the amount of time and materials spent toward a job to the number of hours and items budgeted for it.

### Staff costs

Following customer approval, you can start posting usage and sales for a job. Usage primarily refers to resource consumption. Resources might be employees, machines, or contractors. This article will focus on time tracking for employees.

A resource's work hours are entered in time sheets and on other time tracking pages in the base unit chosen in Resources Setup. All resources representing actual people should have the same unit stored on their resource cards.

The most common base unit for these resources is Hour. For types of work typically billed in a different unit, such as Day, the system will hold off on converting a posted time entry into the billing unit until the entry is released through a job journal.

This way, employees can continue to think and post in hours, and the system will do the rest.

### Time journals

A job time journal records the time that a resource spends on a project. You need to create a time journal for each resource working on a job (see [Resource Capacity](#)).

For the correct journal to be chosen when a user opens the Job Time Journals page, the user must be assigned to a resource and a journal in User Setup. The number of the resource is then entered on all journal lines automatically.

Users for whom the Other Res. in Time Tracking checkbox has been selected on the User Setup page can also edit other resources' journals. A message appears if a user cannot be assigned to a journal.

The following table describes the most important fields found in time journals.

Field	Description
Resource No.	Shows the resource who records time.  This field is filled in by default, as a journal is specific to a resource.
Posting Date	Specifies the day for which time is being recorded.
Job No.	Specifies the number of the job for which time is being recorded.
Job Search	<p>Used to find jobs based on common Business Central filter criteria. This feature is meant as an alternative to drilling down on the value in the Job No. field.</p> <p>Projects that match the text you entered are shown as soon as you exit the field, and a job number is filled in on the journal line after you choose a project from the search results. A second dialog page shows the WBS or budget lines that you can post to.</p> <p>Besides numbers and letters, you can use symbols such as * and @ to limit search results. For more information about filter criteria, see <a href="#">Sorting, Searching, and Filtering Lists - Business Central</a>.</p> <p><b>Example</b> The filter @ *introduc* yields the following (case-insensitive) results: Introducing Business Central; Reintroduction of CRM fields</p> <p>Searches cover the Job No., Description, Description 2, and Search Description fields of projects.</p>
Line Activity No.	<p>Shows the activity number of a budget line.</p> <p>When filling in the Job No. field, a user can choose a budget line (=activity) if the time posting level on the related job card has been set to Budget.</p> <p>This includes any line to which the user's resource is assigned through the Person Responsible field or the relevant resource group, unless the activity has been completed.</p> <p>To record time for a completed activity, the status of the activity must be set back to In Progress.</p> <p>When a budget line has been selected, the work package and the phase, task, and step code fields on the journal line are filled in automatically. This means that work hours recorded by resources will be posted to not only budget lines but the associated WBS lines as well.</p> <p>This field can also be used to switch to another activity or—if the time posting level was set to WBS—another work package stored with the job.</p>

Field	Description
Work Package Code	Specifies the work package that is assigned to the WBS line to which time needs to be posted.  This field is filled in automatically when a line activity is selected.
Description	Describes the activity that was performed by the resource. The description can have a maximum of 50 characters.
Job Time Comment	Stores additional remarks about the time posting.
Start Time End Time	Specifies when work on a certain activity started and ended. Filling in these fields isn't required but helps employees estimate the duration of a task.
Break (Minutes)	Specifies a work break in between two time periods, in minutes. This field might be used by the system to fill in the Break and Quantity fields.
Break	Specifies a work break in hours. This field might be used by the system to fill in the Break (Minutes) and Quantity fields. Whichever break field was filled in last will be used to determine the length of the break taken by the resource.
Quantity	Shows the quantity of work performed by the resource, in hours. This field is filled in based on start, end, and break times but can be changed manually.  This field is only relevant if budget lines store time spent on activities.
Line Activity Progress %	To report the status of a line activity, a user can choose this field or the Line Activity Progress % field. Either will be sufficient for the system to fill in the Estimated Total Quantity and Estimated Total Amount fields on the selected budget line.
Billing Type	Copied from the related WBS line. This field cannot be changed manually.
Invoice Qty.	Indicates how much of the work performed by the resource can be billed to the customer.  This field is only relevant if project work is invoiced by time and materials.
Reverse Entry No.	Used to cancel a posted time entry.
Contactnumber	Description to follow.

Additional information about the job and the activity stored on a specific journal line is available in the lower-left section of each journal. The progress and extent of time tracking on the line can be found to the right of that section.

**Actions****Functions**

Includes the Get Work Package function, which can be used on a journal line to fill in an activity and a reference to a WBS line.

If a job number has been entered on the journal line and the time spent on the job is tracked on budget lines, only activities assigned to the resource or to no resource at all (=general tasks) can be chosen here.

However, if the Job No. field has been left blank, the window for selecting an activity includes all activities from all jobs so that staff members can find their tasks without needing to know the number of a specific job.

Selecting an activity then fills in a large part of the fields found on the journal line.

**Post**

Used to post the journal.

**Related****Job**

Choosing the Job Card action opens the card of the job that has been entered on the journal line. Choosing Ledger Entries shows the associated ledger entries.

**Resources**

Choosing Resource Card opens the card of the resource assigned to the journal.

Choosing Time Entries provides a user with a list of all time entries posted for a certain job.

The Budget Line Activities (Open) action, on the other hand, shows all current line activities.

**Line**

Used to open line-related dimensions and comments.

**CTC time tracking**

The time that resources spent on projects can also be recorded on CTC cards. The use of CTC (complete time capture) differs from entering hours on a time journal in the following ways:

- Internal checks prevent time postings from exceeding workday limits.
- The system calculates a resource's number of work hours from clock-in and clock-out times before allocating these hours to jobs.
- Time recording includes default breaks and absence.
- Only one CTC card is available per day and employee. Hours can be allocated on this card more than once, whereas you need to create multiple lines in a job time journal to get the same result.
- Inputs can be tracked at any time based on posted cards.
- Time entries must be released before they can be posted.

CTC Time Tracking—the main page for entering and viewing resource hours—combines unposted and posted cards in a single view. The Status field on the header indicates whether a card has or hasn't been posted yet. The page also includes calendars with status colors to help pick the days you want to record time on.

#### Indicate absence

As one visual aid, you can change the color of CTC calendar days to indicate when a certain resource isn't available.

To initialize background colors indicating absence:

1. Choose the Search icon, enter Calendar Colors, and then choose the related link.
2. On the ribbon, choose New > Initialize to have the system specify RGB color values.

#### Assign colors to causes of absence

After setting up the colors, you can use them to visualize causes of absence.

1. Choose the Search icon, enter Causes of Absence, and then choose the related link.
2. Select a line. In the Calendar Background Color field, choose a color.

#### Indicate status of time tracking

You can also visualize the status of time recording on a CTC calendar:

1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
2. Go to the CTC Calendar Colors FastTab and fill in the fields as described in the following table.

Field	Description
Neutral	Specify a color for days, such as Saturdays, Sundays, and holidays, on which resources aren't available.
Posted CTC	Specify a color for days on which hours have been recorded and posted.
Released CTC	Specify a color for days on which hours have been recorded and released but have yet to be posted.
Open CTC	Specify a color for days on which hours have been entered but haven't been released.
Missing CTC	Specify a color for days on which hours have yet to be recorded.
Outside Month	Specify a color for days that are outside the specified month.

### Specify breaks

You can use one of two methods to specify CTC breaks:

1. Enter a default break on the Work-Hour Templates page. You can then fill in the Work-Hour Template field on a resource card to copy the break to the card and the resource's time tracking pages. However, as the name implies, the break is no more than a default value. You can still change it on both the resource card and in time tracking.
2. Specify a break on the Break per Shift page. Breaks entered on this page have a higher priority than those stored with work-hour templates. You can define both maximum work hours and minimum break times on the page.

### Example

Max. Work Time	Break
4	0
8	1
10	1.25

The work hours and breaks shown in the table have the following meaning:

- At up to 4 hours, a break isn't required so no time is suggested automatically. You can specify a break manually, however.
- Working for over 4 hours but for less than 8 hours requires a break of at least 1 hour. This value is also entered automatically on every CTC card. Changing the Break field, trying to make a break smaller, results in an error message, but you can increase the length if necessary.
- Over 8 and under 10 hours, resources need to take a break of least 1.25 hours.
- Recording more than 10 hours in a workday isn't possible.

### Note

You can turn on the No Break Minimum toggle in Jobs Setup if you want to specify breaks that are smaller than those suggested by the system.

### Elements of CTC time tracking

To record time on a CTC card:

1. Choose CTC Time Tracking on the Time Recording (or Project Lead) role center. See also (CTC Card) [Actions](#).
2. Fill in the fields as necessary.



## CTC header

Field	Description
Date	Shows the workday for which time is being recorded.
Description	Shows the name of the resource.
Cause of Absence Code	Specifies a cause of absence.
Start Time	Shows when the resource starts work on a given day.
End Time	Shows when the resource leaves the office on a given day.
Break (Hours)	For more information, see <a href="#">Specify Breaks</a>
Quantity	Shows the time spent on a job.  The value in this field is calculated based on the formula End Time minus Start Time minus Break.
Qty. Allocated	Shows the total time allocated to jobs on individual CTC lines.
To Allocate	Shows time not yet allocated to a job.
Last Card Posted On	Shows when a card was last posted for the resource.
Status	Specifies the status of the CTC card.  <b>Open</b> Card values can be changed at any time.  <b>Released</b> All times have been recorded on the card, making it available for posting.

## CTC lines

(Nearly all fields found on job time journal lines are also available on CTC cards.)

Field	Description
Job No.	Specifies the job to which time will be posted.
	Used to find jobs based on common Business Central filter criteria. This feature is meant as an alternative to drilling down on the value in the Job No. field.
	Projects that match the text you entered are shown as soon as you exit the field, and a job number is filled in on the journal line after you choose a project from the search results. A second dialog page shows the WBS or budget lines that you can post to.
Job Search	<p>Besides numbers and letters, you can use symbols such as * and @ to limit search results. For more information about filter criteria, see <a href="#">Sorting, Searching, and Filtering Lists - Business Central</a>.</p> <p><b>Example</b> The filter @ *introduc* yields the following (case-insensitive) results: Introducing Business Central; Reintroduction of CRM fields</p> <p>Searches cover the Job No., Description, Description 2, and Search Description fields of projects.</p>
Work Package Code	Specifies the work package to which time will be posted.
Description	Describes the activity that was performed by the resource.
Quantity	Shows the number of hours spent on the activity.
Line Activity Progress %	Specifies how far the line activity has progressed.
Invoice Qty.	Indicates how much of the project work can be billed to the customer. This is only a deciding factor if work can be billed based on time and materials.
Billable	With the toggle turned on, project effort can be billed to the customer. This effort is stored with the activity.
Billing Type	Copied from the WBS line. This field cannot be changed by the user.
	Shows the activity number of a budget line.
	When filling in the Job No. field, a user can choose a budget line (=activity) if the time posting level on the related job card is set to Budget.
Line Activity No.	This includes any line to which the user's resource is assigned through the Person Responsible field or the relevant resource group, unless the activity has been completed.

Field	Description
	<p>To record time for a completed activity, the status of the activity must be set back to In Progress.</p> <p>After a budget line has been selected, the work package and the phase, task, and step code fields on the CTC line are filled in automatically. This means that work hours recorded by resources will be posted to not only budget lines but the associated WBS lines as well.</p> <p>This field can also be used to switch to another activity or—if the time posting level was set to WBS—another work package stored with the job.</p>
	<p>This field is only relevant to time tracking at the budget line level.</p>
Qty. to Complete	<p>To report the status of a line activity, a user can choose this field or the Line Activity Progress % field. Either will be sufficient for the system to fill in the Estimated Total Quantity and Estimated Total Amount fields on the selected budget line.</p>
Contactnumber	<p>Description to follow.</p>

## FactBoxes

FactBoxes on the right side of the screen provide you with additional information about time tracking.

For example, Time Statistics indicate for a given day the amount of work required based on the resource capacity set and the hours posted for the day and month. If you installed the TempVision app, they also include flextime entered for the day.

Below this section are the current, previous, and following months in calendar form. These calendars are intended to help you navigate time recording and show where resources have recorded hours and entered absence. You can select a calendar day to view or enter time-related data.

The CTC Line Info FactBox lists job and activity data regarding the line you chose on the Lines FastTab.

The Color Legend shows you what colors are being used to indicate absence and the status of time recording.

## Actions Create CTC Cards

Creates multiple CTC cards with the same information, an especially useful function for specifying absence.

## Release CTC Cards

Releases all completed CTC cards that match the specified filters.

## Release

Releases the current CTC card.

## Reopen

Changes the current card's status from Released to Open.

### Copy to Today's Card

Copies the current CTC card to the card of today. This copies both the header and the lines and can only be used if the CTC lines of the target card are still blank.

### Copy from Existing CTC Card

Works in the opposite way to the Copy to Today's Card action, as it copies data from the card you choose to the card you're on.

### Post / Post Batch

Posts recorded and released CTC cards.

### Resource

Opens the card of the resource for which time is being recorded.

### Unposted Cards

Opens the CTC Cards page, on which you can manage cards that haven't been posted yet.

### Posted Cards

Opens the Posted CTC Cards page.

### Note

As mentioned, CTC time tracking shows both unposted and posted cards. Typically, only administrators might need to view them on separate pages.

### Cancel Posted CTC Card

Cancels a posted card and deletes job time entries assigned to it.

If the entries have already been copied to a job, the job ledger entries created from them are deleted as well. This requires that the user running the function be authorized to post job ledger entries.

Employees without this kind of permission must ask the project manager to cancel cards. Job ledger entries that have been invoiced cannot be deleted in either case.

### Job Time Entries / Job Ledger Entries

Shows the job time or job ledger entries related to the card (provided that these entries have been created for the job).

### Absence Registration

Used to specify absence. You can only choose this option when you open a posted card.

### Dimensions

Shows the dimensions stored on the header of a card.

### Record time

To store work hours, pick a day on the calendar. This creates a new time record, that is, an unposted CTC card, automatically.

You can also use the [Create CTC Cards](#) function to create a record.

### Record activities

A resource's work hours are allocated to individual job activities on CTC lines.

To enter the activity last worked on for a job, choose Functions > Get Last Activity on the Lines FastTab. This retrieves the line activity or work package last opened by the relevant employee.

### Release a record

Like on CTC cards, days on which you recorded work hours must be released before posting. Some plausibility checks are performed during that process, for example, to see if the entire CTC card quantity has been allocated on the lines.

By using this action, you can release either a single day or multiple days at once.

### Post a record

Released days must be posted. You can post a single day or multiple days.

Only when you post time does the system create time entries. These are then copied to the job as job ledger entries following a review by the project manager.

### Time sheets

Time sheets are yet another method to specify how much time a resource has spent on a job. You can record usage in time sheets in seven-day increments. Before you can work with time sheets, you need to set up the feature by registering the relevant resources and turning on the Use Time Sheets toggle on their resource cards. You also need to create new, mostly blank sheets.

To create a batch of time sheets:

1. Choose the Search icon, enter Create Time Sheets, and then choose the related link.
2. Alternatively, open a resource card. On the ribbon, choose Process > Create Time Sheets.
3. Fill in the fields as described in the following table.

Field	Description
Starting Date	Specify the first date of the batch.
No. of Weeks	Enter the number of weeks the sheets should cover.

You can then use the fields on the Filter FastTab, for example, to set up sheets for specific resources or external employees.

## Note

Time sheets can only be created by a user for whom the Time Sheet Administrator checkbox has been selected in User Setup.

To see the newly created sheets, choose the Search function, enter Time Sheet List, and then choose the related link.

Like a CTC card, a time sheet can only be viewed by the resource linked to the sheet unless the Other Res. in Time Tracking toggle is turned on for a user in User Setup. After the sheets have been created, you can report work hours on a weekly basis:

1. Open the Time Sheet List, select your sheet, and enter the work hours on the lines related to the current calendar week.
2. When all hours have been entered, choose Submit to release them for posting.

The time you recorded is then converted into time entries, which can be done on a regular basis by using a job queue. If the status of an entry is set to Submitted but the line hasn't been posted—that is, it isn't yet part of the Job Time Entries Created—you can still reset the status to make changes to a work package, a line activity, or a quantity.

You can choose Budget Line Activities (Open) on the ribbon to see a list of unposted line activities assigned to the current resource. This doesn't include line activities for resource groups, however.

To copy all the lines from the previous week, use the Copy Lines from Previous Time Sheet action. You can do this week by week.

To add comments to a record, fill in the text fields next to the Quantity field on a line. This ensures that the data record is assigned to the correct time entry when you post the line. The comments can also later be used on a proof of performance document sent to the customer.

## Related

If you want to see a list of all job ledger entries related to a time sheet line, select the line and, on the ribbon, choose Related > Ledger Entries.

To open the related resource card or see more information about time entries stored on the line (like on a CTC card), choose Related > Resources > Time Entries.

## Lines

To retrieve a work package, choose Line > Get Work Package on the Lines FastTab. You can now select a package from all work packages set up for the resource or the related resource group.

## Job time entries

Time entries are created automatically when you record hours spent on a job (in whichever way possible).

## Note

You can use the CTC Posting As and Time Sheet Posting As fields in Jobs Setup if you want to post job ledger entries instead of time entries or post both at the same time.

Initially, the entries don't affect job usage but represent the hours committed to a job. Times recorded but not posted can later be analyzed, for example, in cost control.

Usage is generated only when you copy time entries to a job journal and post them there (see also [Job Journals](#)).

### Important fields

See the following table for a more detailed explanation of the key fields found on the Job Time Entries page.



One option for viewing the page is to open a job and choose Related > History > Job Time Entries on the ribbon.

<b>Field</b>	<b>Description</b>
Posting Date	The date in this field corresponds to the date of performance.
System Date	Shows the exact date and time the entry was posted. Helps to see with what delay (if any) hours are recorded in the system.
Resource No.	Specifies the resource whom time entries were posted for.
Start Time End Time	Only filled in if hours were entered with start and end times.
Job No.	Specifies the job that time was recorded for.
Work Package Code	You always post time entries to lines on an active WBS.  To which line the entry is assigned is shown in the Job No., the Work Package Code, and the Phase, Task, and Step Code fields.
Line Activity No.	Specifies a budget line activity if an entry was posted to a job at budget line level.
Reversed	Selected if the time entry has been cancelled.
Reverse Entry No.	Shows the associated reversal entry if the time entry has been cancelled. The reversal entry, on the other hand, will reference this entry.
Qty. (Base)	Time is always recorded in the base unit of measure assigned to the relevant resource. With the most common unit in this context being hours, this field typically shows the hours worked.
Invoice Qty. (Base)	Frequently corresponds to the value in the Quantity (Base) field.  Only if you post a line activity that you want to bill based on time and materials and the Invoice Qty. % is not 100 does the value in this field differ from the value in the Quantity (Base) field.
Copied to Job	Indicates if the time entry has been copied to a job journal and posted there.  After the entry has been posted, it can no longer be copied to another journal, even if the job that it was posted to contains only part of the quantity assigned to the entry.
Copied to Job (Date)	Shows the exact date and time the entry was posted to a job.
Copied to Job (Ledger Entry No.)	Specifies the job ledger entry that was created when you copied the time entry to a job.  This field ensures that the job ledger entry assigned to the time entry is deleted if you cancel the latter.

Field	Description
Qty. Copied to Job	Typically, when a time entry is copied to a journal, the complete quantity entered for it is retrieved automatically.  If necessary, however, you can track changes to the journal quantity by comparing the value in this and the value in the Quantity (Base) field.
Total Cost (LCY)	This amount is relevant to assess the time committed to jobs.  <b>Note</b> When you copy time entries to a job journal, the total cost will be recalculated.
Comments	Indicates if comments exist for the entry.  You can store these when recording work hours. You can also have them printed on proof of performance documents.
Contact no.	Description to follow.

#### Actions

The following functions can be run from the Job Time Entries page.

#### Comments

Opens the comment sheet used for job time entries.

You can enter comments when you record hours in the system. You can also change them if necessary.

These comments will later be copied to the job ledger entry comments and to proof of performance documents.

#### Cancel Entries

Prepares time entries for cancellation.

When the action is run, a cancellation line (with a negative quantity) is inserted into the relevant resource's time journal while the journal is opened so that the reversal can be posted immediately.

To prepare a single entry for reversal, you can also fill in the Cancellation Entry No. field and use the Cancel Entries function to add a line with a negative quantity.

Time entries can likewise be cancelled by using the relevant function on a CTC card or in time sheets.

#### Note

When you cancel a time entry that has already been copied to a job, the ledger entry linked to the time entry is deleted as well. You can, however, only delete entries that haven't been invoiced yet. You also require the delete permission.

If (for either reason) you cannot post a cancellation, you need to clear the reference to the job ledger entry in the time journal. This turns the reversal entry into a simple correction posting that doesn't cancel the time entry.

The quantity and value of both entries are the same whichever method is used. The difference is that cancellation links the entry you want to reverse to the cancellation fields in the system.

Cancelled time entries also aren't copied to job journals and, if they've already been turned into job ledger entries, the ledger entries are cancelled as well.

### **Job journals**

Job time journals, CTC cards, and time sheets are all used to record worktime.

To ensure that projects include posted time entries—or, more specifically, that these entries are stored as job ledger entries—time spent on a job must be posted through a job journal.

Although this journal is used to post all kinds of job ledger entries—including entries covering the use of material taken from a warehouse—the following paragraphs will focus on job time entries only.

To copy time entries to a job journal:

1. Choose the Search icon, enter Job Journals, and then choose the related link.
2. Select a journal. On the ribbon, choose Process > Get Job Time Entries.

This opens a page where you can see the times that haven't been added to the job ledger. Typically, project leads only need to copy to the journal time entries recorded by resources under their management. They can therefore look at the entries for a specific job or use the Person Responsible filter.

Alternatively, you can assign the task of approval to a time manager (and a fill-in) for each resource by turning on the Check by Time Manager toggle in Jobs Setup. These managers can then use the Time Manager filter in job journals to see and edit the entries of all resources they're responsible for.

When you choose OK, the journal is filled in with the required time data and a journal line is created for each time entry within the filters you've set. Posting the lines then creates job ledger entries from them and clears the journal.

### **Business registration certificates**

A Freistellungsbescheinigung (often translated as a certificate of exemption) was introduced by the German government to combat tax evasion, especially in the construction sector.

This business registration certificate is issued pursuant to Section 48b of the German Income Tax Act and provides proof that a subcontractor pays its fair share of taxes.

If the certificate hasn't been made available, companies doing business with the subcontractor will be required by law to withhold 15% of all invoice totals to cover potential tax liabilities.

You can open a vendor card to check the status of registration based on the following (purely informational) fields:

Field	Description
Business Registration Certificate	Shows if a certificate is available.
Registration Certificate Valid Until	Shows how long the certificate remains valid.

You'll be notified if this kind of certificate is needed but hasn't been provided yet when you enter a vendor on a purchase document.

## External resources

### Set up an external resource

External resources can be procured through purchase documents.

All external resources require a vendor for billing services. This vendor might be a staffing agency, for example. For a freelancer, you need to register both a resource and a vendor and link them to each other.

When you later enter the resource on the budget line of a job, the associated vendor is also copied to the line. This way, you can have the system calculate unit costs for the resource-vendor combination and use the vendor to create purchase orders from the budget.

External resources can have unit costs, unit prices, job-specific resource prices, and purchase prices. In contrast to standard unit costs, prices and costs set up this way are always tied to a certain vendor, that is, the relevant vendor is retrieved when you procure the external resource or include the resource in a budget.

If no unit cost is stored with the vendor, a unit cost is copied from the standard Unit Cost table. If no suitable cost is found there either, the required value is copied from the associated resource card.

If you have a specific group of external workers in mind when you start working on a job, we recommend that you set up a resource for each of them and assign a vendor, costs, and prices right away.

For external resources who record time like employees, you need to turn on the Use Purch. Invoice Entries toggle on their resource cards. This will create invoice entries for them during billing so that jobs aren't posted to twice.

### Procure a resource

You purchase a resource in the same way as you do items:

1. Open the WBS of a job.
2. On the ribbon, choose New > Create Purchase Document.
3. Fill in the fields as necessary.

This copies the resource to a requisition worksheet or a purchase order.

You can also create a purchase document manually. In this case, you need to enter the relevant job number on individual document lines (if you've entered the number on the header, it is copied to new lines automatically)

and use the Get Work Package function to copy the number to a WBS line or a budget line, depending on the Purchase Posting Level specified for the job.

Choose Yes on the dialog page that appears if you also want the description of the resource copied from the WBS or budget line. If you choose No, the system will retain the description that you entered on the purchase line.

Typically, you would then post consumption from a purchase order when items have been received by adding their quantities and prices to the job. In the case of external resources, however, the services rendered are often posted with receipt of a bill.

If, on the other hand, you want to post the acceptance of services immediately—that is, post job usage before you get a bill—and the bill shows a different unit cost for the external resource, the job ledger entries created from the resource's time postings are adjusted automatically based on how much you need to pay.

#### Distribute purchased work

Typically, the system creates one job ledger entry for each posted purchase line or purchase invoice line related to a job. Sometimes, however, you might want to post project expenses at a more granular level.

With the job distribution feature, you can, for example, distribute WBS line quantities onto multiple budget lines without having to list every little aspect on the associated purchase document. This way, you can keep detailed job posting information handy while streamlining your document.

When you use the distribution feature, you must always distribute the entire quantity; otherwise, you cannot post the document. You'll see a message if not everything has been allocated yet.

You can distribute a quantity on different WBS lines of the same job at the level of the work breakdown structure or its budget lines.

#### Track resource costs

Like other resources, an external resource can post hours in a time journal. This isn't a requirement; a purchase invoice that lists the hours worked would be enough.

However, because a considerable amount of time might pass before the hours are billed, you might run into problems when trying to invoice your own customers. For this reason, we recommend that external resources post their times immediately.

To avoid a situation in which expenses are posted to a job twice, the invoice you get from an external resource will later be applied to the job ledger entries created from the resource's time journal.

#### Purchase invoices and invoice entries

When you post invoices for hours recorded by an external resource, you must apply the job ledger entries posted so far to prevent billing a customer twice for the same work (once because of the time entries and once due to the invoice). If the resource doesn't post time, application isn't needed.

To prevent the posting of invoices without invoice entries (which have already been recorded as time entries), you must turn on the Use Purch. Invoice Entries toggle on the relevant resource card. After turning on the toggle, you can post neither receipts nor invoices without these entries, and an error message appears if you try to do so.

Receipts and invoices are then posted in one go. Should you want to separate them, you need to assign invoice entries with the delivery of services. Otherwise, job ledger entries will be posted as always.

### **Example:**

An external resource uses a time journal to record a total of 6 hours. These hours are then posted to a job through its job journal.

To settle the amount that you now owe the external service provider, you proceed by creating a purchase invoice from the job and entering 6 in a Qty. to Receive field on a line. You also check if the Line Amount excl. VAT field there shows the correct value.

Afterward, you choose Line > Purch. Invoice Entries (on the Lines FastTab) to assign invoice entries to the line. This opens a new page on which you select the resource's unapplied job ledger entries and choose Add Entries on the ribbon.

You then choose OK to copy the ledger entries to the purchase line. The invoice entry totals and the Qty. to Receive field values from the line can now be seen in a FactBox on the right-hand side of the Purchase Invoice page.

A difference in these amounts means that there's something wrong with either the direct unit cost on the purchase line or the unit cost on the resource card. If you don't see an error message, you can start posting corrections to quantities or job ledger entries, or both.

### Note

For technical reasons, deleting one or more invoice entries will not update the totals on a purchase line. Instead, you need to run the Update Totals function. All totals are also updated when you reopen the invoice page or add job ledger entries.

Value or quantity corrections, or both, are only made when you post an invoice. The corrections are documented on a purchase line in the Correction Job Amount (LCY) and Job Qty. Correction fields. After you posted updates to values or quantities and acceptance of the services, job ledger entries can no longer be added to the invoice.

You can post multiple receipts to a single purchase order to gather invoice entries in one place. When you later post a bill for the order, the Qty. to Invoice must match the combined value of the Qty. to Receive and the Qty. Received fields.

You cannot post partial invoices for the services you accepted, as you cannot assign invoice entries from a purchase line to more than one invoice. The same is true for a correction you make to an entry.

### Post corrections

Because of the use of invoice entries for bills received from external resources, you typically only need to post a job ledger entry if you want to make a value or quantity adjustment. The following list shows what this kind of adjustment might look like.

	Job Ledger Entries				
	Quantity	Unit Cost	Total Cost	Unit Price	Line An
1)	100	\$50,00	\$5.000,00	\$70,00	\$7.0
Adjust by			\$500,00		
2)	100	\$50,00	\$5.000,00	\$70,00	\$7.0
Adjust by	+3	\$50,00	\$150,00	\$70,00	\$2
3)	100	\$50,00	\$5.000,00	\$70,00	\$7.0
Adjust by			-\$500,00		
4)	100	\$50,00	\$5.000,00	\$70,00	\$7.0
Adjust by	-2	\$55,00	-\$110,00	\$70,00	-\$1
			\$500,00		

#### Adjust quantities

You post quantity corrections as if you were posting job ledger entries to a purchase invoice without invoice entries. This means that a change in quantity and a change in value always go hand in hand.

#### Adjust values

Value adjustments are also posted as job ledger entries but without a quantity. This adjusts unit costs in a job without changing the quantity or even the invoice quantity. You can easily spot job ledger entries adjusted in this way by checking if their Value Correction checkbox has been selected.

#### Cost of materials

Besides resources, a project might also require materials. Their costs are added to a job when you order items for it. Whereas you use WBS or budget lines to specify and meet item demand, you usually replenish inventory via the supply chain functionality.

However, you can also fill in a job number on a purchase line to purchase items for a job but not add them to inventory. The items are then consumed immediately as you post their purchase.

#### Job Purchase Incl. Inventory

To decouple inventory management from item consumption, you need to turn on the Job Purchase Incl. Inventory Management toggle in Jobs Setup.

With the toggle turned on, items are added to inventory as you post their receipt but aren't consumed right away. You must use a job shipment to do so manually.



To link inventory items to budget lines, you can use the Create Purchase Document function on a WBS. Alternatively, you can create a purchase order during a planning run and select the Reorder Qty. replenishment method for each item you require.

Both methods will assign items to the job budget through order tracking entries and the Job No., Work Package, Phase Code, Task Code, and Step Code fields.

#### Manual and automated reordering

The requisition worksheet feature integrated into Microsoft Dynamics 365 Business Central provides you with a multitude of options for estimating item demand. Based on how you set up supply chain and inventory management, a requisition worksheet can then be used to calculate demand for an item and suggest a reorder quantity to you.

Requisition worksheets, however, typically ignore demand that goes directly to jobs. To change the behavior of the app and include project materials, you can use either the Requisition checkbox on budget lines or the Create Purchase Document function on a work breakdown structure. The drawback of the function is that it doesn't check stock or order levels but only informs about them.

As using both options for project management might lead to purchases being made twice, we recommend you stick to one of them for jobs. If a decision on this can't be made right away, you should at least clear the Requisition fields on budget lines from which you want to order manually.

#### Automated reorder process

Automated ordering uses the Requisition checkbox on WBS lines to budget demand for items ordered through worksheets. To automate ordering:

1. Choose the Search icon, enter Requisition Worksheets, and then choose the related link.
2. On the ribbon, choose Calculate Plan.
3. On the Options tab, fill in the Starting and Ending Date fields. The worksheet will ignore demand outside the planning window.
4. Fill in the Use Forecast field if you want a plan that already includes data about demand.
5. Fill in the Exclude Forecast Before field if you don't want to include demand created before a specified date.

A worksheet you create in this way will then include all items that you entered on the budget lines set up for a job, but only if the lines are part of an active WBS and if the Requisition checkbox was selected on all of them. All related WBS lines must be set to Open as well.

Be aware that a worksheet also retrieves the settings you made on item cards. If the item you want to reorder wasn't specified well enough there, demand for it might not be estimated correctly or even not at all.

To create a purchase order from a line on the requisition worksheet, choose Process > Carry Out Action Message. To print the order, turn on the Print Orders toggle.

#### Manual orders

To order items manually, you can create a requisition worksheet or a purchase order directly from a WBS. You can bypass automated ordering by opening a structure and choosing New > Create Purchase Document on the ribbon.

You can then use filters on the function. For Type (item, resource, or G/L account), you can specify a default value in Jobs Setup. In the Document Type field, you can choose between Quote, Order, or Requisition.

The vendor is specified in the Buy-from Vendor field on the lines. The vendor stored on the related item card is entered on the budget lines automatically but can still be changed here.

When you create orders manually, the system suggests as the reorder quantity the budgeted quantity minus the quantity already ordered or consumed. It also shows the quantities on the purchase quote, purchase order, and the requisition lines, the quantity received, and the usage quantity.

If you want to select individual lines for transfer to the purchase document, select the Copy to Purchase checkbox at the start of each line that you want to transfer.

To copy text from a budget line to the document, select the Copy Budget Text to Purch. checkbox on the relevant line.

Afterward, choose OK to create the purchase document.

### Purchase requests

A purchase request can be considered a pre-procurement document. You can use this feature—as a project lead—to send a request for items, G/L accounts, or external resources to your organization's procurement department.

#### Note

You need a valid license to work with purchase requests. You must also turn on the Purchase Request toggle in KUMAVISION Setup.

#### Note

This article describes the purchase request extension developed for KUMAVISION project365. For general information on how to set up requests and how they work, see the [Purchase Request](#) section.

Pseudo items as used on requests in KUMAVISION base (Booster) are currently not supported by job budget functionality.

### Jobs Setup

Besides general purchase request setup, you can specify a workflow code that will be used exclusively for requests in KUMAVISION project365.

1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
2. On the Manufacturing and Warehouse FastTab, fill in the following field:

Field	Description
	You must fill in this field if want to work with <a href="#">purchase request</a> .
Purchase Request Workflow Code	When you create a request from a job, the value in this field is then filled in automatically.
	For more information, see <a href="#">Create a Request</a> .

### Create a request

To create a purchase request for a project:

1. Open a job.
2. On the ribbon, choose Job > WBS.
3. Select the line for which you want to create a request.
4. On the ribbon, choose Create Purchase Document.
5. Choose Purchase Request in the Document Type field on the header.
6. Select the Copy to Purchase field on the budget lines that you want to transfer to a new request.

You can see in the Qty. on Purch. Request field on each line the quantity that has already been copied to purchase requests. The value in this field doesn't automatically reduce the quantity suggested for purchase, as requests aren't tied to standard procurement processes.

After selecting the relevant budget lines, choose OK to link the request to the current project and the request lines to the budget lines.

You can find a list of all requests associated with the job by choosing Related > Documents on the ribbon.

When the request is approved, the purchase lines created from it will be linked to the same budget lines as those included earlier.

### Transfer orders

You can move items from one location to another by creating a transfer order. These orders are mostly used if the replenishment method for inventory is set to Transfer.

In KUMAVISION project365, you can move an item on a job budget line from the default location set up in the system to a location that is assigned to the job (or, more specifically, to the line itself).

An item that is moved to a job location will be reserved for the line that it has been assigned to, as specified for the moved item entry in the Job No., Work Package Code, and Line Activity No. fields.

As a result, you can post consumption of the item only on this one budget line. See the following articles for more information on transfer orders:

- [Moving Items](#)
- [Transfer Inventory Between Locations](#)

#### Create a transfer

To create a transfer order:

1. Open a job.
2. On the ribbon, choose Job > WBS.
3. Select the line for which you want to create a transfer order.
4. On the ribbon, choose Create Transfer Document.
5. Select the Copy to Transfer field on the budget lines that you want to transfer to a new order.

The following fields on each line are of great import here.

Field	Description
Location Code	Shows the location specified on the job budget line. This location represents the target site for the transfer (=job location).
Transfer-from Code	Shows the place from where items should be moved.  This code is copied automatically from a stockkeeping unit if the item replenishment method has been set to Transfer. Otherwise, you need to choose a code manually.

What will be transferred is the Order Quantity on a line, which is calculated in the same way as for the Create Purchase Document action. The value in the Order Quantity field is only a suggestion and can be changed if necessary.

The other fields on the page used for the Create Transfer Document function can provide you with information about, for example, the quantities budgeted and consumed, and the following transfer-related values.

Field	Description
Outstd. Qty. on Transfer Order (Base)	Indicates the quantity that will remain after you posted the transfer.
Job Inventory (Base)	When a transfer order has been fully posted (shipped and received), shows the quantity moved as job inventory (that is, the quantity reserved for the selected job budget line).
General Job Inventory (Base)	Contrary to the previous field, shows all reserved inventory at the location. If necessary, you can delete a job reference from inventory (see Delete Item Entry Reference).
Inventory	Shows the total stock at the selected location, regardless of whether it has been reserved for jobs (=job inventory).

To get a quick overview of what items must be moved, the page only shows transfer-related budget lines. These lines must have:

1. A stockkeeping unit for this item and location with the Transfer replenishment method.
2. An item quantity that isn't part of a transfer order.

A budget line isn't suggested if the quantity specified on it is already part of a transfer order, has been moved to job inventory—as might be indicated in the Job Inventory (Base) field—or has been consumed (from inventory).

For an unfiltered view on all budget lines, you can turn on the following toggles on the Create Transfer Doc. From WBS page.

Toggle	Description
Show Items If No Order Qty.	Also shows items that have been fully consumed, have been moved, or are about to be moved so that you can request additional transfers, for example.
Show Items If No SKU	Also shows budget lines with items that have not been set up for transfer or have no stockkeeping units.

#### Take from job inventory

You can use the (Inventory) Take action to transfer available (unreserved) item inventory to budget lines. Inventory that has already been assigned to a project can be identified by the job number stored for the relevant item entry.

On budget lines, the function is called Inventory Take and takes out items for a selected line. On planning worksheets, you can only start the function for a line assigned to a job budget.

When you run the action, you'll see the job inventory available at line level and a list of all unreserved, positive, and unassigned item entries that are linked to the location specified on the line. On this list, you can then enter per item entry the quantity that you want to take out of inventory—provided it doesn't exceed the number of items left on the line. You can also clear the Job No. filter if you want to transfer items from other projects.

When you close the page, you're asked to confirm that you want to transfer the selected items. Choose Yes to move the quantities to job inventory and assign them directly to the project (or, more specifically, the budget line) through a job reference on the item entries created by the function.

Afterward, you need to use a job shipment to post consumption. Only then will the item be taken from the location and consumed.

#### Note

The result of the Transfer Order and Job Take functions is the same. Both create item entries that are directly linked to a budget line so that consumption can be posted only on that line.

The difference is that the Inventory Take function uses entries that are already at the location they're supposed to be (the location specified on the relevant budget line), whereas transfer orders retrieve items from another location.

#### Delete a reference to a job

When an item is moved via transfer order or taken out of inventory, the system creates at the target location (=line-specific job inventory) an item entry based on this transfer or removal and includes a reference to the relevant budget line (by filling in the Job No., Work Package Code, Phase Code, Task Code, Step Code, and Line Activity No. fields). The entry can then be viewed on the budget line in the Job Inventory (Base) field.

#### Note

The same is true for job purchases without immediate consumption (Job Purchase Incl. Inventory).

Should you determine that reserved job inventory is no longer needed:

1. Choose the Search icon, enter Item Ledger Entries, and then choose the related link.
2. Select the entry that you want to delete the job reference for.
3. On the ribbon, choose Actions > Functions > Delete Job Reference.

This will clear any job reference and make the inventory accessible again.

#### Instant Consumption Posting (purchases)

As explained under Job Purchase Incl. Inventory, purchased materials are consumed immediately if you turned on the toggle with the same name in Jobs Setup.

If the toggle is turned off, you must use the Post action on a purchase order for this.

When a receipt is posted, consumption is then posted as well. In inventory, a positive adjustment is made at the same time, and the item that you received is posted to the job instantaneously.

For correct posting, the Vendor Receipt No. and Vendor Invoice No. must be filled in, and the order must have been released.

## Internal documents

Internal documents can be used in project management to improve efficiency and transparency in billing.

### Job shipments

Job shipments—or, more specifically, shipping notes—provide your customers with a more detailed explanation of the goods and services that you deliver to them.

Often, the shipments made for a project aren't related to a sales order. But because they are included in the job budget, you can list the goods and services you shipped on special documents.

There are two methods for creating shipping notes. To create a note manually:

1. Go to your role center.
2. Choose Job Documents > Job Shipments at the top of the page.
3. On the ribbon, choose New, and fill in the lines.

The manual creation of shipping notes is very time consuming and prone to errors. We recommend that you only use this method for editing notes and instead create new notes by running the Create Job Shipment from a work breakdown structure.

This action shows you a list of all the budget lines of an active WBS. To choose one or more budget lines for transfer to the shipment, select their Copy to Job Shipment checkbox and choose OK.

You now see a message that the job shipment has been created, and you can open this shipping note immediately.

As with purchase and sales documents, standard and extended texts can be added at the beginning and the end of a note.

Posting a job shipment then creates time entries or, if a job also involves items, item picks and job usage. You can use the Shipment FastTab on the Job Shipments page to change the shipping values filled in by default.

On the same page, you can also turn on the No Usage Posting toggle so that usage for jobs isn't posted in the background. This is crucial if you want to use notes only as customer receipts, for example, if the items you bought for a job are consumed right away and aren't moved to inventory.

The toggle is turned on automatically when you create a note from a job so that the system doesn't pick items from inventory and posts consumption twice.

Shipping notes can be posted together with warehouse shipments. For this purpose, the notes must be released. A warehouse shipment can be created either by running the function with the same name from the Job Shipments page or from the shipping document itself.

### Warning

Warehouse shipments are only created for job shipment lines that contain a storage location code. The No Usage Posting toggle also needs to be turned off in this case.

### Job vendor shipments

The vendor shipment feature provides items to a supplier for completing a purchase order. It is used both to pick items from inventory and to send a shipping note to the supplier.

The items picked are then posted as consumption to the relevant job. Each shipment can be assigned to a vendor through a purchase order.

Job vendor shipments and job shipments are based on the same principles. Not only are their functions the same, but you can post either in conjunction with a warehouse shipment. Only the page for processing data has been adapted.

To create a job vendor shipment from a WBS, open a structure and choose Actions > Create Documents > Create Job Vendor Shipment on the ribbon.

To create a vendor shipment manually, you can again use the Job Documents menu. After you choose New, a blank shipment card opens, where you can enter a vendor's number and address. However, if you assign the shipment to a purchase order in the Purchase Order No. field on the card, the vendor is filled in automatically.

### Job ledger entries

Regardless of the method you choose to post project expenses, each posting that you make creates job ledger entries of type Usage. This includes posting times in a job journal, resource costs in purchasing, or lines on job shipments.

Job ledger entries are used to:

- Assign costs to a job.
- Bill by time and materials.
- Provide proof of performance.
- Analyze a project in cost control.
- Measure the progress of work completed.

See the following table for a more detailed explanation of the key fields found on the Job Ledger Entries page.



**Important fields**

<b>Field</b>	<b>Description</b>
Posting Date	Specifies the posting date of consumption, for example, as shown on a purchase document.
Performance Date	<p>Specifies when work was performed. Typically, this date is identical to the posting date.</p> <p>However, the dates might differ, for example, when you post hours for a previous month.</p>
Performance Resource No.	<p>Only filled in for posting the consumption of resource hours. Typically, the value in this and in the No. field are identical.</p> <p>But the numbers might differ, for example, if you're using Comsol for posting travel expenses. The expenses are then posted to dummy resources, whereas this field is used to assign a resource number to the person who took the business trip.</p>
Start Time End Time	Only filled in if usage is the result of hours being entered for a job with start and end times.
Entry Type	<p>Shows either Usage or Sale.</p> <p>Usage entries can come from a variety of sources (such as purchases, job journals, and job shipments) and are used to allocate costs to a job (unless they are part of credit memos or reversals).</p> <p>Entries of type Sale are created by posting invoices or credit memos. They reduce the costs of a job (unless they are part of credit memos or reversals).</p>
Document No.	<p>Specifies the number of the document that is assigned to the entry.</p> <p>Typically, this number originates from a posted document, such as a sales or purchase invoice, but it might also have been retrieved from a posted job journal line.</p> <p>You can configure the display of document numbers on journal lines by using two fields in Jobs Setup. For more information, see <a href="#">Project Setup</a>.</p>
Job No.	Specifies the number of the job that the ledger entry was posted to.
Type	Specifies the type of usage or revenue, resource, item, or G/L account stored with the ledger entry.
No.	Shows the number linked to the usage or revenue, resource, item, or G/L account stored with the ledger entry.
Work Package Code	You always post (usage or revenue) to a job on the lines of an active WBS.

Field	Description
	The ledger entry is linked to a WBS line through the job number and work package, as well as phase, task, and step code fields.
Line Activity No.	Specifies the number of a budget line activity if you posted to the job at budget line level.
Unit of Measure Code	Indicates the unit of measure in which usage or revenue is shown.
Quantity	For time and materials entries, specifies the usage quantity.
	For revenues, the value in this field is copied from the associated sales invoice line.
Unit Cost	For time and materials entries, specifies the unit cost of the usage entry.
	For revenues, the unit cost is not relevant so that the field shows a value based on the Type and No. fields on the sales invoice line.
	<b>Note</b> Job values are always measured in local currency, with the unit cost equaling the amount in the Total Cost (LCY) field. It does not matter in this context in which currency project usage was posted or if an invoice currency has been specified. KUMAVISION project365 does not support the use of another currency in planning.
Total Cost	For time and materials entries, specifies the cost of project usage as an amount.
	For revenues, the cost amount is not relevant so that the field shows a value based on the Type and No. fields on the sales invoice line.
Billing Type	Shows the billing type of the associated WBS line.
	If you change the billing type on that line, the new type will also be copied here.
Billable	Indicates if the job ledger entry can be billed. Only used for time and materials entries.
	If the field has not been selected for a time and materials entry, the entry will not be included when you bill the job.
	This is in contrast to a ledger entry where the field has been selected but the invoice quantity is 0 see <a href="#">(here)</a> .
Invoice Unit of Measure Code	For time and materials entries, specifies the unit that should be used to bill the entry. In the case of resources, the unit to be used depends on the work type.
	For revenues, indicates the unit in which the invoice line was posted.

Field	Description
	Only used for time and materials entries. Specifies the quantity that should be billed.
Invoice Qty.	<p>The value in this field might differ from the value in the standard Qty. field.</p> <p>An entry with no invoice quantity but the Billable field selected will be copied as far as the proof of performance document, for example, to show customers free-of-charge services.</p>
Unit Price	<p>For time and materials entries, specifies the sales price for the entry. If no sales order is linked, this price will also be suggested for billing.</p> <p>For revenues, shows the unit price from the sales invoice line.</p> <p><b>Note</b></p> <p>In contrast to unit costs, unit prices can be displayed in a job-specific invoice currency. The price in local currency is then shown in the Unit Price (LCY) field.</p> <p>You should always bill entries in the invoice currency specified for the job.</p>
Line Amount	<p>For time and materials entries, shows the result of multiplying the invoice quantity with the unit price.</p> <p>For revenues, shows the quantity times the unit price.</p>
Line Discount Amount	<p>For time and materials entries, shows the line discount that will be used in billing.</p> <p>For revenues, shows the line discount specified on the associated invoice line.</p>
Line Discount %	<p>For time and materials entries, shows (in percent) the line discount that will be used in billing.</p> <p>For revenues, the field shows (in percent) the line discount specified on the associated invoice line.</p>
Line Amount (LCY)	Shows the result of multiplying the unit price with the line discount.
Invoice Currency Code	<p>Indicates the currency in which the job should be billed.</p> <p>Sales amounts stored with job ledger entries are shown in both local and invoice currencies.</p>
Invoice Currency Factor	Copied from the job card. Indicates the factor used to convert the unit price in local currency to the price in the invoice currency.

Field	Description
Invoice Entry	<p>Only used for time and materials entries.</p> <p>When a job ledger entry is being prepared for billing (which means the invoice has not been posted yet), the system assigns an invoice entry to the ledger entry and the sales (order or invoice) line. This prevents job ledger entries from being billed twice.</p> <p>Invoice entries have entry numbers identical to job ledger entries and can be printed on preliminary proof of performance documents. For a more detailed explanation, see <a href="#">Billings</a>.</p>
Posted Invoice Entry	<p>Only used for time and materials entries.</p> <p>When you post a sales invoice, the system copies the invoice entries created for it along with other data to the newly posted document.</p> <p>This then closes the assigned time and materials entries so that they can no longer be copied to another invoice.</p> <p>A posted invoice entry is the link between a time and materials entry and a revenue entry. It has the same entry number as the job ledger entry and can be printed on proof of performance documents. For a more detailed explanation, see <a href="#">Billings</a>.</p>
Applies-to Sales	<p>Only used for time and materials entries.</p> <p>Shows for an entry of type Sale how many time and materials entries will be billed with it. The time and materials entries are connected to the sales area through posted invoice entries.</p>
Sales Adjmt. Qty.	<p>Only used for time and materials entries.</p> <p>Shows for an entry of type Sale the total time and materials quantity that will be billed with it. The time and materials entries are connected to the sales area through posted invoice entries.</p>
Purch. Invoice Entry	<p>Indicates for entries of type Usage linked to external resources (with time postings) if the entries were prepared for billing on an unposted purchase invoice. For more information, see <a href="#">Purchase Invoices and Invoice Entries</a>.</p>
Posted Purch. Invoice Entry	<p>Indicates for entries of type Usage linked to external resources (with time postings) if the entries were billed with a purchase invoice. For more information, see <a href="#">Purchase Invoices and Invoice Entries</a>.</p>
Add. Purch. Entry Link	<p>Contains time and materials entries from a purchase invoice created for external resources (with time postings) if the quantities on the invoice differ from those entered in time recording.</p>

Field	Description
	The new values are then posted to the job. For more information, see <a href="#">Purchase Invoices and Invoice Entries</a> .
Add. Purch. Value Entry Link	Contains time and materials entries from a purchase invoice created for external resources (with time postings) if the values on the invoice differ from those entered in time recording.  The new values are then posted to the job. For more information, see <a href="#">Purchase Invoices and Invoice Entries</a> .
Ledger Entry No.	Shows the usage entries, that is, the resource, item, or G/L account entries linked to the job ledger entry.
Entry No.	Shows the (unique) number of the ledger entry.
Time Entry No.	Shows an entry number if the ledger entry was created by retrieving and posting a time entry in the job journal.
WP Modified [multiple fields]	Indicates for an entry whether, when, and by whom the work package entered for the project was changed. Only used for unbilled time and materials entries.
Value Correction	Belated corrective entry from a purchase invoice.  This entry is created for an external resource if a purchase receipt was posted with a differing unit cost. The correction concerns only the unit cost, not the quantity or unit price.
Contact no.	Description to follow.

#### Actions

The following functions can be run from the Job Ledger Entries page.

#### Edit Entries

What all ledger entries in Microsoft Dynamics 365 Business Central have in common is that once created, they can be changed only to a limited extent. This is also true for job ledger entries.

For this function to work, the job ledger entry that it is used for must be of type Usage and cannot have been billed already (that is, the Invoiced field cannot be selected). Entries that will or have been reversed cannot be changed.

Only the following fields stored with an entry can be edited at all:

- Description and Description 2
- Invoice Qty.
- Billable
- Unit Price
- Line Discount %
- Line Activity No. *(for the same work package or WBS line by deleting the line activity filter on the Budget Line Activities page)*

Most the of these will affect billing. But to correct costs specifically, you must reverse the job ledger entry and repost it with the correct values.

### Apply Entries

Assigns time and materials entries to an existing entry of type Sale. This will close the entries so that they cannot be billed again. You can run this action after selecting either entry, which affects whether the system will suggest time and materials or revenue entries for application.

#### Note

When you bill by time and materials, posted invoice entries are used for application automatically. The business logic of KUMAVISION project365 employs this method for time and materials entries only, although you can do the same manually for other billing types.

### Applied Entries

Shows the applied entries linked to the job ledger entry.

You can run this action from time and materials or from revenue entries. Your choice determines if you're shown a revenue entry closing time and materials entries or time and materials entries applied to a revenue entry.

### Change Work Package

Changes the work package assigned to a time and materials entry.

This function provides you with an easy way to correct postings in the system. The change in work packages—and potentially work types—might also lead to repricing.

You can only change a time and materials entry before the entry is billed. You cannot use this function on revenue entries. However, you can use the Change Work Package Multiple option on the ribbon if you want to select multiple time and materials entries at the same time.

### Suggest Account Transfer

The Suggest Account Transfer function goes a step further than the previous action.

When a time and materials entry is selected and the function is run, the entry is copied to a negative posting line on the job journal for cancellation. At the same time, the action retrieves a new target job and a WBS line therein. This results in two lines that must be posted in the job journal.

## Billings

### Overview

The articles in this section focus on how you invoice jobs and their work packages. All project work can be billed via direct invoices or sales orders.

### Create sales quotes and orders

Sales documents are the foundation for customer-centered business transactions.

To transfer job sales to a quote or an order, open a work breakdown structure and choose **New > Create Sales Document** on the ribbon.

On each WBS line, you can select in the **Copy to Sales Doc.** field if you want to copy the line itself—as representing the total of detailed budgeting—or transfer individual budget lines and their prices.

You will need to decide this on a case-by-case basis. For example, some customers might not require invoices that describe more than a work package, whereas others might need to be billed for individual components or partial services.

If budget lines are transferred to a sales document, items stored on them are often copied automatically. Resources and resource groups, however, must be converted to billing-neutral resources before transfer.

If a WBS line is copied instead, the system will create a sales line that contains the billing base and number of the relevant work package. All sales documents are generated from customer information stored for a job. You can find this information in the **sell-to**, **bill-to**, **ship-to**, and **payment terms** fields on a job card.

You can add other customers to WBS—and budget—lines based on what option you chose in the **Copy to Sales Doc.** field on a WBS line. These customers then get their own documents so that you can offer and bill various kinds of services to different companies. Every customer entered this way will be included in invoice suggestions.

When you run the **Create Sales Document** function, you can also specify a document number manually if necessary (and possible for the number series).

Additionally, you can use the function to assign position numbers, calculate totaling lines, or release the newly created document immediately.

Furthermore, you can update an existing quote instead of creating a new document. In this case, the quotation lines are recreated, and you can archive the existing ones before the update.

### Copy attachments to sales documents

Attachments available for a job can be copied to a new sales document by selecting the **Copy from Job to Sales** checkbox on the **Attached Documents** page. To open the page, select the hyperlink for attachments on the right-hand side of a job card.



#### Link a sales document to a WBS

There is another way in Microsoft Dynamics 365 Business Central to create and link sales documents. Many of these documents are generated before a project—and, consequently, a WBS—is set up. You can, however, link to them from a new work breakdown structure as described in the following.

1. Open a sales document.
2. Select a sales line or multiple sales lines.
3. On the ribbon, choose Line > Functions > Get WP For Current Line or Get WP for Selected Lines.

Based on what you chose in the Copy to Sales Doc. field, the function then creates a link at the work package or budget line level—or no link at all.

This means that what you can choose might vary. Sometimes, both WBS and budget lines might show up. However, a WBS line where values are copied at the budget line level cannot be linked to a line at the work package level and vice versa.

When you run an action to get work packages, all fields needed to set up the link to a sales line or to multiple sales lines are filled in automatically. This includes the Work Package Code field.

Some fields are also checked for discrepancies, such as differences in work types or pricing. If a discrepancy is found, you are asked to confirm that you want to copy the data.

A link can only be established if you entered a resource, an item, or a G/L account in the Type field on the sales line.

If you want to create an order from scratch, we recommend that you use the Create Sales Document action instead.

#### Link opportunities to jobs

##### Turn quotes into orders

To make an order out of a sales quote:

1. Open the job assigned to the relevant quote.
2. Choose Job > WBS Incl. Budget View.
3. Choose Create Sales Document on the ribbon.

This deletes the quote, although the document is archived if you turned on the Archive Quotes toggle in Sales & Receivables Setup.

A job that is still in the Quote status can be changed to Open when you run the function. The status on WBS lines referencing the quote then changes to Open as well.

If the quote was sent to a contact, not a customer, the contact is converted to a customer based on the customer template code that was used on the quote. The same customer is also entered on the job if it still contains the old contact information.

You can also copy only parts of a quote to an order.

1. Open the relevant quote.
2. Select the Ordered field on the lines you want to copy.
3. Choose Process > Make Order on the ribbon and select Only Lines on Ordered instead of Complete Quote.

The lines you didn't select will remain in the quote so that they can be copied to another order later.

Alternatively, you can run the Attach to Sales Order (Job) action. This function doesn't create a new order but adds lines ordered from the quote (or the entire quote) to an order already available for the job and linked to it on the header.

#### Print Line and Print on Invoice

Although you might not want to bill everything on an order at once, the system typically copies the content of the entire document to a posted invoice. However, you can prevent a posted invoice line with a quantity of 0 from showing up on printouts by clearing its Print Line checkbox, which you can select or clear manually even after you posted the invoice.

You can also use the Print on Invoice field on the unposted lines of a document, such as a sales order or invoice, to exclude from printing lines that are not part of the current bill before posting them. The checkbox is selected by default and can only be cleared on lines where the Qty. to Invoice field is set to 0.

What ultimately goes on a printout is specified on each posted document in the Print Line checkbox. The Print on Invoice field, on the other hand, gives you the option to specify, prior to posting, which lines you want printed.

#### Update sales documents

Sales documents and job budgets might change frequently, for example, when you're still negotiating with a customer about the price of a job. All you need to do then is to open the work breakdown structure to recalculate prices and create a new offer from a previous quote.

The process might get more complicated when a sales order is involved, as multiple sales lines might have been shipped or invoiced in the meantime—and can no longer be deleted. In that case, the easiest solution would be to make minor changes to the sales document and run a separate function to synchronize data with the job.

## Set up synchronization

1. Choose the search icon, enter Jobs Setup, and then choose the related link.
2. Fill in the fields as described in the following table.

Field	Description
Sales Job Budget Sync. Active	Turn on this toggle if you want budgets and jobs to be synchronized automatically.
	Choose what happens if the system encounters an error during synchronization.
	<p><b>Cancel</b></p> <p>The process is stopped, and no changes are made to the sales line. An error message pops up.</p>
Sales Job Budget Sync. Error Handling	<p>Select this option if you want sales to be as much in synch with jobs as possible. Errors are then corrected within jobs only.</p> <p><b>Ask</b></p> <p>You see an explanation of the error and are asked if you want to continue with the change on the sales line. Choose No if you want to keep the line as is. Choose Yes if you want to change the sales line but forgo synchronization with the job. The error is logged.</p> <p><b>Notify</b></p> <p>You are informed about the problem, and the change is made on the sales line but isn't copied to the job. At the same time, the error is logged.</p>
Sales Job Budget Sync. Notification	With the toggle turned on, you get a message that says the job was successfully synchronized. With the toggle turned off, no feedback is given—except for a log entry that you can open later.

## Specify synchronization data

You then need to specify in the Sales Doc. Job Budget Change Matrix what you want to synchronize and how. For each document type, you can specify what you want the program to do when you run synchronization.

- **Never**  
Sales lines aren't synchronized with the job; no messages are shown on screen either.
- **Question**  
You are asked if you want to make the change. If you choose No, your reply will be logged.
- **Always**  
Sales line changes immediately trigger the update function.

The matrix also shows which kind of changes can be made:

- Delete a sales line
- Enter a new description on a sales line
- Alter a sales price (including line discounts)
- Reduce or increase quantities on a line

#### Requirements

- The relevant sales line must be related to an active work breakdown structure.
- The job mustn't be blocked.
- WBS lines mustn't be blocked (even at the budget line level).
- A plausibility check for type and No. has been performed at the budget line level.

- **In the case of line deletion**

Nothing must be posted to the line in the job.

- **In the case of price changes**

The invoice currency must be identical to the currency on the sales document. You can ensure this by using the Create Sales Document function on the WBS.

The unit stored on the sales line must also be identical to the unit used for the job. You can again ensure this by running the Create Sales Document function.

- **In the case of quantity changes**

The quantity budgeted for the job must be the same as the quantity you plan to invoice. Otherwise, there would be no way to know whether you want to keep or offset the difference, set up a fixed usage/ consumption quantity, or change the invoice quantity.]

- **In the case of quantity changes on budget lines** The unit of measure stored on budget lines must be identical to the unit shown on the sales document. To ensure this, run the Create Sales Document function from the WBS. Quantity changes on WBS lines require the same type of unit for usage/ consumption and billing.

- **In the case of quantity reductions on budget lines**

Reductions can only be equal to or lower than what has already been consumed. The quantity consumed consists of actual consumption, the in-stock quantity on the relevant budget line, and the quantity remaining on the associated purchase order.

- **In the case of quantity changes on WBS lines**

A quantity change on a WBS line can only be made if no budget lines exist. Else, it would be unclear for what purpose the WBS line was changed.

What can be synchronized Sales Document Types

- Quote
- Order

#### Changes

- Deleting sales lines
- Replacing descriptions
- Altering prices or line discounts
- Reducing or increasing quantities

## Job Levels

- WBS lines of type work package
- Budget lines of any type

## What cannot be synchronized

- Insertions of new sales lines, as it would be unclear at which level. Also, to set up a new sales line, you would need to assign a WBS line or a work package.
- Deletions of sales documents, based on the assumption that you want to create new documents from a new job budget, not remove an entire job.
- Changes in structural elements, such as Begin-Total and End-Total lines.
- Insertions of new sales lines, as it would be unclear at which level. Also, to set up a new sales line, you would need to assign a WBS line or a work package.
- Deletions of sales documents, based on the assumption that you want to create new documents from a new job budget, not remove an entire job.
- Changes in structural elements, such as Begin-Total and End-Total lines.

## Log

The log shows successful and failed synchronization attempts, plus those canceled by a user. To see the log, open a sales document, a job, or a WBS and choose Related > Job > Sales Doc. Job Budget Change Log on the ribbon.

## Invoice suggestions

Invoice suggestions include all the data required to bill customers for expenses you incurred while working on jobs for them. However, before you can make the most of these suggestions, you need to set them up properly.

A suggestion is always created from an active work breakdown structure. Each line of the WBS is processed according a billing type. You can select the Suspend Billing checkbox to block lines temporarily from appearing on an invoice.

## Set up suggestions

## Suggestion templates

To be able to use the invoice suggestion feature, you need at least one template:

1. Choose the Search icon, enter Invoice Suggestion Templates, and then choose the related link.
2. Choose New on the ribbon or fill in a line to create a new template.

We recommend that you set up a separate template for every project manager who performs billing. This ensures that only those working in a certain business unit can bill jobs assigned to that unit.

## Job data

An invoice suggestion requires an active WBS, and WBS lines of type work package require a billing type. For more information about billing types, (see [Work Breakdown Structure](#)).

If the Billing Type field is left blank, a job is treated the same as if the field were set to No Billing. A type must be chosen on the WBS; the field found on suggestions is used for informational purposes only.

When you create a suggestion, the system determines for each line of an active WBS if the line has already been billed. For time and materials jobs, this means a check on unbilled job ledger entries. For fixed-price jobs, the sales budget needs to be invoiced in full. Each expense left to bill is then included in the suggestion, together with a link to the WBS line on which the expense is stored.

In the Rem. Total Price Calc. Base field on WBS lines, you can specify what you want to see in the Unbilled Work field. This field is used for informational purposes only; it has no impact on the suggestion.

### Job ledger entries

Job ledger entries are the basis for billing time and materials jobs. They indicate job usage and tell you how much of that usage is billed to customers. They also tell you if you're still in the middle of billing a customer or have posted a final invoice.

You can adjust the quantity that you want to bill during various stages of a job. For example, resources can adjust the invoice quantity down from the total number of hours worked as early as creating job time entries.

When these entries are then copied to the job ledger, the project manager can again revise the quantity.

The invoice quantity can also be changed for job ledger entries themselves provided they haven't been billed or are already part of an invoice suggestion.

A quantity change can even be made on the invoice suggestion. However, if there is more to adjust than the quantity for billing, a function will need to be run.

To specify an invoice unit of measure that differs from the unit for reporting project progress, use the Work Type field on WBS lines. This way, times can be recorded in hours but billed in days.

You can specify conversions from one unit to another in the Units of Measure table so that values are calculated automatically when you post progress. If, for example, job ledger entries show the hours spent on a job, but the effort is typically billed per day, the entered quantity will be converted to the relevant unit for billing.

### Sales orders

Invoicing a WBS line usually requires a sales line. Because every WBS line contains a unique combination of work package, and phase, task, and step codes, these fields (as well as the Job No.) are also used to search for the sales line.

When you invoice time and materials jobs, the budget remaining on a sales line must be large enough to bill and sales and job values, such as the invoice unit of measure, need to match. For example, if a quantity on a WBS line is given in hours, the quantity on the related sales line cannot be stated in pieces.

#### Open a suggestion

1. Choose the Search icon, enter Invoice Suggestion, and then choose the related link.
2. Select a name to see the latest suggestions. These are deleted automatically when you choose the Create Suggestion Lines action on the ribbon.
3. Set filters if you want to create several types of suggestions. For example, you can use the Customer No. to filter for jobs related to a certain customer or the Person Responsible filter to see only jobs managed by a specific project lead.

**Suggestion functions and fields**

Invoice suggestions have the following multi-level structure.

**Level 0**

The level at which suggestions are grouped by customer.

**Level 1**

The source type level, where suggestions for customers are grouped according to whether they originated with (sales and purchase) orders or jobs. The current focus of this level is on suggestions for jobs. Suggestions for order lines represent unbilled shipments and are used for informational purposes only.

**Level 2**

This level contains the jobs for which suggestions are available.

**Level 3**

The fixed-price level. Based on the billing level, you see a WBS line or budget lines. For time and materials jobs, only WBS lines can be found here.

**Level 4**

This level is for time and materials jobs only. It contains the job ledger entries that have been suggested for billing. These can be changed before creating an invoice. For example, you might still want to adjust the invoice quantity.

The most important fields used on suggestions are described in the following table.



Field	Description
Customer No.	Shows the number of the customer whom you want to bill.
Name	Describes the relevant invoice suggestion level.
Phase Code Task Code Step Code	The contents of these fields are copied from the WBS or job ledger entry.
Line Activity No.	Shows the activity number stored on the budget line. The number is copied from the WBS or the job ledger entries. This field is only filled in if you plan, post, and bill at budget line level.
Billing Type	Copied from the WBS line. The options are (blank), Time & Materials, Fixed, No Billing, Milestone, POC, TE Flat Rate (that is, if you installed the Comsol Travel Expenses app), and Package Invoice.
Posting Date	Shows the posting date of the job ledger entry.
Performance Date	<p>The date of performance might differ from the posting date, as there are some situations in which services that were rendered the previous month can no longer be posted to that month.</p> <p><b>Example</b> Services were rendered in December, making 12/15 the date of performance but are posted in January (on 01/01) because the posting period for the prior month has ended.</p> <p>As a result, the system will use the date given in this field—and not the posting date—for the Create Suggestion Lines action.</p>
Type	Specifies whether you want to create the invoice for a resource, an item, or a G/L account. The (blank) option is for lines structuring a view.
No.	Shows the number associated with the Type field.
Description	This field is copied from a job, a WBS line, or a job ledger entry based on the level chosen for the suggestion. For resources, it shows a description of activities and for items, the item text.
Quantity	Shows, based on the level chosen for the suggestion, the quantity stored for work packages or job ledger entries. More specifically, the field indicates the quantity budgeted on the WBS line and the quantity reported as finished.
Quantity Invoiced	Shows the (WBS line or job ledger entry) quantity that has been billed so far.
Unit Price	Shows, based on the level chosen for the suggestion, the unit price from the WBS line or job ledger entry. This price is updated from the related sales line. If the

Field	Description
	price stored with the job ledger entry or job budget is different from the price on the sales order, the price stored on the order takes priority.
Total Price	Shows the result of Quantity * Unit Price.
Amount Invoiced	Shows the (WBS line or job ledger entry) amount that has been billed so far.
Remaining Amt. to Cap	Shows the sales amount that remains on the WBS line and is still available for billing. This field is shown at the WBS line level only.
Invoice Qty.	Shows the billable quantity from the job ledger entry. The value in this field can be changed at any time. If you invoice at the job ledger entry level (typical of time and materials jobs), you can change this quantity for individual entries. If you bill at WBS level (typical of fixed-price jobs), you can change it on the WBS line copied to the suggestion.
Line Base Amount	Shows the result of Unit Price * Invoice Qty. Describes the non-discounted invoice total.
Line Discount %	Shows the line discount in percent, copied from the related sales line. You can enter a discount manually if the suggestion line is not linked to a sales order.
Line Discount Amount	Shows the result of Line Base Amount * Line Discount %. This field cannot be changed.
Total Line Amount	Shows the result of Invoice Qty. * Unit Price. This field is the basis for creating an invoice.
Cross-Ref. Sales Order	Shows the sales order related to the suggestion line.
Cross-Ref. Sales Line	Shows the sales line related to the suggestion line.
Invoice Error Code	Shows a code if an error occurs when the suggestion is processed.
Invoice Error Text	Shows a message that explains the data processing error. The error might prevent the line from being billed.
Note Text	Shows notes that are useful for processing the suggestion. The related line can still be billed.
Prepare for Billing	Indicates a special billing procedure. If you select this checkbox, the sales order related to the suggestion is prepared for billing but isn't posted. The system then creates unposted invoice entries and assigns these entries to sales lines. On the order, the Qty. to Ship and Qty. to Invoice fields are filled in.

Field	Description
Invoice on Order	Indicates a special billing procedure. Select this checkbox to post highlighted sales lines as shipped and copy them to a new invoice for billing. The system then creates unposted invoice entries.
Direct Invoice	Select this checkbox to create a direct invoice if no related sales line has been found. You cannot use this function to create a shipment for a sales line.

Based on the level chosen for a suggestion, suggestion lines store information about a WBS line or a job ledger entry. For a WBS line, the data includes:

- Budget values (Quantity, Unit Price, and Total Price)
- Entries billed (Quantity Invoiced and Amount Invoiced)
- The remaining budget amount (Remaining Total Price)
- Current billing information (Invoice Qty., Invoice Total)—for fixed-price entries
- The assigned sales line (Sales Order and Sales Line Cross-References)

The Quantity Invoiced is the result of dividing the Amount Invoiced by the Unit Price. This might be a theoretical quantity because the invoiced amount is determined based on the sales job ledger entries related to a WBS line.

The same is true for the Invoice Qty., the result of dividing the remaining budget (remaining total price) by the unit price. The quantity at the WBS line level is filled in only for fixed-price entries. For time and materials jobs, work is billed at the job ledger entry level.

For a job ledger entry, the data stored includes:

- Consumption/usage values (Quantity, Unit Price, and Total Price)
- Current billing information (Invoice Qty. and Amount Invoiced)—for time and materials entries

The invoice quantity can be used to determine the quantity you want to bill to the customer for time and materials jobs. The following formula applies: Invoice Qty. \* Unit Price = Total Price (of an entry).

For a job ledger entry, a FactBox lists the type (that is, internal or external) and the contents of comments made. External comments—that is, those for which the Print on Customer Doc. checkbox is selected—can later be printed on proof of performance documents.

### Actions Create Suggestion Lines

Creates new invoice suggestions. You can find the function on the ribbon itself or by choosing Actions.

#### Note

Running this function will delete the lines on the suggestion you're editing.

The function, however, will not create lines for jobs that have been suggested elsewhere. You'll see a message if a job is already part of another suggestion.

### Comments

Shows detailed information about the current invoice suggestion, including whether it has an invoice currency different from the currency used for the job ledger entries, the payment plan, or the sales order.

The Comments page also shows employees who tried to bill jobs but couldn't. For the comments to appear, you must turn on the Check Team at Time Posting toggle in Jobs Setup.

#### Close Entries before Billing

Closes job ledger entries without making them part of an invoice. This is only useful for time and materials entries that aren't billed or visible to customers.

#### Edit Job Ledger Entry

Choose this action if you want to change a job ledger entry related to the suggestion. For more information, (see [Edit Ledger Entries](#))

#### Switch Order

Replaces an order (or order line) that was assigned automatically with another order (or order line). The job number, work package, and phase, task, and step codes (that is, the WBS line relations) must be identical.

This function is only intended for service (resource) lines invoiced based on time and materials. The function filters for activities posted so that the time spent on a budget activity cannot be billed to a sales line related to another activity. In short, you need a neutral sales line or one with the same line activity number.

#### Delete Sales Order Ref.

Deletes a relation automatically entered by the suggestion so that you can include a job ledger entry in a direct invoice.

#### Increase Sales Line

Raises the order quantity for entries that are billed based on time and materials and don't have enough quantity left on a certain sales line.

By raising the quantity, you can use the line to invoice the entire project effort.

When you run the function, you see a page that shows the current order quantity, the order amount that remains, and the invoice quantity stored on the sales line. You can then overwrite the value in the Order Quantity field.

If an order has already been released, you can choose Open Order to reset the order status. When you exit the dialog, the order is released again.

#### Report by Sales Order

Shows you the result of billing per sales order, that is, the page provides an overview of what remains of an order after the current billing cycle.

#### Job Documents

Shows the documents related to a job.

#### Create Invoices

Creates invoices and readies them for posting or prepares orders for billing. This process generates unposted invoice entries.

When you run the function, all unbilled job ledger entries are entered in a new invoice suggestion. A suggestion should be as specific as possible to avoid time-consuming corrections; this also means that ledger entries should be prepared for billing in time.

Key job ledger fields related to suggestions are described in the following table.

Field	Description
	<p>Indicates what billing type was chosen on the related WBS line.</p> <ul style="list-style-type: none"> <li>• Not selected if the type is No Billing.</li> <li>• Selected if the type is Fixed (Price).</li> <li>• Typically selected if the type is Time &amp; Materials, although the field can be cleared, for example, by the project manager.</li> </ul>
Billable	<p>The content of this field is transferred from the Budget Line Activity Card when you post times for activities.</p> <p>Only job ledger entries for which this checkbox is selected are copied to a suggestion.</p> <p>Billable entries are also copied if the invoice quantity is 0 so that you can close time and materials entries that could be billed but aren't for some reason and display them on an invoice. This might be useful, for example, if the entries originate with a goodwill policy.</p>
Invoice Qty.	<p>As explained, this field doesn't play a role in what is copied to invoice suggestions. But it shows for how much a customer is billed (only applies to time and materials entries).</p>
Invoiced	<p>This field is only relevant to time and materials entries. If it is selected, the entries have already been invoiced.</p>
	<p>These fields show unposted and posted (that is, final) invoice entries. Unposted entries are used to block job ledger entries that are copied from suggestions to unposted sales invoices or orders you want to bill.</p>
Invoice Entry Posted	<p>After billing, that is, when you posted the relevant document, the unposted entries are deleted, and posted entries take their place.</p>
Invoice Entry	<p>If either field is filled in, an associated job ledger entry will be excluded from new invoice suggestions.</p> <p>When invoice entries are posted, the job ledger entries related to them are considered settled. That remains true even if—for example, as a gesture of goodwill—you invoiced only part of the total quantity.</p>

Related Show WBS

Opens the work breakdown structure of the job that you want to bill.

#### Card

Opens the card of a resource, an item, or a G/L account depending on what type of job usage or consumption is shown on the suggestion line.

#### Show Job Ledger Entry

Shows the job ledger entry from which the selected suggestion line was created.

#### Job Ledger Comment

Shows a note about the job ledger entry (if one is available).

#### Edit suggestions

When you open a suggestion, you can change certain information yet again.

#### Change quantity

You can, for example, change the Invoice Qty. field of a job ledger entry. This field can be revised multiple times throughout the billing process.

You don't need to do more than go to the field and replace its value. If you set the quantity to 0, the job ledger entry is still suggested for posting. If you then send a detailed invoice to a customer, the line will show up on the invoice as well.

#### Edit ledger entries

To change other billing-related fields besides the Invoice Qty. (the work package especially):

1. Open an invoice suggestion and select a line.
2. Choose Actions > Edit Job Ledger Entry on the ribbon.
3. You are then asked if you want to edit the job ledger entry related to the line and have the entry included in the suggestion again. Choose Yes.

You can now edit the fields described in the following table.

Field	Description
Description	Shows a description. You can change this description at any time.
Line Activity No.	Shows the number of a line activity. You can change that number here as well.
Invoice Qty.	Shows the invoice quantity. You can adjust the quantity at any time.
Sales Price	Shows the sales price. You might want to change the price, for example, because of new customer agreements. However, if the price shown in this field is different from the one on the sales order, the system will use the price on the related sales line for billing.
Billable	At this stage, a job ledger entry can still be specified as non-billable. This will exclude the entry from invoices and prevent application. If the entry is set to No Billing, it will also have an invoice quantity of 0.

To replace the work package, choose Change Work Package on the ribbon. You are then asked to confirm your choice.

This is because changing the package might alter the unit cost (as the new package might have another work type), the job account (used to control costs), or any of the dimensions. After you assigned a new package, the WP Modified By/On/At fields are filled in automatically.

Choose OK to close the page. Changes in description, invoice quantity, or unit price are then copied to the relevant suggestion line.

To delete a job ledger entry, clear the Billable checkbox on a line. The next time you open the suggestion, the entry will be gone. If you cleared the checkbox by mistake, reopen the entry on the Job Ledger Entries page to correct the error.

In fact, all job ledger fields that you can edit on a suggestion can also be changed on this page. When you swap out a work package here, you see a message that the line referencing the old package on the suggestion will be deleted.

As changes to job ledger entries might also change WBS line relations and package positions on a suggestion, you then need to recreate the invoice suggestion to copy entries with changed work packages to the right lines.

If you open an entry via the Edit Job Ledger Entry function but choose Cancel to exit the page, you see a message that the line related to the entry has been deleted from the suggestion. You then need to recreate the suggestion if you want to include the entry again.

#### Delete individual lines / Delete level

You can use Ctrl+Del to delete lines from a suggestion at the job ledger entry level. If you then reopen the suggestion, the lines are again suggested for billing because the related entries are still open.

If you want to delete entries at a higher level—for example, to remove an entire job— use the Delete Level function.

#### Close entries before billing

Excludes from consideration entries that aren't billed and won't ever be with the help of an invoice suggestion.

This means that these entries will no longer show up when you reopen a suggestion.

This action has the same effect as if you manually cleared the Billable checkbox for job ledger entries. If you cleared a checkbox by mistake, open the relevant entry and re-select the checkbox.

#### Billing procedures

On each suggestion line, you can choose one of three checkboxes to specify how you want a line copied to invoices. For these options to be available, the line must meet certain requirements as described in the following.

Entries that you want to bill with the help of sales lines need to have the Prepare for Billing or Invoice on Order checkbox selected on the related suggestion lines. Based on how you plan to bill the job, you need to select the checkbox at the fixed-price or time and materials level.

#### Prepare for Billing Fixed price

If you want to bill an entry based on a fixed job price, select Prepare for Billing at the fixed-price level. Whether job ledger entries already exist doesn't matter. Entries can be billed (even partially) at any given time. The only requirement is for a sales line to be linked to the relevant WBS line.

#### Time and materials

Select the Prepare for Billing checkbox at the job ledger entry level to focus on actual job usage. Selecting or clearing the field on work package lines also selects or clears the same field on related job ledger entries automatically.

However, the checkboxes on work package lines aren't relevant to billing; only those at the job ledger entry level are.

#### Note

Billing time and materials jobs requires that a suitable sales line be found. The billing type on the line must match the type specified for the work package. Typically, a billing resource is used for this purpose.

A resource's invoice unit must also match the unit of measure stored for the relevant time and materials entries. This ensures that no item is billed on a sales line that contains a quote for resource working hours. Additionally, the line quantity cannot be 1, as this is a common value for flat rate payments.

#### Invoice error codes



Lines that show an error code cannot be selected for billing (if no error was found, the Invoice Error Code field shows 0). The six possible codes are:

1. No valid sales line could be found.
2. The type stored with the job ledger entry doesn't match the type found on the sales line.
3. What is left on the sales line is insufficient. You need to increase the quantity. (You can use the Increase Sales Line action to do this.)
4. Fixed-price positions require the same unit of measure on the sales line and the WBS line.
5. The fixed price has already been invoiced in full. (The only option left is to close the line by issuing a final invoice.)
6. The sales order reference was deleted manually.

### Impact on orders

Prepare for Billing requires both a sales order cross-reference and a sales line cross-reference on invoice suggestion lines.

This is because the following changes are made to the referenced sales order when you create an invoice from a suggestion where the Prepare for Billing checkbox is selected:

- An invoice entry is added to an order line for each job ledger entry that you want to bill.
- The total invoice quantity is entered in the Qty. to Ship and Qty. to Invoice fields. On lines that have no invoice entries, the fields are set to 0 to prevent accidental billing.

To view a new invoice entry for a prepared line, open the related order, select the line, and choose Line > Related > Invoice Entries on the ribbon. The number of the entry is shown in the Assigned Job Ledger Entry field.

You can then again update individual entries on the sales order.

### Impact on job ledger and invoice entries

No more than a single invoice entry can be applied to a job ledger entry billed based on time and materials. It is for this reason that we recommend you make necessary quantity and value adjustments as early as possible, that is, on invoice suggestions.

As mentioned earlier, time and materials entries are considered settled when invoice entries are assigned to them, even if only partial quantities have been billed.

When you post a shipment and an invoice from a sales order, the invoice entries on the sales lines are copied to the newly posted invoice. Additionally, each now-posted invoice entry is linked to a time and materials entry.

Posting invoices also creates job ledger entries with filled-in Applies-to Sales fields. These fields show the number of posted and applied entries—that is, billed job ledger entries—linked to a job ledger entry originating in sales.

Unlike time and materials entries, job ledger entries generated in sales can relate to multiple posted invoice entries, as a sales job ledger entry often applies to more than one time and materials entry.

To see a list of the posted invoice entries, use the lookup in the Posted Invoice Entry or Applies-to Sales field. The relevant time and materials entry can then be found in the Assigned Job Ledger Entry field. The Sales Job Ledger Entry field shows the number of the series that you set up for creating job ledger entries in sales.

A posted invoice entry can be opened from the billed time and materials entry or the sales job ledger entry (and vice versa).

#### Delete posted suggestions

If ambiguities arise after you copy data from an invoice suggestion to a sales order, use the Delete Invoice Entries function on the ribbon to remove invoice entries from an order. This reopens the related time and materials entries, which can then be copied to a new invoice suggestion.

#### Note

The Qty. to Ship and Qty. to Bill fields on the order retain their values when you delete invoice entries, and no posted invoice entries are created if you posted something by mistake. Nothing applies to open time and materials entries either, although you can post their application manually if necessary.

#### Invoice on Order

This option is based on the same program logic as Prepare for Billing. The difference is that the quantity invoiced from a sales order is immediately posted as shipped and that this shipment is copied to an unposted invoice.

Unposted invoice entries are then available on the lines. However, unposted invoices don't mirror the structure of sales orders. Instead, they contain only the lines that you want to bill, that is, the lines shipped automatically. Additionally, order fields used for informational purposes aren't copied during this process.

Besides the lack of billing information compared to the first method, this option has the distinct disadvantage that if you need to recreate an invoice due to a billing error, you must first delete the unposted invoice so that you can unblock the related ledger entries.

A further issue compounding the problem is that the deletion of invoice entries does nothing to affect the quantity already posted. This quantity—considered shipped but not invoiced—will instead be copied to a new invoice created from a suggestion.

Changing the invoice quantity in the meantime can then lead to unwanted results. If you increased the quantity, a second shipment needs to be posted so that more than one shipment will be shown on an invoice, which might look confusing on a printout. If you reduced the quantity, only a part of what has been posted as shipped might be needed so that the remainder is kept and copied to a new suggestion.

The easiest way to deal with this is to delete the invoice. This way, all shipments are canceled before you open a new suggestion.

All other requirements for fixed-price and time and materials billing are the same as described earlier.

#### Impact on documents at invoice creation

When you run the Create Invoices function, you are first informed that sales lines still need to be shipped (unless none are available).

You can now decide to post the lines as shipped or exit the page. Choose Cancel to leave for the invoice suggestion. Choose OK if you want to post the lines and create a sales invoice.

You are then asked if you want to edit the invoice. Choose Yes to open the unposted document.

By using the lookup in the Invoice Entry field, you can see all unposted entries related to the invoice. The underlying order also shows the invoice quantity as shipped.

With the shipped quantity copied to the invoice, each invoice line has been assigned to a posted shipment line. It is for this reason that you cannot raise invoice quantities if you use this option—you simply cannot bill more than you delivered to a customer.

#### Impact on job ledger and invoice entries

The impact on invoice entries, posted invoice entries, job ledger entries, and applied entries is the same as if you had selected the Prepare for Billing option.

#### Create direct invoices

If no sales line exists for a job ledger entry, a suggestion line can be billed with the help of a direct invoice. Afterward, posting a shipment will no longer be possible.

Direct billing is often used to pay for travel expenses, that is, for time and materials entries that aren't related to sales lines. Although typically part of a project agreement, a rate for these kinds of expenses isn't included in the budget (even the sales budget), as this is often considered unhelpful.

Entries you want to bill in this way must have the Direct Invoice checkbox selected.

When you create an invoice suggestion based on job ledger entries with and without sales lines, the direct invoice lines, that is, those without shipments, are added to an invoice after the order lines. If the current billing process includes only direct invoice lines, however, a new invoice will be created.

If you want to bill various kinds of suggestion lines at the same time, use the Create Invoices action after selecting all lines. If done separately, that is, if you mark Invoice on Order lines and create an invoice before you mark other lines for direct billing and run the function again, lines not related to a sales order aren't added to the unposted invoice, even if you started the process from the same invoice suggestion.

During processing, job ledger entries are aggregated on a single direct invoice line if their Type, No., and Unit of Measure Code fields match. One invoice entry is created per line to close a job ledger entry.

#### Impact on job ledger and invoice entries

A direct invoice includes one invoice entry for each line to bill.

When you post the invoice, the system creates a posted invoice entry for each line to establish a link between time and materials entries and job ledger entries in sales. It also applies the posted invoice entry to the other two entries.

#### Budget line billing

You can incorporate budget line activities into sales lines to create more detail-rich sales documents and invoices based on an invoice suggestion.

The invoice suggestion function checks the Billing Integration field on each WBS line to determine the level at which to invoice the relevant job.

**If billing level = budget line...**

WBS lines that are billed by time and materials are copied to a suggestion grouped by line activity, with unbilled job ledger entries shown underneath. For fixed-price jobs, a suggestion doesn't show WBS lines but the budget lines that need to be invoiced.

Regardless of whether you bill a WBS line or its activities, job sales are always visible on the WBS line when you post an invoice. Revenues from line activities (if you bill at this level) can then be seen on the budget lines.

#### Ledger entries and application

In project billing, ledger entries of type sales offset ledger entries of type usage. That is, you bill customers for the time spent on a job by creating sales job ledger entries.

An exact match between both types of entries is exceedingly rare. Usage entries are typically combined and billed on a single sales line. This means that the number of entries and the quantities often differ on invoices created from a job.

As explained earlier, you can use invoice entries to post the application of job ledger entries automatically (on a suggestion) or do so manually. The following paragraphs are only meant to sum up again how you achieve this.

#### Job ledger entries

With the help of invoice entries, job usage—that is, time and materials— entries are closed by job ledger entries created in sales.

#### Invoice entries

Invoice entries link job ledger entries billed based on time and materials to sales job ledger entries.

#### Unposted invoice entries

Unposted invoice entries are created when you use the Invoice Suggestion function to prepare a sales order for billing or set up a direct invoice. To see a list of all invoice entries, use the Invoice Entries function on a sales order or a direct invoice.

#### Posted invoice entries

A posted invoice entry represents the main link between usage entries and sales job ledger entries, as it is assigned to both a time and materials entry and a ledger entry posted alongside an invoice in sales.

If you post an invoice from a sales order or from a direct invoice, all unposted invoice entries disappear and posted entries are created and transferred with an Entry No. to job ledger entries billed based on time and materials. No more than one invoice entry can be applied to this type of job ledger entry.

One job ledger entry in sales is then posted per line to bill. However, as multiple time and materials entries are typically aggregated on one line, the posted invoice entries create a 1-to-n relationship between sales job ledger and time and materials entries.

To see the job ledger entries, open a job card and choose Related > Ledger Entries on the ribbon. To see a list of all posted invoice entries, use the lookup in the Posted Invoice Entry field.

#### Applies to sales

Shows for a sales job ledger entry the number of applied job ledger entries that were billed based on time and materials.

## Manual application

Entries are applied automatically when you use invoice suggestions. However, you can do so manually as well.

### Example

A customer is billed a flat rate for travel expenses. At the time of billing, the cost of the hotel that you stayed in hadn't been posted yet to Business Central. A few days later, the invoice is posted to the job and a job ledger entry is assigned to close the ledger entry in sales.

To post application manually, you need to run the Apply Entries function from either a usage or a sales job ledger entry. Running the function opens a dialog page where you can then choose from all open time and materials or sales job ledger entries.

Select the relevant entry in the Set Applies-to ID field on the page. As more than one instance of job usage can be assigned to a sales job ledger entry, you can assign multiple time and materials entries to an entry here. Apply the entries by pressing F9.

Like automatic application, manual application closes the time and materials entries and creates posted invoice entries. These are linked to the posted invoice via the job ledger entries in sales, which means that manually created invoice entries also show up on posted sales invoices.

## Reverse application

Job ledger entries can be unapplied at any time. This reopens the time and materials entries.

To delete a relation between entries, select a posted invoice entry, and then choose Unapply Entries on the ribbon.

Invoice entry relations deleted by users are identified by the following description: "Unapplied manually on... by..."

To be able to track the changes users make, the values in the Assigned Job Ledger Entry and Sales Job Ledger Entry fields are copied to the Old Job Ledger Entry and Old Sales Job Ledger Entry fields. However, after using the Unapply function, data regarding work packages and budget line activities can no longer be restored.

### Print duration on invoices

To meet legal requirements, an invoice must indicate a delivery date. For invoicing services, delivery usually extends over a period. This period is determined based on the invoice entries for services billed by time and materials.

For invoice printouts to show periods in the format you want, use the Performance Date Formatting field in Jobs Setup.

When you open a job card, you will then see the period in the specified format on the Job Billings FastTab. You can again change the format there.

### Billing caps

When you invoice a job by time and materials, you might see work hours exceed the number of billable hours a customer has agreed to. Typically, this means you either cannot bill some of the work or you need to put in a change request.

However, many agreements contain a clause that, up to a point, grants exceptions to scheduled quantities.

#### For work packages

You can set a cap for time and materials billing as early as creating work packages.

Field	Description
Billing Cap	Select this checkbox to set a limit up to which usage recorded for the work package can be billed even after the sales budget of a job is exhausted. This limit is determined by the total price stored on the relevant WBS line.
Billing Cap %	Specifies the limit for billing time and materials after exhausting a job's sales budget. This field can only be filled in if you selected the Billing Cap checkbox. If you enter nothing, the field is set to 0 and you cannot exceed the price specified on the relevant WBS line.

#### In job templates

You can then make use of the cap when you create a job template. When you enter a work package on a job template line, the billing cap values are copied to the line alongside other work package fields.

#### On WBS lines

Likewise, when you set up a new work package line, an available billing cap is copied automatically from the package to the line. The same is true when you create a WBS from a template. You can also set up or change billing caps on WBS lines later.

#### On invoice suggestions

Billing caps mainly inform those who create customer invoices. FactBoxes show the total billing limit and the amount remaining until that limit is reached.

#### Example:

An invoice suggestion includes a time and materials work package with a 10% cap. The package has the following data:

The work package has the following data:

USD700.00 sales budget
- USD560.00 already billed
<hr/>
= USD140.00 remaining

Based on a USD770.00 billing limit, this means:

USD700.00 sales budget

+ 10% cap (USD70.00)

USD770.00 incl. billing cap

- USD560.00 already billed

= USD210.00 remaining until cap

#### Mark for cap

When you use a suggestion to invoice a work package, the related job ledger entries are marked for billing regardless of the limit you specified. You can, however, see in the Remaining Amt. to Cap field at what point the limit will be exceeded.

For an invoice quantity to match the cap, you need to choose the Billing Cap action on the ribbon. This adds up the ledger entries from the top until you reach the limit specified. The entry that would have otherwise exceeded the cap is then reduced in quantity. All subsequent entries are set to 0.

#### Example:

As before, USD210 remain until the cap is reached. The following job ledger entries are now marked for billing:

Quantity	Invoice Qty.	Unit Price (USD)	Total Line Amount (USD)
3	3	30	90
3	3	30	90
5	5	30	150
4	4	30	120

The entries add up to USD450 in total. After running the Billing Cap function, you see the following reductions in quantity to match the cap:

Quantity	Invoice Qty.	Unit Price (USD)	Total Line Amount (USD)
3	3	30	90
3	3	30	90
5	1	30	30
4	0	30	0

The calculation might result in rounding differences, shown in the Rem. Amount to Cap field.

## Note

A proof of performance statement continues to show all job ledger entries, including those with a quantity of 0, as all of them are still copied to billing as invoice entries.

## Manual override

The person in charge of billing can edit job ledger entries manually to exceed the cap on purpose. However, the quantity available on the related sales order would need to be adjusted in this case see [Invoice Error Code] (ProjectAccounting.md#Handling-according-to-expenditure and [Invoice Error Text](#)

## Manual billing

If you don't mark WBS lines but individual job ledger entries for billing, a cap will have no effect. Only the Remaining Amt. to Cap field will be updated.

## Sales credit memos

IRunning the Copy Document function to create a credit memo from a posted sales invoice also copies all invoice entries to the memo.

If you created the credit memo because you need to correct and re-send an invoice, we recommend that you keep the entries as they are. But if the memo represents a discount, the entries should be deleted before you post the memo.

If you use the invoice entries to post a sales credit memo, applied job ledger entries are unapplied. The entries aren't deleted; only their relations are.

Unapplied entries can be identified by an altered description. It reads: "Reopened by Credit Memo [no. of posted memo])."

The Assigned Job Ledger Entry and Sales Job Ledger Entry fields are then cleared, and their values copied to the Old Job Ledger Entry and Old Sales Job Ledger Entry fields for tracking purposes.

The posted credit memo also includes posted invoice entries. Because the Old Job Ledger Entry and Old Sales Job Ledger Entry fields now reference unapplied ledger entries, the values in these fields are identical to the values stored for the unapplied invoice entries (see above).

The Sales Job Ledger Entry field, on the other hand, contains the job ledger entry that the system created when you posted the memo. Only the Assigned Job Ledger Entry field will remain blank, as no posted invoice entries are applied to time and materials entries.

## Payment plans

A payment plan provides a schedule for project billings, that is, it records times of cash inflow. Payment plans are used on invoice suggestions and in cost control.

To work with payment plans, you must set up the feature. A plan can cover a whole job or single WBS lines. You choose your preferred option in the Payment Plan Level field on a job card.

You can then run the Payment Plan function on a WBS to set up the plan. Depending on the plan level, the system will use the sales budget stored for the entire job or for individual WBS lines to schedule payments.



**For jobs**

If you set the payment plan level to Job, payment plan lines refer to an entire project and no source work package can be selected. The net amount stored for the plan is calculated automatically from the sales budget set up for the job.

**Note**

You, however, need a target work package to use a plan on invoice suggestions or in cost control (the purpose of which will be explained later).

**For WBS lines**

If the payment plan level is set to WBS Line, you must select a source work package. As the plan lines now refer to a specific line on the WBS, a net amount is determined automatically based on the portion of the sales budget stored there.

Not every WBS line needs to be part of the payment plan if you want to use the plan only for invoice suggestions and need to bill periodically for an item or a service.

For example, an expensive piece of equipment might have been budgeted on a WBS line. You then create a plan for this one line together with the customer, whereas the rest of the job will be billed based on effort.

Unlike a payment plan for an entire job, this option requires that you specify a source WBS line in the Source Work Package field or choose the Get Source Work Package action when you create a plan. The net plan amount is then calculated from the WBS line budget with the help of the Pmt. Plan Amount % field.

Fill in a payment plan

Fill in the fields of a plan as described in the following table.

Field	Description
	Choose Invoice if the plan refers to separate (partial) invoices or Final Invoice if this is the final billing.
Planning Type	When you use a payment plan on an invoice suggestion, the system determines the actual effort to bill, suggests this amount on the relevant date, and applies it to invoices already created.
Date (Scheduled)	Choose the date on which you want to bill. This date is included in all parts of the payment plan.
Pmt. Plan Amount %	Used to calculate a net invoice amount. At the job level, the value is calculated in percent from the budgeted total price of a job.  If you entered a value in the Net Amount field, this field is filled in automatically.
Net Amount	Specifies the budgeted net invoice amount. You can fill in this field manually or have the system use the Pmt. Plan Amount % field to calculate the value.
Currency Code	Shows the currency stored for the job.
Billing Base Billing No.	The billing base and number are retrieved based on the WBS line to which you post sales (see also the Work Package field) and determine if a G/L account or a resource is entered on a suggestion line.  Often, these fields contain a G/L account and number. If you select a sales account, the system will create a suggestion line based on this account—and not the billing base and number set up for the work package.  You can override both values in payment plans.  <b>Note</b> The standard procedure is to use the billing base and number from the target work package.
Payment Terms Code	This field is copied from the customer but can be changed manually. The terms are used on invoices.
Description	Enter a descriptive text that will later be shown on the relevant invoice line.
Milestone Reached	Relevant to billing by milestone. This field indicates what payment plan lines—that is, lines available for a milestone plan—have reached an agreed milestone.  If, based on the plan level, a job or WBS line is set up for milestone billing, an invoice suggestion shows all lines for which the checkbox is selected but which haven't been billed yet.

Field	Description
Copy to Suggestion	Specify if you want a plan line included in an invoice suggestion. Otherwise, the line will only be used for cost control and cashflow forecasts.
Copied to Sales	If this checkbox is selected, the plan line was copied to an unposted invoice. A line can only be copied to an invoice once.
Invoice No.	Shows the number of an invoice if a payment plan line has been posted together with one.
Copied to Sales (Final invoice)	If this checkbox is selected, the plan line is used for a final invoice and has already been copied to a credit memo. On the memo, the actual amount from the line is credited, not the amount stored in the Net Amount field.
Document No. (Final Invoice)	Shows the number of a credit memo if a final invoice line has been posted together with one.
Work Package Code	Shows the work package code of the WBS line to which you want to post sales. For revenue billed at the job level, we recommend that you specify a WBS line that isn't related to a budget and is intended solely for storing sales from partial invoices.
	You then need to ensure that you selected Fixed or Time & Materials in the Billing Type field on the line if you want a payment plan included in an invoice suggestion. Which type you choose doesn't matter, as the amount stored on the plan line will also be used on the invoice.
	You can select WBS lines via the Work Package Code field or the Get Work Package function.
	A warning message appears if you don't select a line or if the WBS line you selected isn't suitable for billing.

#### On invoice suggestions

Plan lines for which you selected the Copy to Suggestion checkbox are given priority on invoice suggestions. If a suggestion contains open payment plan lines, the typical billing process is interrupted.

The following rules apply when you use payment plans on invoice suggestions:

1. The Copy to Suggestion field must be selected on the plan lines.
2. The scheduled posting date can be used as a filter so that the system suggests only partial invoices with even amounts.
3. Plan lines must relate to a valid WBS line. If there is no valid line, the plan lines will show an error message and cannot be copied to a suggestion.
4. Only a final invoice can close a payment plan.
5. If there are open plan lines, standard project billing is suspended, and the next amount due (filtered by posting date) is suggested instead.
6. Payment plans are always billed by direct invoice and not on an order.
7. Actual billing takes place with the final invoice. Depending on how you set this up, WBS lines will be suggested based on time and materials or fixed-price billing. The invoice is then created from associated sales orders. A credit memo is applied to any partial invoice.
8. This procedure can be used for an entire project or for specific WBS lines, as specified in the Payment Plan Level field on the job card.
9. If a plan relates to specific WBS lines, standard billing will be used for all lines not connected to a plan.
10. If a plan relates to an entire job, a WBS line can be removed from the plan by selecting the Ignore Payment Plan checkbox so that it is suggested for billing immediately.

This can be helpful, for example, if you want to bill travel expenses based on time and materials despite the plan saying otherwise. These expenses also aren't included in the final invoice.

#### On credit memos

##### Full credit

If a credit memo fully settles a posted invoice created from a payment plan, that is, if the entire amount on a plan line has been offset by a memo, the line is treated as if it had never been billed.

You can then delete, change, or recopy the line to billing unchanged.

##### Partial credit

If a credit memo only partly settles the amount on a posted invoice created from a payment plan, that is, only part of the line amount is offset by the memo, the line is adjusted so that the amount on the line matches the amount on the invoice, minus the value of the credit memo.

#### In cost control

To create job account entries for cost control, a job budget is used. This budget is distributed onto accounts according to the account setup you specified when you turned on the cost control feature across jobs.

The difficulty when budgeting project effort is how to estimate revenue on budget lines. The time spent on a job often doesn't translate into immediate sales but will show up later, on a fixed-price invoice.

A payment plan can rectify this problem by providing you with reasonable estimates of cash inflow in cost control. To use the feature, you must choose Payment Plan in the Sales Job Acc. Entries From field on a job card.

When you now run the Update Job Account Entries batch job, a payment plan rather than the job budget will be used to determine sales accounts. Finding an account is then a matter of matching it to the (target) work package to which you want to post revenue.

## **Milestone billing**

### **Overview**

Milestones can be billed in multiple ways. Additionally, you can create milestone invoices per job or WBS line and invoice work at a fixed price or by using a special billing method for each work package (that is, WBS line).

Billing level	Billing type	Payment plan	Notes
			<p>You can choose Final Invoice in the Planning Type field to schedule a final invoice.</p> <p>When the invoice is due, the invoice suggestion function will include all relevant WBS lines, their billing types, and the billed fixed-price entries as credit memos.</p> <p>You can, at any time, delete WBS lines and invoice them separately (that is, parallel to payment plan invoices).</p> <p>This billing method posts, in accordance with the payment plan, revenues to a milestone line of the work package type on the WBS.</p>
<p>On the job card, the Invoice Job by Milestones toggle is turned on.</p> <p>The payment plan level is set to Job.</p>	<p>Fixed price on each payment plan line.</p> <p>A final invoice can be used to bill every WBS line and apply credit memos to billed lines.</p>	<p>YES</p> <p>Only lines on which the Milestone Reached checkbox is selected are suggested for billing.</p>	<p>You can choose Final Invoice in the Planning Type field to schedule a final invoice.</p> <p>When the invoice is due, the invoice suggestion function will include all relevant WBS lines, their billing types, and the billed fixed-price entries as credit memos.</p>
<p>Work packages</p> <p>The Invoice Job by Milestones field is turned off.</p> <p>The payment plan level is set to WBS Line.</p>	<p>Fixed price on each payment plan line.</p> <p>A final invoice can be used to bill every WBS line and apply credit memos to billed lines.</p>	<p>YES</p> <p>Only lines on which the Milestone Reached checkbox is selected are suggested for billing.</p>	<p>You can choose Final Invoice in the Planning Type field to schedule a final invoice.</p> <p>When the invoice is due, the invoice suggestion function will include all relevant WBS lines, their billing types, and the billed fixed-price entries as credit memos.</p>
<p>Work packages</p> <p>No special setup is required.</p>	<p>Instant billing per package.</p>	<p>NO</p> <p>No plan necessary (can be set up to provide payment info, but the Copy to Suggestion checkbox must be cleared).</p>	<p>Instant, one-time billing of WBS lines related to a milestone line when the milestone is reached.</p> <p>A final invoice will not be created.</p> <p>This billing method uses a</p>



Billing level	Billing type	Payment plan	Notes
			milestone line of the blank type to post sales to WBS lines directly.
WBS line	Fixed price	YES	<p>This billing method uses a milestone line of the work package type to invoice a group of WBS lines.</p> <p>In other words, instead of being invoiced separately, the WBS lines are added to a payment plan for billing.</p>

#### For jobs

The following paragraphs explain plan-based milestone billing for an entire job.

#### Project setup

Field	Description
Payment Plan Level	Choose Job.
Invoice Job by Milestones	Leave this toggle turned off.

#### WBS milestones

Lines for billing an entire project by milestones must be of the work package type, as they are later used to store revenue from plan invoices. For lines to be processed on an invoice suggestion, their billing type must be set to Fixed (Price).

Milestone lines are highlighted in color.

For work packages specified as milestones, certain restrictions apply. The packages can neither have budget lines, nor can quantities and prices be changed. A milestone line isn't used for budgeting but is an element of time scheduling.

#### Work packages

To assign a milestone line to a work package, select a line, and then choose Line > Milestone Definition in the WBS Lines section. You can choose only work packages that haven't already been set as milestones.

#### Milestone plan

To set up payment plan lines for milestone lines, choose (Advance) Payment Plans > Create Milestone Line Pmt. Plan in the WBS Lines section.

When you run the function, you see a message that says new plan lines were set up for a certain number of milestone lines. No existing lines are updated; that would be done in the amount and date fields.

The system then assigns milestones to work packages and creates a payment plan line from the total price and the ending date stored on a milestone line.

#### Work breakdown structure

On the WBS, milestone lines are highlighted in color.

#### Payment plan

Payment plan lines where the Copy to Suggestion checkbox is selected can be used on invoice suggestions. As the payment plan applies to an entire job, individual WBS lines aren't included in the suggestion. With a job set to Milestone Billing, the invoice suggestion also includes only lines for which Milestone Reached is selected.

#### Milestone Reached

When a milestone is reached, the work status on the WBS milestone line changes to Finished or Accepted (other statuses aren't possible in milestone billing).

The Milestone Reached field on the related payment plan line is also filled in, making that line available for billing on an invoice suggestion.

#### WBS lines without payment plan

If you don't want to bill work packages based on a payment plan, as some expenses need to be invoiced regardless of whether milestones are reached, select the Ignore Payment Plan checkbox on the relevant WBS line(s).

#### Invoice suggestions

A suggestion only includes plan lines on which the Milestone Reached checkbox has been selected.

#### Final invoice

A final invoice isn't strictly necessary. If you want to use one to bill actual expenses on WBS lines, select Final Invoice in the Planning Type field. The WBS lines are then included in a suggestion after every line on non-final invoices has been billed.

On the final invoice, the WBS is suggested for billing as if no plan existed. Each WBS line is also processed based on its billing type.

Additionally, invoices created from the payment plan are added as credit memos to the invoice.

#### For a WBS line

The following paragraphs explain plan-based milestone billing for a WBS line.

#### Project setup

Field	Description
Payment Plan Level	Choose WBS Line.
Invoice Job by Milestones	This field is not and cannot be turned on.

#### Work breakdown structure

No milestones are needed on the WBS, as the job as such isn't billed by milestones.

Work packages that you want to bill according to a milestone payment plan require that Milestone be selected in the Billing Type field.

### Payment plan

Payment plans for individual lines are created manually. As you no longer specify plans for entire jobs, the focus will be on work package relations, that is, for which source work package you want to create a plan line.

As the same work package is invoiced, source and target packages are identical. You can use the Pmt. Plan Amt. % field to establish a relation to a package. The value in this field is calculated from the total price shown on the related WBS line.

Milestone billing creates partial, fixed-price invoices at multiple stages of a job. The total price from the WBS line thus needs to be included in the payment plan, and the planning type must be set to Invoice.

### Note

Don't use the Final Invoice planning type here. This would create a final invoice and credit memos of already posted invoices.

For inclusion in suggestions, the Copy to Suggestion checkbox needs to be selected on the plan lines (done automatically). With the Milestone billing type chosen on the WBS line, a plan line is only included in a suggestion if the Milestone Reached field is selected. This must be done manually and corresponds roughly to the release of an invoice.

### Invoice Suggestion

To release a milestone for billing, select the relevant checkbox.

#### Without payment plan

A milestone plan can also be created from a WBS without the use of a payment plan. When a milestone is reached, the related work package is then billed according to its billing type.

### Project setup

No setup is needed on the job card.

### WBS milestones

Not unlike the method described earlier, milestones are planned on the WBS. But this time, the Billing Type field needs to be blank, as work packages—not milestones—are billed.

### Work packages

To assign a milestone line to a work package, select a line, and then choose Line > Milestone Definition in the WBS Lines section.

You can choose only work packages that haven't already been set as milestones.

### Suspend Billing

If you don't want to bill work packages related to a milestone until that milestone is reached, select the Suspend Billing checkbox on each work package line to prevent invoice suggestions from including the package prematurely.

When WBS lines are assigned to a milestone line of the blank type, you are asked if you want to exclude these WBS lines from billing. This way, billing takes place when the milestone is reached.

Milestone Reached

When a milestone is reached, its Work Status field is set to Finished. The system then checks if the Suspend Billing checkbox is selected on related WBS lines, as these can now be released for billing with the help of a dialog.

Invoice suggestions

The rest follows standard billing procedures for WBS lines based on billing types.

For multiple WBS lines

This billing method is different from the rest in that it only uses a milestone line to provide you with a convenient solution for billing more than one WBS line with the same payment plan.

If the billing type specified for the group line wasn't set to Fixed (Price) but to Milestone, the typical milestone billing process would be run for the payment plan, and the subsequent invoice suggestion would only include plan lines on which the Milestone Reached checkbox has been selected.

Project setup

Field	Description
Payment Plan Level	Choose WBS line.
Invoice Job by Milestones	Leave this toggle turned off.

WBS milestones

A milestone line intended for grouping must be of the work package type, as it is later used to store revenues from plan invoices. For the line to be processed on an invoice suggestion, its billing type must be set to Fixed (Price).

If the billing type had been set to Milestone instead, the payment plan linked to the selected WBS line would be considered a milestone plan and be used accordingly (as explained earlier). Milestone lines are highlighted in color.

For work packages specified as milestones, certain restrictions apply. You can neither create budget lines nor enter quantities or prices for them. A milestone line isn't used for budgeting but is an element of time scheduling.

Work packages

To assign a milestone line to a work package, select a line and then choose Line > Milestone Definition on the WBS Lines FastTab.

You can only choose packages that haven't been turned into milestones yet.

You must then select the Suspend Billing field on each WBS line linked to the milestone line so that those lines are excluded from billing (as they should be billed through a payment plan).

#### Payment plan

To set up payment plan lines for the milestone line, you need to run the Update Payment Plan action.

You can then specify the number of plan lines onto which you want to evenly distribute the total price shown on the associated WBS lines.

The plan must be edited after creation. At the very least, you need to specify the required posting dates. Usually, however, you also need to adjust invoice amounts and edit their descriptions.

#### Work breakdown structure

On the WBS, milestone lines are highlighted in color.

#### Note

The Total Price field on a milestone line used for grouping doesn't contain the WBS line total, as this would double the budgeted sales amount.

#### Payment plan

Plan lines on which the Copy to Suggestion checkbox has been selected can be included on invoice suggestions.

#### WBS lines without payment plan

As the Suspend Billing checkbox isn't selected on WBS lines that you don't want grouped with the help of a milestone line, you can bill those lines the usual way.

#### Invoice suggestions

A suggestion only includes plan lines assigned to the milestone line. The associated WBS lines were excluded from invoicing through the Suspend Billing checkbox.

#### Statement of services rendered

For time and materials entries, a statement of the services rendered is typically sent alongside an invoice. This statement includes invoice entries from posted or prepared invoices. Proof of performance documents can already be printed when you are about to bill an order so that you can make invoice corrections before posting. This eliminates the need for revising invoices not accepted by a customer.

To print service statements alongside invoices:

1. Open a sales order.
2. On the Job Billings tab, turn on the Print Attachment toggle.

Even if the toggle isn't turned on, you can still print a statement manually. This field and all other fields used for printouts can already be preset on a job card.

The fields are later copied to posted invoices as well. You cannot change them there, but you can overwrite them on the request page associated with a statement.

**Performance periods on invoices**

You can have the period of performance, or a standard note about services rendered, printed on sales invoices in different languages.

**Format periods**

To specify the formatting of invoice periods on printouts:

1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
2. In the Performance Date Formatting field, select an option described in the following table (*includes two printout examples each*):

Option	Example
YYYY-MM	January 2023 January 2023 to February 2023
YYYY-MM-DD	01-15-2023 - 01-25-2023 01-11-2023 - 02-14-2023
DD.MMM YYYY	15. Jan. 2023 - 25. Jan. 2023 11. Jan. 2023 - 14. Feb. 2023

The performance period is entered on sales headers automatically when you choose to bill a job based on time and materials. This type of billing requires invoice entries, each of which contains a date of performance. All these dates taken together then constitute the performance period.

Print translations

To print notes about services rendered in the language spoken by a customer:

- 1. Choose the Search icon, enter Document Text Translation, and then choose the relevant link.
- 2. On each line, select a code in the Language Code field for a language that you want to use on printouts, and fill in the fields described in the following table.

Field	Description
Performance Date Text	Enter a text that you want printed on an invoice if the Performance Period field on the relevant sales header has been filled in.
	The text should contain placeholder %1 to indicate a performance period on the invoice.
	<b>Example</b>
	“This invoice covers services rendered in %1.”
Default Performance Date Text	If the period entered is January 2024, the note will look as follows: “This invoice covers services rendered in January 2024.”
	Enter a text that will be printed when the Performance Period field is left blank.
	<b>Example</b>
	“Unless specified elsewhere, the date stated on this invoice is also the date of performance or delivery.”

Set periods on sales documents

On sales headers and unposted invoices, you can change the Performance Date field whenever necessary.

Billing by time and materials fills in a period automatically based on the dates of the invoice entries that are created when you prepare a bill. These dates will also be updated when you add or delete entries on invoice suggestions.

Posting an invoice will copy the contents of the Performance Date field to the posted sales invoice.

If the Performance Period field is used to print the period of services rendered on pro forma and (posted) invoices but the period is left blank, the system will print a default note instead. Both are printed below all services listed on a bill.

Sales invoice requests

After a sales invoice has been prepared, the document is typically sent to an organization’s billing department, as the person who prepared the invoice is most often not authorized to post it in the system.

With the Sales Invoice Request feature, KUMAVISION project365 provides you with the means to simplify and standardize this process.

**Create an invoice request**

To make a request:

1. Open a sales order or an unposted invoice.
2. On the ribbon, choose Home > Create Invoice Request.
3. Specify a description for the request if necessary and choose OK.

This creates an entry on the Sales invoice Requests page. Your decision of whether to specify a description manually doesn't have an impact on the creation of this entry.

**Change a request description**

You can also fill in or change a request description later.

1. Open a sales document.
2. On the ribbon, choose Home > Update Invoice Request Description.
3. Fill in the fields to change the description.

**Open a request**

To see a sales request:

- Open a sales document.
- On the ribbon, choose Related > Invoice Request > Sales Invoice Requests.

The document number filter that is then set on the Sales Invoice Requests page will let you see only the request created for this particular document.

To see all requests stored in the system, you need to choose Sales > Sales Invoice Requests on your home page.

The requests represent a to-do list for your organization's billing department, as the documents for which you created them have been released for billing. To post a certain document, you can use the Show Document action on the ribbon of the Sales Invoice Requests page.

If a request is no longer needed, for example, because it shouldn't be posted after all, it can also be deleted or archived at any time.

**Sales Invoice Request Archive**

You can use the Archive Request action on the ribbon to move requests that are no longer required to the Sales Invoice Request Archive page.

However, sooner or later, even active requests will be archived—without user involvement. This is the case when the related sales invoice is being posted, for example.

When requests are archived by the system, the number and the posting date seen on the related invoice are stored automatically with the archived record.

**Note**

Entries in the archive are read only and cannot be deleted.



## **Create job from sales document**

Description to follow.

## **Service Package**

Description to follow.

## Intercompany Work

### Overview

The intercompany management functionality is designed for users who have set up multiple independently operating business entities, each aiming to cover a different region or territory or provide a distinct range of products and services to customers.

Called companies in the system, they typically manage their own data and finances. Sometimes, however, several of them might need to supply products or services to the same customer at the same time. For example, a project might require that staff members working for one company lend their expertise to another. This is where IC management can help coordinate and bill work done on a project.

### Intercompany functions and roles

When a customer places an order for an intercompany job, one organization typically takes on the role of main contractor. This business will be referred to in the following as the billing company.

The services and materials required for the job are then stored on WBS lines that you set up within that company. However, to provide a specific service, the business now hires another to act as a subcontractor, which will be called the service company for the purposes of this article.

The business relationship between both companies isn't set in stone. For other jobs, the roles might be reversed, and the organization that used to supply a service might become the business entity that bills the project. A billing company can hire multiple service companies for a job or complete work on its own.

All service companies are set up as vendors in the partner company that bills the job. The partner, in turn, is entered as the customer in each service company. The actual customer is stored with the job that you set up in the billing company.

To transfer a resource task to a service company, you can then choose WBS lines in the partner business and use a function to copy the entire job, including the selected lines, to the service company for processing the order.

Service companies always send invoices to a billing company and never directly to a client. The job ledger entries that are created from posting these outgoing invoices—marked as inbound in the billing company—are assigned to a WBS and later invoiced to the end customer according to a job-specific price agreement.

Billing and service companies might use different local currencies, which will affect how invoices are settled internally. For example, a billing company might be sending invoices in EUR, whereas the business providing services for the job being billed might have entered DKK as its local currency in Finance Setup.

### Setup

#### Register a billing company

Before you can copy job data from one business to another, you need to turn on IC management. The settings described here only need to be made once.

#### Choose an IC partner

Each billing company must have a service company assigned as an IC partner. To assign a partner:

1. Choose the Search icon, enter Intercompany Partners, and then choose the related link.
2. On the ribbon, choose New to set up a partner.
3. Fill in the fields as described in the following table.

#### General

Field	Description
Currency Code	Specify the currency used by the service company.
	Specify the type of data transfer.
Transfer Type	<b>Note</b> Intercompany project management in KUMAVISION project365 currently only supports data transfers between billing and service companies stored in the same database. This field must therefore be set to Database.
	Enter the name of the service company.
Company Name	<b>Note</b> Intercompany project management in KUMAVISION project365 currently only supports data transfers between billing and service companies stored in the same database.

#### Purchase Transaction

This FastTab shows the vendor assigned to the billing company's IC partner.

To set up a vendor, open a vendor card and choose a company partner in the IC Partner Code field on the General FastTab. The Vendor No. field is then filled in automatically.

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Filling in the fields on this FastTab is optional but provides you with a set of alternate numbers and codes when you transfer data to a service provider. WBS and budget lines that you create in a billing company include primary keys, that is, numbers and codes, for the following job information:

- Resources and resource groups
- Work packages
- Phase codes
- Task codes
- Step codes
- Work types

Because data records in service companies don't need to have primary keys identical to those in a billing company, you can use the options on this FastTab to specify new numbers and codes for them as described in the following table.

Field	Description
Internal Code (Internal No. for resources)	The code (or number) is copied as is from the billing company to the service company.
Shared Code (Shared No. for resources)	The code (or number) is copied from the Shared Code field in the billing company's data record to the service company.
Activity IC Partner Ref. (Resource IC Partner Ref. for resources)	The code (or number) is copied from the IC Partner Reference field in the billing company's data record to the service company. A reference can be added to a data record wherever you can set up the numbers and codes listed earlier.

### Example

In a billing company, a work package named Project Management with code AP001, shared code PL, and new number RAB001 was entered on a WBS line that you want to copy to one or more service companies.

### Internal Code

Billing company code AP001 is copied as is to all service companies.

### Shared Code

Shared package code PL is copied to all service companies instead.

### Activity IC Partner Ref.

Work package code RAB001 is copied to service company IC1020.

As you can copy projects from one billing company to multiple service companies, the first two options apply to all existing service providers.

The third features company-based code calculations for service companies, which makes it the most flexible but also the most time-consuming setup solution.

For resources or resource groups, there also exists the option of converting a certain resource in the billing company into a resource group in the service company as you copy data from one to the other.

This option is particularly useful if a certain resource is entered on a budget line in a billing company, but the partner company only requires that the line be completed by a member of the related resource group, and the other way around.

To turn on the option, select Resource IC Partner Ref. in the Outbound Job Resource No. Type field on an intercompany card. You also need to assign the resource to the relevant service company. To do this:

1. Open the relevant resource card.
2. On the ribbon, choose Related > Resource > IC Partner References.
3. Fill in the fields as necessary.

Field	Description
Type	Specifies the type of record. In our example, the field is set to Resource automatically.
No.	Specifies the number of the record. In our example, the number of the resource is filled in automatically.
Cross-Reference Type	Specifies the type of company reference. In our example, the type is set to Vendor.
Cross-Reference No.	Specifies the number of the company reference. In our example, the vendor number is retrieved from the service company.
New Type	Select the type that you want to store in the service company, for example, Resource Group.
New No.	Specify a new number based on the preceding field.
Description	Enter a description of the intercompany reference.

Another field on the FastTab is the Outbound Job No. field, which shows the number that you want to use for jobs copied to the partner company. The options in this field are described in the following table.

Field	Description
New No.	Assigns to the job the next number from the default series that you set up for new jobs in the service company.
Shared Job No.	Retains the number from the billing company so that the number will be the same in both companies.
No. Series	Assigns a new number from a specific series that must exist in both companies. The number series is selected in the Outbound Job No. Series field.

#### Register a service company

Service companies must also be configured before first use.

Choose an IC partner

Like a billing company, a service company must be assigned to an IC partner. To assign a partner:

1. Choose the Search icon, enter Intercompany Partners, and then choose the related link.
2. On the ribbon, choose New to set up a partner.
3. Fill in the fields as necessary.

#### General

Field	Description
	Specify the currency used by the billing company that you want to assign to the subcontractor.
Currency Code	<p>If the billing partner uses another local currency than the service company, the code specified for the currency must be the same in both companies.</p> <p>In our earlier example, where the billing company's local currency is EUR and the service company's is DKK, EUR needs to be specified as a currency in the service company.</p>
Transfer Type	<p>Specify the type of data transfer.</p> <p><b>Note</b> Intercompany project management in KUMAVISION project365 currently only supports data transfers between billing and service companies stored in the same database. This field must therefore be set to Database.</p>
Company Name	<p>Enter the name of the billing company.</p> <p><b>Note</b> Intercompany project management in KUMAVISION project365 currently only supports data transfers between billing and service companies stored in the same database.</p>

#### Sales Transaction

This FastTab shows the customer assigned to the service company's IC partner.

To set up a customer, open a customer card and fill in the IC Partner Code field on the General FastTab. The Customer No. field is then filled in automatically.

In the Outbound Sales Resource No. Type field, you specify if you want the number of a billing resource to change when a sales invoice is sent by the subcontractor to the billing company, where it is converted into a

purchase invoice. Billing resources are used by service companies to charge for work they have done on a project. The options available in the field are described in the following table.

Option	Description
Internal No.	Copies the number of the resource from the service company's outgoing invoice to the billing company's inbound invoice.
Shared No.	Replaces the number of the resource on the billing company's inbound invoice with the value specified in the service company on the card of the resource in the Shared No. field.
Resource IC Partner Ref.	Replaces the number of the billing resource on the billing company's inbound invoice with an IC partner reference, which is stored as additional information on resource cards in service companies.

#### Note

This field is not to be confused with the Outbound Job Resource No. Type field.

The Outbound Job Resource No. Type field is used to copy jobs, including selected WBS and budget lines, from a billing to a service company and is maintained by the billing company [see Register a Billing Company](#).

The opposite is true for the Outbound Sales Resource No. Type field, through which the system converts resource numbers on sales invoices sent to billing companies. This field is updated only in service companies and extends standard functionality to include IC transfers of resource-type invoice lines, which are needed to calculate job usage based on billing resources.

You can also use the Outbound Sales Resource No. Type field for other purposes, for example, when you don't work on a specific job but want to copy a sales invoice with resource lines between companies.

The Shared Type or New Type field must then be set to Resource, as only resources, not resource groups, can be copied to sales and purchase invoices.

#### Copy jobs from billing to service companies

As described earlier, you must set up an IC partner as a customer and another as a vendor if you want to copy a job from a billing to a service company.

Before you can exchange information between them, you also must have specified how basic job information is converted during transfers, including conversion rules for resources and resource groups, work packages, phases, tasks, steps, and work types.

#### Create a job in a billing company

To use intercompany management, a billing company must be specified as the main contractor. You also need to create a job with WBS lines and budget lines and select a customer for it.

Additional fields on the job card, on the Intercompany FastTab, then show the status of transfers between the billing company and its subcontractors.



The No. of IC Partners is the only relevant field on this FastTab in a billing company. The field shows the number of service companies to which the job has been copied. The other fields are required by service companies and are described later.

Before you can copy a job to a service company, you need to open the relevant WBS and assign a partner through the IC Partner Code field to each line that you want to transfer. You then need to run the Copy Job to IC Partner function from the job card.

### **Example**

You want to copy a job to an IC partner that was asked by a billing company to finish certain WBS lines as a subcontractor. The other work packages will be completed by the billing company itself.

The budget lines you set up for the job are then copied alongside their WBS lines to the service company—except for the budget line that you created for intercompany reconciliations. To prevent the system from copying this line, you selected the No IC Transfer checkbox there.

#### **Specify resource prices**

Besides WBS and budget lines, you can use prices that were agreed on by a service and a billing company to create invoices for internal billing. Each price you enter on the Job IC Partner Resource Prices page applies only to a specific job.

When you copy a job, the price is then copied to the service company's Job Resource Prices page. The fields on both pages are identical.

Based on what option you selected in the Type field, you can enter price information for specific resources, resource groups, or all resources.

A price that is stored in the Price (LCY) field is always shown in a billing company's local currency. This is because the work performed by subcontractors will be billed in the currency specified for the billing company.

#### **Copy a job to a service company**

To copy a job from a billing to a service company:

1. Open a job card.
2. Choose Copy Job to IC Partner.
3. On the Options tab, choose the IC partner to which you want to copy the job.
4. Choose OK to start the transfer. The number of records copied is shown when the process is complete.

### **Note**

A job can only be copied if it is set to Open and the WBS lines you want to transfer have the work status In Progress or Open.

Running the function increments the value in the No. of IC Partners field in the billing company (see the Intercompany FastTab on the job card). This field specifies to how many partners a job has been copied so far. You can go to the field to open a list that shows all IC partners assigned to the job and the number they gave the project.

As the same job can be copied to an IC partner multiple times to update information, the number of times a job was copied to a single business is shown as well. To see a complete log of all transfers, select the No. of Transfers field.

A job is copied to only one intercompany partner at a time. However, you can run the Copy Job to IC Partner function as often as you need. You can also use it repeatedly, for example, to copy additional WBS lines to the same IC partner or to add new price agreements from the Job IC Partner Resource Prices page.

As mentioned, running the function more than once to copy data to the same job and partner increases the value in the No. of Transfers field in the Job IC Partner table by one.

Each time, the function checks if the billing company contains all the data necessary for transferring resources and resource groups, work packages, phases, tasks, steps, and work types to the relevant service company.

For example, if you select Shared No. as the outbound job resource number type on a resource card, the system checks during transfer if this field has been filled in for each resource and group that you want to copy and then copies its value to the subcontractor.

The same applies to conversions based on the Activity IC Partner Reference option. If you use this conversion rule, all data that you want to copy must have a reference entry to an activity in the billing company, and the New No. field stored there cannot be blank. However, the function doesn't check if new values calculated according to the rule are valid in the service company.

#### Review data in a service company

Prior to an explanation of how to review job data, an example will demonstrate how much of a job stored in a service company is copied from a billing company.

#### Scope of data transfer

A number is assigned to a job in a service company depending on what option you chose in the Outbound Job No. field on the billing company's job card.

In our example, the New No. option has been chosen on the job card. When the job is copied from the billing to the service company, a new number is then assigned to the job automatically. This number is the same as the number that is stored in the billing company's IC partner list.

In the service company, you can now see on the Intercompany FastTab on the card of the same job where the project originates. The two jobs are therefore linked—the prerequisite for copying invoices and assigning ledger entries between companies.

Linking a service to a billing company also fills in other Intercompany FastTab fields relevant to the service company. They are described in the following table.

Field	Description
Source IC Partner Code	Specifies the code of the IC partner if a job is copied from a billing company. The field is empty if the job is a standard job with no intercompany reference.
Source IC Partner Job No.	Shows the number of a job stored with a billing company if the job has been copied from there. This field is empty if the job is a standard job.
IC Review Status	A job copied from a billing company must be reviewed in the current service company before it can be posted. This field shows the status of the review.
	<b>(blank)</b> The job is a standard job that hasn't been copied from a billing company.
	<b>Open</b> The job needs to be reviewed.  A job receives this status automatically after its initial transfer from a billing company. When you repeat the transfer, the field is filled in again if new data is copied to the job.
	<b>Completed</b> The job has been fully reviewed.
IC Res. Price Review Open	Shows if the transfer included job resource prices that still need to be reviewed.
IC WBS Line Review Open	Shows if the transfer included WBS lines that still need to be reviewed.
IC Budget Line Review Open	Shows if the transfer included budget lines that still need to be reviewed.

The customer stored with the service company is the billing company, as the service company isn't the end customer but the subcontractor.

If a billing and a service company use different local currencies, we recommend that you already store the invoice currency for the organization that bills services with the company that supplies them. Invoices sent between a service and a billing company always appear in the currency set up for the billing company.

Copying job data to a service company also copies information from the job's WBS header and lines, including from its budget lines. In our example, the work package ordered is transferred as well, with the rest of the packages to be completed by the billing company on its own.

You can copy a job from a billing to a service company more than once. If you do so, the system will skip WBS or budget lines that have been copied to the subcontractor in the past. For this reason, the IC review status of all budget lines is identical to that of their WBS lines.

In the service company, you can then edit the copied WBS and budget lines or create new lines manually. You can also create budget lines for a WBS line transferred from the billing company. This means that jobs set up in service companies can have both WBS and budget lines with and without a reference to a billing company.

Job transfers additionally include the headings and extended texts that were entered on WBS and budget lines to help subcontractors provide required services. However, this again only occurs the first time you copy lines. Neither headings nor texts will be updated during repeats.

Similarly, comments entered for a job, WBS lines, or budget lines aren't copied at all, as they're considered internal information intended only for employees of the billing company. Dimensions (on a job header, on WBS lines, and on budget lines) typically aren't copied either, as they're recalculated in service companies depending on how you set them up there.

Job IC resource prices, on the other hand, are transferred to the Job IC Prices page. Furthermore, some base data used for project management is converted according to the rules specified in the billing company. This includes data regarding resources and resource groups, work packages, phases, tasks, steps, and work types.

Still, after a project has been copied to a service company, multiple fields on the job header, the WBS lines, and the budget lines remain blank. Examples are the address fields on the header and the price fields on the lines.

When you transfer a job, the system strictly applies the specified conversion rules to make changes to data in the service company. However, it doesn't check if a copied field value can be used in that company.

For example, although job usage might be assigned to a resource group, the system doesn't check whether the group exists in the service company. Because there might be other missing and partly non-validated information, the Locked toggle on the card of a copied job is set to Post automatically after each transfer. You then need to review the job before you can post to it.

#### Review a job in a service company

Sometimes, the conversion rules that you specified for intercompany transfers might not be enough. For example, the phase, task, and step codes that you set up for a job might not exist in the service company to which you copied the project.

To check job data in a service company:

1. Open a job card in the company.
2. Choose Actions > IC Review on the ribbon.
3. On the Options tab, select for phase, task, and step codes whether you want to have them created automatically or whether the review process should be canceled with an error message when a code doesn't exist.
4. If a job transfer has created inconsistencies in other data, for example, when it comes to resource groups, the process will be canceled regardless.
5. Choose OK to start the review.

The system then runs a check on all job-related data that was copied to the service company. If the process is cancelled because of an error, you can correct the error manually and run the function again.

Following the review, part of the fields on the Intercompany FastTab on the job card are updated as described in the following table.

Field	Description
IC Review Status	The status of the review is set to Completed.
IC Res. Price Review Open	The status of resource prices to review is set to No.
IC WBS Line Review Open	The status of WBS lines to review is set to No.

At this point, the Locked toggle on the General FastTab is turned off as well, which unblocks postings to the job.

The status of the job, however, is still set to Quote. To start the project, you need to change the status to Open in the usual way, through the Status field. You also need to enter a project manager in the Person Responsible field.

To post consumption to a work package entered on the WBS of the job, you need to change the work status of the package to Released. You can then specify additional packages on the WBS if necessary.

### Example

You define a package for coordinating work with the business that placed the order. As the package isn't invoiced to your intercompany partner, you set the Billing Type field for it to No Billing. This way, the WBS line on which you entered the package in the service company will not be linked to a line in the billing company.

### Post consumption in a service company

Before you can post time and material usage for a project in a service company, you need to ensure that the data pertaining to the job is validated (see [Review a Job in a Service Company](#)).

The project is then treated like any other: Employees can record their hours on it, and the project manager can approve these hours and post them to the job.

Sales invoices can also be created in the usual way, by using the suggestion feature. The differences to standard processes start when you're about to post an invoice to the billing company. Not only will it be submitted through an IC transfer, but it will be recreated as a purchase invoice there as well.

Meanwhile, the job ledger entries created from item and resource consumption are aggregated into intercompany commitments. For more information, see [Billing Company Commitments](#).

### Post time

To post hours on a WBS line set up in a service company, you must change the work status on the line to In Progress. You can then enter and post hours through your job time journal.

### Example

You post two hours spent on coordinating work with an IC partner in the time journal. The remaining hours will go toward the services requested by the partner.

**Post job ledger entries**

To convert posted hours into job usage, open a job journal and choose Process > Get Time Entries. This posts the journal lines and creates job ledger entries.

**Billing company commitments**

Typically, invoices exchanged between a billing and a service company are based on job usage entries posted in the service company. These, in turn, often originate from hours posted by the subcontractor's employees.

As the intervals between posting job-related work hours, converting them into usage, and billing them might be relatively long, it could prove helpful to be able to estimate the expenses incurred by a service company before an invoice is even created.

These estimates show up in billing companies as intercompany commitments. They represent either hours recorded for a job in a service company but not yet posted as usage or job usage posted but not yet invoiced. Commitments consist only of entries that can be invoiced and that originate from WBS lines included in an IC transfer to the service company.

To (periodically) collect and compile billing-relevant time and usage entries, you can run the Calculates Lines function from the Job IC Commitment page.

**Show unbilled entries**

Although the Job IC Commitment page looks like a journal, it's not used to post but to collect job data from a subcontractor and show that data in a billing company.

As a billing company can be linked to multiple service companies and data for each might be available at different times, every company providing services gets its own intercompany commitment page, with the page bearing the name of the business it was created for.

To copy data from a subcontractor to this page:

1. Open a billing company.
2. Choose the Search icon, enter Job IC Commitment, and then choose the related link.
3. Select an IC page in the Name field.
4. Choose Calculate Lines on the ribbon.

The page then shows the intercompany commitment values copied from the service company. If there are no unposted time entries, the commitment will consist entirely of job ledger entries (see the Entry Type field).

The transfer includes only entries from ordered, billable work packages; non-billable packages aren't copied from the service company.

The fields that can be found on the page are described in the following table.

<b>Field</b>	<b>Description</b>
Job No.	Shows the number of the job as specified in the billing company.
Job Description Sell to Customer No. Sell-to Customer Name	Shows these fields as they appear in the job set up in the billing company.
WBS Line No.	Shows the number of a WBS line set up in the billing company.
Type No. Phase Code Task Code Step Code	Shows these fields as they appear on the WBS line set up in the billing company.
Budget Line No.	Shows the number of a budget line set up in the billing company.
ICP Job No.	Shows the number of the job as specified in the service company.
ICP WBS Line No.	Shows the number of a WBS line set up in the service company.
ICP No. ICP Phase Code ICP Task Code ICP Step Code	Shows these fields as they appear on the WBS line set up in the service company.
ICP Budget Line No.	Shows the number of a budget line set up in the service company.
Entry Type Entry No.	<p>The Entry Type field has two options: Time and Job Ledger (Unbilled Usage). A line on the page thus refers to either a time or a job ledger entry copied from the service company.</p> <p>The Entry No. field shows the number of the entry as specified in the service company.</p>
Posting Date Document No Resource No. Description Start Time End Time	Shows these values as specified for the time or job ledger entry set up in the service company.
Quantity Unit of Measure Code Qty. per Unit of	Shows quantity and measurement values as specified for the time or job ledger entry in the service company.



Field	Description
Measure Quantity (Base)	
	The first field shows the expected unit price that will be used for invoices sent from the service company to the billing company.
	Prices and amounts on IC invoices are always given in the billing company's local currency.
Unit Price (LCY)	
Line Discount %	If the line on the page refers to a usage entry in a service company, as determined by the Entry Type field, the values in these fields are copied from that entry (with amounts given in the invoice currency).
Total Price (LCY)	
	If the line refers to a time entry stored in the service company, the values in these fields are transferred from a budget line—provided one is available. Otherwise, they're set to 0.
Performance Date	
Performance Resource No.	These fields also originate from either a time or a usage entry stored in the service company. They're used for informational purposes only, to provide a more detailed description of the services rendered.
Performance Resource Name	
Performance Unit of Meas. Code	When the service company submits an invoice to the billing company, the values in these fields are copied there alongside other job data.
	The job ledger entries stored on the invoice will later be transferred to the bill sent to the end customer (see the Sell-to Customer No. field).

Running the Calculate Lines function as described earlier deletes all lines, even those copied previously, before retransferring data from the service company.

This function is the only tool available to you for updating lines on an IC commitment page. Posting new time or job ledger entries in the service company will not have the same effect.

In short, you need to run the function in the billing company on a regular basis and do so at the latest before you intend to analyze the IC commitment with the help of fields calculated automatically on the company's WBS lines.

#### Show on a WBS

Every WBS and budget line contains two fields for determining a billing company's IC commitment. One shows the commitment by quantity, the other by value. Both fields are sourced from the Job IC Commitment page.

As this page shows the WBS and budget lines of all service companies assigned to a specific job, we recommend that you include the commitment fields in analyses only after you have updated the relevant IC commitment pages. Both fields are described in the following table.

Field	Description
Qty. IC Commitment (Base)	Shows the result of totaling the Quantity (Base) fields of all data records in the Job IC Commitment Line table.
Total Price IC Commitment (LCY)	Shows the result of totaling the Total Price (LCY)) fields of all data records in the Job IC Commitment Line table.

#### Send invoices to a billing company

A group of intercompany-specific outbound and inbound transactions is used to bill consumption posted in a service company to the company invoicing the work to the end customer.

#### Create an outbound invoice in a service company

You create invoices in a service company in the usual way, through suggestions. To create an invoice that you want to send to a billing company:

1. Open a service company.
2. Choose the Search icon, enter Invoice Suggestion, and then choose the related link.
3. On the ribbon, choose the Create Suggestion Lines function. This fills in the page with all consumption entries posted for the services provided.
4. Select the Direct Invoice checkbox for entries that you want to bill.
5. On the ribbon, choose the Create Invoice action, and then choose OK to create an invoice from the suggestion.

#### Example of an outbound invoice

Following on from our earlier example, you run the Create Invoice function from the Invoice Suggestion page to create an invoice with amounts given in EUR, the billing company's local currency. In the service company, EUR is a foreign currency, as the local currency set up there is DKK.

Running the function then creates a resource-type invoice line showing the number of the billing resource that you specified for the Project Management work package.

The line also includes invoice entries. These are later used to close the job ledger entries stored on the line and provide proof of performance.

#### Post an outbound invoice

Posting an invoice in a service company creates a posted invoice, invoice lines, and invoice entries, as well as G/L, resource, and job ledger entries of type Sale. As the customer entered on the invoice is set up as an IC partner, this process additionally triggers an outbound transaction.

Standard intercompany transactions aggregate data for outbound documents such as invoices and credit memos on the Intercompany Outbox Transactions page. The page is now also used to submit the posted (outbox) invoice from the service to the billing company.

To see the document that you want to transfer, open the page, select the invoice, and then choose Outbox Transactions > Details on the ribbon.

In our example mentioned earlier, the outbox transaction is used to transfer a posted sales invoice, with amounts given in foreign currency EUR, from the service company to its IC partner. Standard functionality only transfers invoice lines through outbox transactions if the lines you want to send are of type Item or G/L Account. Because of the use of billing resources in the project365 industry solution, the functionality has been extended to give you the added option of sending resource-type invoice lines to an IC partner.

Furthermore, fields were added to the standard outbox transaction lines to show you job information stored in billing companies, for example, in the Source IC Partner Job No. and Source IC Partner Work Package Code fields.

Outbox transaction lines also have invoice entries. These are copied from the lines of a posted invoice when you set up an IC transaction.

In the Comments and Comments (Job Ledger Entry) fields, you can view the internal and billing-related comments for the job ledger entries you're about to invoice. When a transaction is sent to a billing company, only notes relevant to billing are copied to the company, whereas in-house comments are ignored.

The transaction in our example can now be transferred from the service to the billing company for further processing.

#### **Send an outbound transaction**

To transfer data on the Intercompany Outbox Transactions page:

1. Select the IC transactions that you want to send.
2. On the ribbon, choose Actions > Send to IC Partner. This sets the Line Action field of all selected transactions to Send to IC Partner.
3. Choose Functions > Carry Out Line Actions, and then choose OK.

Based on our earlier example, this would copy the outbox transaction created in the service company—along with the posted sales invoice—to the billing company.

Afterward, the document would be moved automatically from the Intercompany Outbox Transactions to the Handled Intercompany Outbox Transactions page.

#### **Inbound transactions and purchase invoices**

Outbox transactions sent from a service company are received by a billing company as inbox transactions. The transaction information then needs to be checked before it can be used to create a purchase invoice. This invoice is later posted in the billing company to increase job usage relative to the amount of work performed by the service company.

#### **Receive a transaction in a billing company**

As the service and the billing company must always be stored in the same database, sending an outbox transaction will create an inbox transaction in the billing company automatically.

**Inbound transaction data**

To see what kind of data was received through an inbox transaction:

1. Choose the Search icon, enter Intercompany Inbox Transactions, and then choose the related link.
2. Select a transaction. On the ribbon, choose Process > Details.

On the header, the inbox transaction shows information about the intercompany partner and the vendor assigned to it. This information was converted from the partner's outbox transaction and is presented here from the vantage point of the billing company to which the transaction was sent.

The lines transferred together with the transaction relate to the job and WBS lines to which you need to post in the billing company.

When you initially sent this job to the service company, the number of the project, as well as the reference values on transferred WBS lines, were copied to the WBS in the service company for informational purposes.

These key fields are now used to identify the job and WBS lines you want to post to. Both the job and the specified WBS lines must exist in the billing company.

Existing invoice entries and, potentially, billing-related comments are also part of the transfer. Job ledger entry comments—viewed as internal information—aren't.

Additionally, the resource number on an outbox transaction line is copied as is to the corresponding inbox line. As the number might later be converted when you create a purchase invoice, it doesn't yet need to exist in the billing company.

**Accept an inbound transaction and create a purchase invoice**

When you've finished checking the transmitted data, you can use the information to create a purchase invoice from the Intercompany Inbox Transactions page in a two-step process:

1. Choose the IC transactions that you want to accept. On the ribbon, choose Actions > Send to IC Partner.  
This sets the Line Action field of all selected transactions to Accept.
2. Choose Process > Carry Out Line Actions, and then choose OK.

The system then creates a new purchase invoice from the selected transactions and moves them from the Intercompany IC Inbox Transactions to the Handled Intercompany Inbox Transactions page.

**Post purchase invoices in a billing company****View an invoice in a billing company**

The vendor shown on the invoice is the vendor set up for the billing company's IC partner, that is, the service company.

Going by our example mentioned earlier, the next field on the header, Currency Code, would be blank. This is because the invoice sent by the service company would be in the billing company's local currency, which is EUR.

The No. field on the invoice lines, on the other hand, would be filled in with the code of a billing resource. This code might change before being transferred to an invoice, based on what conversion option you choose in the Outbound Purch. Res. No. Type field on a service company's [IC partner card](#).

For example, if you choose the Internal No. option in the field, the resource number is converted according to the simplest of rules—or, more specifically, it remains as is.

#### Note

To transfer a resource to a purchase line in a billing company, you need to set the resource to External.

Meanwhile, the invoice entries initially transferred to inbox transaction lines are now copied to the Purch. Line Job Dstrn. page, where you can take a closer look at every invoice line created from the current IC transaction. To look at a specific line:

1. Choose the Search icon, enter Purchase Invoices, and then choose the related link.
2. Select a purchase invoice.
3. Go to the Lines FastTab and select a purchase line.
4. On the ribbon, choose Line > Purchase Line Job Dstrn.

Each line on the page might contain comments like those stored with invoice entries on inbox transaction lines. This means that the data shown on a purchase invoice in a billing company closely matches what you see on the original sales invoice sent by its service company partner.

#### Post an invoice

Prior to an explanation of how you post a purchase invoice in a billing company, some general notes about the Purchase Line Job Dstrn. page mentioned earlier:

The purchase line distribution feature isn't limited to the use case described in this article, that is, to transmit invoices between service and billing companies. Instead, as the name implies, it can be used to store all kinds of information on a resource-type purchase line if the line is assigned to a job and its work breakdown structure.

In short, the feature also allows you to store information about job-related subtasks on every purchase line on which a resource has been entered. The distribution lines created from this kind of purchase line receive from it not only the resource number and relation to a job and WBS line but also price specifications and line dimensions.

In turn, the quantity entered on all distribution lines combined must match the value specified on the purchase line.

But the feature can do more than provide you with an option to describe subtasks in purchasing. One notable benefit is its utility in posting partial consumption when you post a purchase invoice, as a consumption entry will be posted for each distribution line instead of one entry for the entire purchase line.

Posting a purchase invoice then copies the distribution lines (and the comment lines available for it) alongside other data to the invoice and assigns them to invoice lines.

Posting the invoice also creates G/L, vendor, resource, and consumption entries. The consumption entries are posted in a billing company to the WBS line from which they were originally copied to the business supplying services.

Fields such as Performance Date and Billing Resource Name, both of which are part of every consumption entry, can additionally be used to describe the work performed by the relevant service company in more detail.

**Invoice end customers in billing companies**

The end customer is invoiced in the same way as you would a customer for a non-IC job. The original source of the job ledger entries that you want to bill isn't relevant in this case.

## Control Costs

### Overview

In essence, project cost control is concerned with the difference between a job's budgeted and actual values. It helps ensure that the revenues you earn and the expenses you incur match estimates as much as possible. Comparing these figures over multiple periods is crucial for timely, effective project management.

The cost control functionality in Microsoft Dynamics 365 Business Central uses job ledger and account entries to show you how close your projects are to being cost-effective. Whereas job ledger entries record revenues and expenses related to day-to-day operations, such as item consumption or hours spent on a job, the work breakdown structure and the budget contain the expected sales and costs and form the basis for creating account entries from a chart of job accounts.

The accounts are linked to both the job ledger and the budget. This means that, like in Finance, you can use the account chart to create budget-to-actual comparisons for multiple cost types and generate a variety of business insights.

For even more insights into project performance, you can set up views to analyze the dimensions stored with job ledger and account entries. You can then set filters on budgeted and actual values, or on their variances, to specify what to include in a view.

### Basics

The chart of job accounts is the most important component of cost control. It covers the key values used for tracking cost performance, that is, the types of revenues and expenses you might encounter, and can be as compact or large (detailed) as you want.

Both the job ledger and the job account entries are created based on this chart. They are later consolidated in a financial report.

#### Chart of job accounts and account setup

Not unlike G/L entries in Finance, entries related to projects are linked to accounts with the help of Job Accounts Setup.

All accounts are identified by their general product posting group, job type, work package, and phase code. Any combination of these can be assigned to a sales and a cost account from the account chart. See the following table for more information.

Field	Description
Gen. Prod. Posting Group	Represents the general product posting group of an item, a resource, or a G/L account for which you specified usage or consumption, budget values or revenues. This group is the only mandatory field on the Job Accounts Setup page.
Job Type	Specifies the type of job.
Work Package Code	Specifies the work package from the WBS line on which you posted or budgeted usage or revenue.
Phase Code	Specifies the phase code from the WBS line on which you posted or budgeted usage or revenue.

You can use this information, for example, to determine

- resource expenses when managing research projects with internal resources.
- the cost of small items for onsite assembly.
- travel times of external employees for major projects.
- follow-on orders (=phase code) for customer projects.

You must set up the chart of job accounts and fill in the Job Accounts Setup page based on what you want to analyze later.

#### Multi-use accounts

You can add an account more than once to Job Accounts Setup. To see if and how often an account is used:

1. Choose the search icon, enter Chart of Job Accounts, and then choose the related link.
2. Select an account. On the ribbon, choose Related > Account > Where-Used List.

The page that opens also shows where to find the account in templates created through the job measurement functionality.

#### Switch to setup with phase codes

Previous project365 releases didn't include phase codes in Job Accounts Setup. You need to switch to a newer version to make use of this feature.

1. Choose the Search icon, enter KUMAVISION Module Setup, and then choose the related link.
2. On the ribbon, choose Actions > Setup > project365 App Setup.
3. Turn on the Use Phase Code in Job Accounts toggle. This opens a dialog. Choose Yes.

Existing entries are now copied to a new setup page and deleted from the old one.



## Note

The setup without phase codes has been discontinued. Newer versions no longer support this feature.

### Job ledger entries = actual values

Each posting that goes toward a job creates a job ledger entry. These entries are the basis for billing, that is, they show job usage and consumption and store the revenues generated from invoices. They are also used to measure job progress.

When you post to a job, an account is assigned to the created job ledger entry based on what you entered in Job Accounts Setup. This gives you access to the latest data on job usage and sales so that you can track revenues and expenses throughout the lifecycle of a project.

### Job account entries = budget figures

Job account entries store the quantities and values from planning. They are created based on the planning level of a WBS line. They originate with budget line entries if you selected the Copy Budget checkbox on available budget lines or with the WBS line itself if planning is set to that level.

You need to run a function to create job account entries:

1. Choose the Search icon, enter Update Job Account Entries, and then choose the related link.
2. Set filters as necessary. If you don't set filters, account entries are created for all jobs.

You can also update entries for a single work breakdown structure. Open a WBS and choose Actions > Functions > Update Job Account Entries on the ribbon.

If you rerun the function, the account entries are deleted and recreated from scratch. This gives you greater flexibility when budgeting a job, as the dimensions, prices, and planning level of a project might be subject to constant change.

See the following table for an explanation of the Job Account Entries page. You can view this page by choosing Related > Job Account Entries on a WBS, for example.

Field	Description
Date	Uses the planning level to show the starting date of the relevant WBS or budget line.
Job Account No.	Shows the number of a cost account from the chart of job accounts.
Sales Job Account No.	Shows the number of a revenue account from the chart of job accounts.
Work Package Code	Shows the relevant work package.
Quantity (Base)	Shows the relevant quantity.
Total Cost (LCY)	Shows the relevant cost.
Total Price (LCY)	Shows the relevant price.
Entry No.	This field is filled in automatically when a job account entry is created.

As explained earlier, the product posting group is crucial to identifying the correct job account for cost control. If an account is retrieved based on budget lines, the system uses the group of the resource or item stored there to find the account.

If you plan at the WBS line level, the posting group related to the work package billing type and number is used. Typically, this is the group of a billing resource. Because of how account entries are stored in the system, you need to run the update function each time you change planning data.

If a job has more than one WBS, job account entries are created for all structures, but only the WBS that is currently active is shown in cost control.

We recommend you use the job queue to update account data on a regular basis.

#### Account entries for revenues

Typically, cash inflow is recorded later than expenses. In fact, project work is often paid for only in subsequent accounting periods.

However, to monitor jobs accurately, the system needs to store expected sales prior to payment. This is what the Sales Job Acc. Entries From field on the job card is for. You can find the field on the Planning tab. It has the following options:

#### Job Budget

Choose this option if you want job account entries to be created as described earlier. You can still use the Base Date Sales Job Acc. Entries and Formula Sales Job Acc. Entries fields to change the workflow to some extent.

If you choose Planning Date in the Base Date Sales Job Acc. Entries field, the assumption is that you generate revenue when you record job usage, and a date formula doesn't apply.

If the field is set to Date Formula, the date on which sales are generated is calculated based on the budget date and a specified formula.

### Example

The budget line shows 05/15/21. The system then calculates 06/15/21 as the date that needs to be stored with the sales account entry.

### (Advance) Payment Plan

Payment and advance payment plans work in the same way. The only difference is their data source. For more information, see the [Advance Payment](#) feature.

If you choose one of these options in the Sales Job Acc. Entries From field, you can no longer enter a base date or a date formula.

From this point on, the job budget is no longer required. Instead, revenue is created according to the payment plan. The plan is used to store all information needed for billing a job, such as posting dates and prices.

Allocating a sales account to a payment plan works in the same way as allocating a cost account when you create job account entries from a WBS line. The system will use a work package, a billing type, and a billing number (usually of a billing resource) to determine the correct account.

For cost control to capture the entire cash inflow, the final invoice must also be part of the plan. However, this invoice must include only the amount that remains after all amounts from partial invoices have been subtracted from the total price.

When you create the final invoice based on an invoice suggestion, the total price is shown on the invoice in addition to the partial amounts applied as credit memos.

If you want to use a payment plan in-house and remove it from billing, clear the Copy to Suggestion checkbox on the payment plan lines.

### Set up financial reports for jobs

You can now use the job ledger and account entries to set up financial reports for analyzing projects based on multiple criteria. The reports have the same purpose and function as those for analyzing G/L accounts and entries in Finance.

### Report setup

You can create more than one financial report, for example, to set up different reporting environments for internal and customer jobs. To create a new report:

1. Choose the Search icon, enter Job Financial Reports, and then choose the related link.
2. On the ribbon, choose New, and fill in the fields as described in the following table.

Field	Description
Name	Enter a name for the report.
Description	Enter a text that describes the report.
Row Definition	Specify the criteria for analysis on the lines. The layout stored in this field is used when you open a financial report but can be changed at any time.
Column Definition	Specify the criteria for analysis in the columns. The layout stored in this field is used when you open a financial report but can be changed at any time.

Row definition

The report itself is set up in a way that you can add accounts to individual lines. You can also specify formulas or enter lines that total amounts or quantities.

1. Choose the Search icon, enter Job Financial Reports, and then choose the related link.
2. Select a report. On the ribbon, choose Edit Row Definition and fill in the fields as described in the following table.

Field	Description
Row No.	Specify a number to sort lines according to your requirements.
Description	Specify the area that you want to show on the line.
Totaling Type	Choose one of the following options:
	<b>Job Accounts</b> Shows the value of one or more job accounts.
	<b>Total Accounts</b> Includes total lines from the chart of job accounts.
	<b>Formula</b> Uses a formula on the schedule.
Totaling	<b>Set Base for Percent</b> Calculates percentages of a total.
	Fill in this field based on what you selected as a totaling type.
	Specify the purpose of the line:
	<b>Net Change</b> Shows only transaction data.
Row Type	<b>Balance at Date</b> Totals data up to a given date.
	<b>Beginning Balance</b> Shows the starting balance of accounts assigned to the line.
Line Amount Type	Specify whether you want the line to show total prices or costs.
Show Opposite Sign	Select this checkbox if you want to show negative amounts as positive and positive amounts as negative.
Show	Specify whether the line is shown on screen and on printouts. Select If Any Column Not Zero, When Positive Balance, or When Negative Balance if you want to include the line only under the specified circumstances.
Bold Italic Underline Double Underline	Select one of these checkboxes if you want to see text in bold, in italics, underlined, or double underlined.
New Page	Select this checkbox if you want to insert a page break after the line.

## Actions

To insert an account into a row, choose Actions > Functions > Insert G/L Accounts. The row can then be used immediately.

## Column definition

1. Choose the Search icon, enter Job Financial Reports, and then choose the related link.
2. Select a report. On the ribbon, choose Actions > Functions > Edit Column Definition and fill in the fields as described in the following table.



Field	Description
Column No.	Specify a column in this field.
Column Header	Enter a name to describe the column on screen and on printouts.
Column Type	<b>Net Change</b> Shows only transaction data.
	<b>Balance at Date</b> Totals data up to a given date.
	<b>Beginning Balance</b> Shows the starting balance of accounts assigned to the line.
	<b>Year to Date</b> Shows all values created in the current year up to a given date.
	<b>Rest of Fiscal Year</b> Shows all values from a given date.
	<b>Entire Fiscal Year</b> Shows all values created during a full fiscal year.
Entry Type	Specify if you want to show job ledger entries, job account entries, or one of two commitments.
Value Base	Specify if the entry represents an amount or a quantity.
Formula	Fill in this field if you selected Formula in the Column Type field.
Show Opposite Sign	Select this checkbox if you want to show debit amounts as negative and credit amounts as positive values.
Comparison Date Formula	Fill in this field if you want to specify a period for budget vs. actual comparisons in relation to the period set in report requests. You can enter a common unit of time here (D, WD, W, M, Q, or Y).
Comparison Period Formula	Fill in this field if you want to compare accounting periods. You don't enter a unit of time here but a formula. For example, enter -1P if you want the system to retrieve the same range of dates one accounting period earlier.
Show	Specify if the column is always or never shown or only shown when values are positive or negative.
Rounding Factor	Specify if and how to round for clarity.
Financial report card	

You can select **Edit Job Financial Report** on the ribbon to see the card related to the new report. Report values are shown in the rows and columns according to the filters you set.

The header displays the names of the report and the row and column definitions. You can filter data there as well.

All default values on the page can be changed to meet your requirements. You can also use the lookup on a field to see how it relates to the chart of job accounts. On the page that opens, you can then use another lookup if you want to know where an entry originally comes from.

To switch from a report column (or analysis period) to another, choose **Column (or Period)** on the ribbon, and then choose **Previous Column (or Period)** or **Next Column (or Period)**.

To copy the financial report to a new Excel worksheet for further editing, choose **Export to Excel**.

### Analyze dimensions

As an alternative, you can use the dimensions posted with job ledger entries to monitor projects. Dimension-based analyses include both global dimensions—posted directly to job ledger entries—and additional dimensions linked to a job. For easy filtering, they're part of the following aggregated entries:

- Job analysis view entries—created from job ledger entries—to represent actual values.
- Job analysis view budget entries—created from job budget entries—to display budget figures.

### Dimension sources

Before you start working with this kind of analysis, it might be helpful to get an overview of the potential sources of a dimension linked to a job, a WBS line, or a budget line, as listed in the following.

#### Note

For a basic overview of dimension capabilities, see [Work with Dimensions](#).

### Sources of job dimensions

- With certain fields in **Jobs Setup** filled in, the dimension (for example, a cost object) might have been automatically added to the job, with the code of the dimension matching the number of the project.
- The dimension might have been entered on the template from which the job was created.
- The dimension might be assigned to a job type. You can set up one dimension per type of project in [Jobs Setup](#), with the dimension value matching the type.
- The dimension might have been copied when a customer was assigned to the job. Alternatively, it might have been transferred from a contact or a customer template assigned to the job if the project was set to **Quote** at the time.
- The dimension might have been added when a project manager was entered for the job provided you've turned on the relevant feature in [Jobs Setup](#).
- The dimension might have been copied from a main job linked to the project.
- The dimension might be from a responsibility center that was entered for the job.
- The dimension might have been copied from a salesperson if the code of that person was added to the project.

## Sources of WBS line dimensions

- The dimension might be among those that are inherited from the job to the WBS lines set up for the project.
- The dimension might be from the work package master if a work package was validated on the WBS line.

## Sources of budget line dimensions

- The dimension might be among those that are inherited from the WBS line to the budget line during creation of the latter.
- The dimension might have been copied from a resource (group), an item, or a G/L account when the No. field was validated on the budget line.

## Dimension sources during job postings

A dimension that is stored with base data (such as a resource or a vendor) might be passed along to all kinds of documents and journals in the system.

- A job dimension is copied to a document or journal line when the job number has been validated on the line.
- A dimension stored with a work package is copied to a WBS or a budget line when either line is selected for posting. What line must be selected depends on the posting level specified for the job.
- Even WBS or budget line dimensions created manually in planning are copied to job ledger entries if certain fields in [Jobs Setup](#) are filled in.

On the [Dimensions FastTab](#) in Jobs Setup, you can see the criteria that will be used for job-related dimension transfers. You can also fill in or change fields on the tab to specify, for example, what dimensions the system should set up for job types or for main jobs and how it should copy dimensions from project manager resources.

### Job analysis views

Job analysis views offer insights into project data based on analysis view entries and analysis view budget entries.

Analysis view entries can be set up on the job analysis view card. You can use four additional dimensions per card.

To open a list of all cards, choose the Search icon, enter Job Analysis View List, and then choose the related link.

Each line on the page shows if budget values will be created from the card, when the card was last modified, and what dimensions are available.

Choose a card for editing and then fill in the fields as necessary.

## General

Field	Description
Code	Specifies a code for the job analysis view. The code must be unique and can reflect the purpose of the view.
Name	Specifies the name of the view.
Job Account Filter	Specifies the accounts that will be analyzed. If the field is left blank, the job analysis will include all accounts.
Job Filter	Specifies the jobs shown in the view.
Date Compression	Used to define for which period entries need to be merged, that is, how detailed a view will be.
	For example, if you want a monthly summary, you can use this field to total the job ledger entries created during a full month and combine them into a single entry.
	The date of the first posted job ledger entry is then assigned to the entire period.
	Entries are totaled in a way that no data required for analysis is lost. For example, entries included in the analysis must have identical dimensions.
Starting Date	Used to set a date from which entries are included in the view.
	All job ledger entries posted on or after this date are then compressed to the level you chose in the Date Compression field. Earlier entries are merged into one entry shown on the date immediately preceding the starting date.
Last Updated On	Shows when the card was last updated.
Last Entry No.	Shows the number of the last job ledger entry that was posted before you updated the view. Entries posted since the last update aren't included in a view.
Last Budget Entry No.	Shows the number of the last job budget entry that was entered before you updated the view. Entries specified since the last update aren't included in a view.
Include Budgets	With the toggle turned on, job budget entries are also updated. This creates analysis view budget entries automatically.
Blocked	If this toggle is turned on, the view cannot be used at all.

## Dimensions

On the Dimensions tab, choose the four additional dimensions you want to analyze on the card.

## Actions

To store selected dimension values, choose Related > Analysis > Filter on the ribbon. This ensures that only certain values are totaled on the card.

You can also choose Update to find all job ledger and account entries that match the filters you set and use them to create job analysis view and budget entries.

If card changes affect existing analysis entries, the entries are deleted. For example, if you edit the Date Compression field or a dimension filter, the job analysis view and budget entries are recreated at the next update. This step is necessary because the criteria for creating entries have changed.

#### Entries created

Every time you update a view, the system creates data-rich job analysis view and job analysis view budget entries from the job ledger and job budget entries that include the four dimensions you want to analyze.

The analysis view budget entries contain the values shown in the view, the budget name, and the job account, followed by the four dimensions, the posting date, the quantity, and the amount. In short, they represent the link between key data stored with job account entries and the dimensions of a document.

The same is true for analysis view entries. In this case, dimension data is merged with data from job ledger entries.

In the Quantity and Amount fields, you can use a lookup to see where an entry originates.

#### Analysis views on financial reports

You analyze by dimensions in the same way you analyze by job ledger and account entries.

Open a row definition and use the Assist button next to the Name field at the top to look at the name of the assigned analysis view. If you chose a view, the report will be filled in automatically with analysis view entries.

You can use the lookups on individual lines to identify what analysis view entry was used to fill in a certain line. Choosing the lookup first opens a page that shows the job account chart related to the account used in a certain column.

When you then select a Quantity or a Cost Amount field, you can see the job analysis view entry and the dimensions stored for the analysis view.

#### Difference to standard functionality

At a cursory glance, the added views might not seem to offer anything new. But you can now set flow filters on the four dimensions described earlier.

You can already store these filters when you set up a row definition. To use them, unhide the four columns that show the relevant dimension values.

The benefit of specifying filters on the report instead of each card individually is that analyses will all have the same design and thus remain comparable over time.

## Job analysis by dimensions

Job analysis by dimensions also uses the analysis view and analysis view budget entries described earlier.

1. Choose the Search icon, enter Job Analysis View List, and then choose the related link. This shows you list of all views that have been specified so far.
2. On the ribbon, choose Analysis by Dimensions to open the setup and filter view. The date, job account, job, budget, and responsibility center filters are included by default.
3. Choose the other four dimensions based on the selected analysis view. Each dimension can be assigned to a row or a column. You don't need to specify a default value for a dimension (as is required for a financial report). To link the dimension to an account, the system will use the job accounts stored with the analysis view card, and you can set filters on them there.

The other fields shown on the card are described in the following table.

### Filters

Field	Description
Date Filter	Limits the period for analysis based on a posting date.
Job Filter	Limits the number of jobs shown.
Budget Filter	Used to include a certain budget. You limit the display of budget values on the Options tab.
Responsibility Center Filter	Limits analysis to a certain responsibility center.

## Options

Field	Description
Show	<b>Actual Amounts</b> Shows the actual values posted.
	<b>Budgeted Amounts</b> Shows the values allocated to the budget on the Filters tab.
	<b>Variance</b> Shows the difference between budgeted and actual values as a number.
	<b>Variance %</b> Shows the difference between budgeted and actual values in percent.
	<b>Index %</b> Shows the difference between budgeted and actual values as an index. An index of 100 means that the values are identical. If the percentage is above or below 100, the actual values are greater or smaller than the budgeted values.
Show Amount Field	Two options are available in this field.
	<b>Quantity</b> Shows the values as quantities only. For usage entries, these are the actual posted quantities—changes to invoice quantities not included.
	<b>Amount</b> Shows the amounts stored with the relevant entries.
Rounding Factor	This field reduces large values If you want to see more than one column in a view.
	<b>None</b> Shows values unchanged and with all decimals.
	<b>1</b> Shows integer values without decimals.
	<b>1000</b> Shows values in units of thousands.
	<b>1000000</b> Shows values in millions.
Show Column Names	Specifies if you want to show the names of individual columns. For example, you can use this field to switch between job account numbers and descriptions.
	Specifies if you want to show negative values as positive and positive values as negative.



Field	Description
-------	-------------

Show	
Opposite	
Sign	

## Actions

To swap line and column views, choose Related > Actions > Reverse Lines and Columns on the ribbon.

To open the analysis by dimensions matrix, choose the Show Matrix action. There, you can choose Export to Excel to copy the analysis data to a new Excel worksheet.

### Job analysis views vs. job analysis by dimensions

Both options create analysis view and analysis view budget entries based on a job analysis view card.

Job analysis uses a view that has fixed lines and columns, created from row and column definitions. For a more targeted assessment of jobs, you can set filters on up to four additional dimensions.

However, job analysis by dimensions puts even fewer restrictions on how views can be structured. Both the lines and columns can show default dimensions, such as the job account and period, and additional dimensions set up on the analysis view card.

Moreover, you can swap the lines and columns and don't need to create a layout for either. The drawback is that you can only see what has been budgeted, posted, or the difference between those numbers. But, as an example, you cannot use this view to compare budget to actuals by including all three values.

### Track ongoing jobs

You can use multiple functions to assess an ongoing job at the push of a button.

## Statistics

The statistics available for jobs and main jobs can provide you with key insights into project progress and performance. They include budgeted and actual figures and the variance between both. To view the statistics:

1. Open a job card.
2. Choose Related > Job > Statistics on the ribbon.

You can now see a job's budgeted and actual values.

## Budgeted

This tab shows you the budgeted values at the level of the WBS and the budget lines, that is, detailed planning.

## Achieved

This tab shows you how far the job has progressed.

The fields of both tabs are described in the following table.

<b>Field</b>	<b>Description</b>
Budget (LCY)	Shows the budgeted total cost based on WBS lines in local currency.
Earned Value (LCY)	Shows the result of Budget (LCY) * Job Completion %.
Usage (LCY)	Shows the usage total costs in local currency.
Cost Variance (LCY)	Shows the result of Earned Value (LCY) - Usage (LCY). This tells you by how much a job deviates from budgeted values because of the percentage of completion.
Cost Variance %	Same calculation as for the Cost Variance (LCY) field, the difference being that this field shows the deviation from the budget in percent.
Job Completion %	Shows how much work has been completed compared to the total amount of work required to finish the job. The value in this field is determined by comparing the WBS line values entered by the project manager to the job budget.
Estimated Total Cost (LCY)	Indicates the total cost of the job if work continues as before. This field is determined by comparing the Usage (LCY) and Job Completion % fields.
Posting Progress %	Shows how much of the total budget has been used.
Cost Efficiency	Shows the ratio of earned value to usage. A value below 1 indicates a poor result.

#### Budget vs. Actual

Compares job usage to budget figures.

#### Advance Payments

For more on this FastTab, see [Track WIP](#) and [Advance Payment](#).

#### Job cockpit

Both the job list and card contain elements of a job cockpit. In some cases, you need to use the Personalize function to unhide these elements.

Except for the color indicators, the cockpit on the job card shows the same fields as the cockpit on the list.

The list cockpit is split into two areas. The indicators are shown directly on the list in the form of columns. Fact boxes that describe the job can be found to the right.

#### Indicators

Two list indicators are available to visualize actual usage and profit in percent.

To turn on these indicators, you need to specify in Jobs Setup when you want one of them to go from green to yellow and from yellow to red. This setup will then be used for all jobs.

The symbols you want to show can be imported as a JPG file to the Documents tab on the Company Information page.

### Fact Boxes

The fact boxes provide you with a clear, concise overview of various kinds of project-related information. You can also personalize them to meet your needs. All boxes are available on job cards as well.

### Budget/Usage Incl. Commitment

On the first line below the heading, the job budget is given in local currency. Click this value to see the active WBS.

The remaining values are shown in the form of bars so that you can visually compare job budget and usage, that is, actual usage and commitments.

### Budget vs. Actual

Displays the same values as the previous box but shows them as numbers. Except for Stock Commitment and Remaining Budget, which are determined automatically, you can open the source tables of all lines by clicking the relevant figure.

### Job Documents

Broken down by sales, purchase, and job documents, this list shows the number of documents associated with the job. Click a number to view the related documents.

### Payment Plan

Indicates when the payment plan says you need to send the next invoice. This plan isn't the same as an advance payment plan, which would show in another box (advance payments are handled by a separate app). Besides a projected invoice date, the plan includes the total price expected for the job.

### Invoice Overview

Provides a visual update on billing. The bar on the left shows—in local currency—the budgeted total price according to the WBS.

The bar in the middle displays the total price invoiced so far and the open job ledger entries. It is the most important bar regarding jobs that are billed based on time and materials. The bar on the right shows what entries remain according to the payment plan. As you can use plans for both fixed-price and time and materials jobs, this bar is relevant in both cases.

### Compare budget to actuals for work packages

To perform a budget-to-actual comparison at the work package level:

1. Select a job on the Jobs page.
2. Open the active WBS of the job.
3. On the ribbon, choose Process > Budget vs. Actual.

On the General FastTab, you can now see the fields of the selected WBS. You cannot change them here. The fields required for comparison can be found on the WBS Line Usage FastTab, near the end of each line. They

include fields indicating job progress and those showing the quantities and amounts budgeted and consumed for the job.

Regardless of which WBS version you open, that is, which version is used to fill in the budget figures, the actual values are always the same. This means that you can open any version to compare budget to actuals.

As the Budget vs. Actual page is just another kind of WBS view, only fields that aren't explained in the WBS portion of this documentation are described in the following.

<b>Field</b>	<b>Description</b>
Budgeted Quantity	Shows the budgeted quantity totaled from all work packages assigned to the job.
Usage Qty. (Base)	Shows the total quantity consumed by a specific work package. The field is related to the Job Ledger Entries page and totals the quantities that are stored there.
Time Commitment (Qty.)	Shows the quantities not yet copied from time entries to the job. This means that hours were posted by staff but haven't been transferred to the job by the project manager.
Outstanding Budg. Quantity (Base)	Shows the result of Budgeted Quantity - Usage Qty. (Base) - Time Commitment (Qty.).
Budget Value (LCY)	Shows the budget in unit costs.
Usage Cost (LCY)	Shows the total quantity consumed by a specific work package. The field is related to the Job Ledger Entries page and totals the unit costs that are stored there.
Purchase Commitment (LCY)	Shows the outstanding amount from purchase orders that have been created from a specific WBS line. This field is related to the Purchase Line table and totals the outstanding amounts that are stored there.
Time Commitment (LCY)	Shows the amounts not yet copied from time entries to the job. This means that hours were posted by staff but haven't been transferred to the job by the project manager.
Stock Commitment (LCY)	Shows the item quantity that was procured for the job but is still in stock.  This field is only available if you turned on the Job Purchase Incl. Inventory toggle in Jobs Setup.
Variance (LCY) Incl. Commitment	Shows the result of subtracting the usage cost and the purchase and time commitments from the budget value.
Job Completion %	Shows the job progress specified for a work package by the project manager.
Posting Progress %	Filled in automatically based on the budget value and the usage cost.
Posting Progress % Incl. Commitment	Filled in automatically based on the budget value, the usage cost, and the time and purchase commitments.
Line Activity Progress %	Weighted entry based on the progress fields of stored budget lines—or, more specifically, activities—which resources enter in time tracking.  This field is only filled in if resources use both budget lines and the Line Activity Progress % fields to record time.

Field	Description
Earned Value	Filled in automatically based on the budgeted unit costs and the percentage of job completion.  Shows what value a certain WBS line has achieved in unit costs so far.
Cost Variance	Filled in automatically based on the earned value and the usage cost.
Cost Variance %	Filled in automatically based on the earned value and the usage cost. Shows the cost variance in percent.
Estimated Total Cost	Filled in automatically based on actual figures and the percentage of job completion.

A budget-to-actual comparison offers you an overview of an entire project. It not only shows you all work packages related to a job with their budget and actual figures but also allows you to identify where current results differ from expectations.

## Run a Forecast

### Overview

The forecast functionality can help you predict the costs needed to complete a job (estimate at completion) and determine the value of work finished thus far (earned value). A job forecast is based on current plans, expenses incurred, and the project manager's assessment.

For tracking purposes, the actual figures used to predict project outcomes must be frozen in time when you create a forecast.

The values can be retrieved from a WBS line or from detailed schedules that include budget lines. The functionality currently only checks if budget lines are available for a WBS line and then uses those to give estimates. If there are none, the values from the WBS line are used.

This condition could conceivably be replaced by one that relies on a checkbox (such as the already available Copy Budget field). Selecting this checkbox on the WBS line could then tell the system to use the values stored on the budget lines.

### Setup

Before you can use forecasts, you need to set up a number series for them.

1. Choose the Search icon, enter Jobs Setup, and then choose the related link.
2. On the Numbering tab, fill in the Forecast Nos. field.

### Work with forecasts

#### View forecasts

Choose the Search icon, enter Job Forecast List, and then choose the related link.

This opens an overview of the forecasts you created. Select an entry from this list to view the related forecast card.

#### Create a new forecast

1. Choose the Search icon, enter Job Forecast List, and then choose the related link.
2. On the ribbon, choose New. This creates an empty card. When you leave the No. field, a number is assigned automatically from the series that you set up for this purpose.
3. Choose a job in the Job No. field. The current WBS version of this job is then copied to the new forecast. You can select another version at any time.

The descriptions stored with the job and the WBS version are also copied to the new forecast. A forecast description can be added manually.

#### Run a forecast

To run a forecast based on the budget and actual figures of a specific WBS version, choose Actions > Functions > Run Forecast on the new forecast card. The actual values include posted job usage, posted job sales, and commitments.



The system then creates one forecast line for each WBS line, which includes any line that structures the WBS (such as Begin-Total and End-Total). It also adds lines of the Work Package type with their budget and actual values.

Each forecast has five major areas as described in the following table.

Area	Description
Hours	Planned resource hours
PC	Planned personnel (labor) costs based on hours specified
MC	Planned cost of materials
TC	All costs added together (no manual planning)
SR	Planned sales revenue

The PC, MC, and TC fields are described in more detail in the following table.

Field	Description
Estimated Total Prev. Version	<p>Shows the value of a previous forecast, that is, of the forecast specified in the Base Forecast No. field. If no base version is available, this field is filled in with the value stored in the relevant Expected BAC field.</p> <p>For more information about working with base versions, <a href="#">see Forecast Status</a></p>
.	
Expected BAC	<p>The value in this field is copied from the WBS (or budget).</p> <ul style="list-style-type: none"> <li>• If a WBS line is related to at least one budget line, this field is filled in based on budget lines. The type of a budget line determines if a line value is assigned to PC (resources and resource groups) or MC (items and G/L accounts).</li> <li>• If no budget lines are available, the WBS line is used. The billing type chosen for the related work package determines if a value is added to PC or MC.</li> </ul> <p><b>(Lookup)</b></p> <p>Shows the job budget or WBS line of the relevant WBS version.</p>
Actual AC	<p>Shows costs already posted. This field is filled in based on job ledger entries.</p> <p><b>(Lookup)</b></p> <p>Shows, based on Historical FC Data, the key job ledger entry values that led to this value.</p>
Commitment [multiple fields]	<p>Shows costs not yet posted to the job but recorded in the system. These result from the following areas:</p> <p><b>Hours Committed</b></p> <p>Shows the number of hours that were posted by resources but haven't been copied to the job.</p> <p><b>Purchase Commitment</b></p> <p>Shows purchase orders, including partial quantities, not posted as received.</p> <p><b>Stock Committed</b></p> <p>Shows receipts posted but not used by the job. This commitment only shows up if you selected the Job Purchase Incl. Inventory checkbox in Jobs Setup. Else, usage is posted automatically when you post the receipt, and no commitment is created.</p> <p><b>(Lookup)</b></p>

Field	Description
	Shows, based on Historical FC Data, the key job ledger entry values that led to this value.
Confirmed IC	Shows the result of adding up the actual values and commitments.
	Shows the result of the following formula, which is used as a default after the forecast lines are created:  Target - (Actual + Commitments)  This makes the remaining budget the default value. Planners can later change this field if it turns out that the remaining budget is too small or too large.  Forecast values are entered in these types of fields in the following ways:  <ul style="list-style-type: none"> <li>• Regarding material, planners can manually fill in the remaining amount (cost amount) they expect will be needed for the job.</li> </ul>
Forecast ETC	<ul style="list-style-type: none"> <li>• When it comes to labor costs, the following formula is used to fill in the field: Hours Forecast * Hourly Rate.</li> </ul> <p>This means that work is planned in hours. Planners then add the hours needed to finish a job. The hourly rate is copied from the WBS line and cannot be changed.</p> <p><b>Warning</b> in all cases, the remaining effort must be entered without commitments so that planning doesn't include values twice.</p> <p>If you used a base version, the value in this field is copied from the forecast run for that version but can now be updated by the planner.</p>
Estimated Total EAC	Shows the result of adding up actual and forecast values, plus commitments.
Earned Value (Cutoff Date)	Shows the result of the following formula: (Actual + Commitments) / Estimated Total * Expected
Variance	Shows the difference between total and budgeted costs. A negative amount means costs are expected to exceed the budget.

#### Status options

A forecast can have the following statuses:

- Open
- Released

To change the status of a forecast, open the relevant card and choose Actions > Functions > Release Status or Reopen on the ribbon. However, you cannot reopen a forecast version that has already been used to create another forecast. Only released versions can be the basis for other (newer) versions. A released forecast is entered automatically as the base version when you create a new forecast for the same job.

#### Base forecasts

If you fill in the Base Forecast No. field on a forecast card before you select the Run Forecast action (the field is filled in automatically with the most recent forecast set to Released), the new prediction will use the values of this base forecast instead of the estimated amounts from the job budget.

#### Note

Earned values are still calculated based on the budget. Just because a budget isn't met doesn't mean that the project increases in value.

#### Added effort

An increase in project effort can happen for multiple reasons. If caused by increased material consumption or extra work, the costs of which the contractor must bear, the earned value of the job decreases, and the variance turns negative. Such a reason for added expenses might be an incorrect calculation, needed rework, or bad pricing.

However, if the additional expenses can be billed to the customer, planning needs to reflect the increase in job value. This requires raising the budget, typically by creating a new WBS version. Based on that, and the higher budget, you can then create a new version of the forecast to adjust the earned value and the variance.

#### Historical entries

When you select the Run Forecast action, the program will copy all job ledger entries, time entries, item ledger entries, and purchase lines related to the forecast to a list of historical forecast entries, essentially freezing them in time.

You can then use the Lookup in the Historical Entry No. field to identify, for example, changes to item ledger entries because of recent inventory adjustments.

#### Print a forecast

You can print a forecast at any time.

1. Go to the relevant forecast card.
2. On the ribbon, choose Reports > Print.

For an easier overview, the report will show a reduced number of forecast columns, rearranged into a pattern of rows that are printed below one another. Whereas the hours stored in the first area aren't printed, each of the remaining four areas is aggregated on a separate row. Because of limited space, commitments are combined into one column per area. You can then use the Microsoft SQL Server Reporting Services to export the report to Excel or PDF.

## Alternate Currencies

### Overview

You can use the invoice currency feature to bill jobs in a foreign currency.

You can already store this currency when you set up a WBS for a job. Revenues are then shown in the invoice currency and in local currency. Sales documents that you create from the WBS, however, will show amounts in the invoice currency only.

As the name implies, invoice currencies are used not only on quotes and orders but on all sales documents created for a job, including invoices.

### Note

A currency of this type cannot be changed during the later stages of a project. If you want to bill a job in different currencies, leave the Invoice Currency Code field blank.

To provide sales estimates, a budget rate is used. Although specified on the job card, this rate might differ from one WBS version to another. However, the rate isn't copied when you post a sales document. All Total Price (LCY) fields are instead recalculated based on the exchange rate available at the time.

You can change invoice currencies in the planning stage. You can no longer change currencies after job ledger entries have been posted.

Usage entries contain budgeted sales amounts in both local and invoice currencies. Sales entries, on the other hand, contain actual values only in the currency in which you want to bill the job. These are then converted into local currency when you post the entries.

One area where invoice currencies aren't used is the job budget. All jobs are planned in local currency—even if you intend to purchase goods from abroad. LCY is also the only currency used for cost control, that is, for charts of job accounts and dimension analyses, as amounts stated in another currency might make it extremely difficult to compare costs across jobs.

### On job cards

As an example, you create a job from a template and select a customer you want to bill in Canadian dollars. You set the status to Open and pick a starting date.

The Invoice Currency Code field on the Job Billings tab is then filled in automatically based on the Bill-to field, if you selected a customer there, or a currency needs to be chosen manually from the Currency table.

Like on sales documents, you can now choose the Assist button next to the Invoice Currency Code field to modify the exchange rate for the job.

Alternatively, you can fill in the Invoice Currency Date field. This field was introduced because jobs lack the type of fields, such as a Posting Date field, required to calculate exchange rates. If you enter a date in this field, the rate is determined based on what is stored in the Currency Exchange Rate table.

The rate shown on the job card is only a default value. It will later be copied to the WBS versions, where it can be modified if necessary.

## Note

You can no longer change the invoice currency on a job card after job ledger entries have been created. Only the exchange rate can still be altered. A change in currency is copied to all WBS versions of a job, and total prices are recalculated as a result.

By contrast, modified rates aren't copied to the WBS versions considering you might want to compute versions at different exchange rates.

### For sales prices

You can specify sales prices in several places throughout the app. Typically, these prices are given in local currency and are converted into a different currency if necessary. If you want to bill a job in a foreign currency for which no general prices are available, we recommend that you set up prices specific to a job.

To set up job-specific prices for resources, items, or G/L accounts:

1. Choose the Search icon, enter Jobs, and then choose the related link.
2. Open the relevant job card. On the ribbon, go to Related > Prices and choose Resource, Item, or G/L Account. The invoice currency you specify is then used as the default currency when you set up a new sales price.

### For a WBS

Each work breakdown structure contains the following fields on the Billing tab:

- Invoice Currency Code
- Invoice Currency Factor
- Invoice Currency Date

These fields match those shown on the job card considering their values are copied from there. Except for the invoice currency, the values can be changed in each WBS version so that you can calculate jobs at different exchange rates across multiple versions.

## Note

Modifications you make to the Invoice Currency Factor field on the WBS header are copied to all related WBS lines. Total prices are then recalculated.

### On WBS lines

You reopen the job card set up in our earlier example. On the ribbon, you choose Actions > Create WBS from Job Template.

You then see a message that says the job has an invoice currency and asks if you want to copy the currency from the job card. You choose Yes.

Afterward, you unhide the Invoice Currency Date and Invoice Currency Factor fields on the WBS lines. The contents of these fields are copied from the header. When a unit price is now calculated on a WBS line--that is,

you didn't select the Copy Budget checkbox, as you don't want to use budget lines for detailed planning—the price will be converted in one of two ways:

- A price stored in local currency will be converted into the invoice currency.
- A price specified in the invoice currency, for example, in the Job Resource Price table, will be converted into local currency and entered in the Unit Price (LCY) field.

In our example, the system calculates a unit price (LCY) of EUR 70. This price is then converted into Canadian dollars by using the currency factor found on the WBS line.

After calculation, you use the Assist button next to the Invoice Currency Factor field on the Job Billings tab and enter a factor of 1.5 for the current WBS version.

You are then asked if you want the new factor to apply to all existing WBS lines and their budget lines (or only to new WBS lines). You are also informed that the change has no effect on existing sales documents. You choose Yes.

The factor is now applied to all WBS lines, and the unit price is recalculated in CAD.

#### On budget lines

You can also enter invoice currencies on budget lines. The use of job-specific unit prices in this context has already been discussed earlier. Based on our previous example, you specify a price of CAD90 for resources of work type CONSULT and set up a budget line for a resource. The pricing functionality then calculates a price of CAD90 and converts this amount into local currency. Although the price was determined based on the currency factor stored on the related WBS line, you can still change the factor on the budget line. The following changes are also made on the budget line:

- The Unit Price (FCY) checkbox is selected. This means that the price calculated for sales is stored in the invoice currency and converted into LCY.
- The Fixed Job Price checkbox is selected, which indicates that a job resource price was used.

#### On sales documents

As an example, you use the number of the job set up earlier to create a new sales order.

Customer data to fill in the sell-to and bill-to fields is then copied automatically. The invoice currency is also copied from the job. In our case, it's the currency stored for the customer, although that's not always true. Attempts to enter a different currency on the sales header will prompt an error message.

You then open the WBS. On the ribbon, you choose New > Create Sales Document. The status of the job must be set to Open. After the status has been verified for all WBS lines, the Create Sales Document function is run.

#### Note

You need to ensure you select the Order document type when you run the function.

The system now checks if all WBS lines and budget lines—including all unit prices—are stored in Canadian dollars on the sales order.



The prices given in invoice currencies aren't converted again when you create a sales document from a WBS. Instead, they are copied as they are to guarantee that manual prices are transferred over as well. The budget rate stored on the WBS is also copied to the document but can be updated there before you post an invoice.

The Unit Price (LCY) fields found on WBS and budget lines are only used to budget a job. These prices will be recalculated at the available exchange rate when you post a sales invoice and will then be copied to the sales job ledger entries.

**For job ledger / usage entries and purchase documents**

At first look, invoice currencies have little in common with job usage. However, even job usage entries include unit prices for services that need to be invoiced. This helps determine what to:

- Include when measuring job progress.
- Use for billing time & materials jobs not related to a sales order line.

For this reason, the fields described in the following table have been added to the job ledger entries.

Field	Description	Means for Sales Entries	Means for Usage Entries
Unit Price	Shows the unit price in the invoice currency.	All work was billed at this price. The unit price was copied from the Job Resource Price table, the WBS line, or the sales line.	All work will be billed at this price, also known as the budgeted unit price.
Unit Price (LCY)	Shows the unit price in local currency.	All work was billed at this price, now converted into LCY. Conversion occurs based on the exchange rate that was valid at the time of posting the sales entries.	States the budgeted unit price in local currency.
Total Price	Shows the total price in the invoice currency.	Shows the result of Qty. to Invoice * Unit Price.	Shows the result of Qty. to Invoice * Unit Price, which equals the budgeted total price.
Total Price (LCY)	Shows the total price in local currency.	Shows the result of Qty. to Invoice * Unit Price (LCY).	States the budgeted total price in local currency.
Line Discount Amount	Shows the line discount amount in the invoice currency.	Contains the line discount copied from the sales invoice line.	Contains the expected line discount, which equals the budgeted line discount amount.
Line Discount Amount (LCY)	Shows the line discount amount in local currency.	Contains the line discount copied from the sales invoice line in local currency.	States the budgeted line discount amount in local currency.
Line Amount	Shows the discounted line amount in the invoice currency.	Shows the result of Total Price - Line Discount Amount.	Contains the expected line amount, which is equal to the budgeted line amount.
Line Amount (LCY)	Shows the discounted line amount in local currency.	Shows the result of Total Price - Line Discount Amount in local currency.	States the budgeted line amount in LCY.

<b>Field</b>	<b>Description</b>	<b>Means for Sales Entries</b>	<b>Means for Usage Entries</b>
Invoice Currency Code	Shows the invoice currency entered on the job card.	Stores the currency used for unit and total prices.	Stores the currency used to budget unit and total prices.
Invoice Currency Factor	Shows the currency factor, that is, the exchange rate at the time of posting.	States the exchange rate at which unit and total prices are converted from the invoice currency to LCY	Represents the exchange rate for converting unit and total prices from the invoice currency to LCY.

Coming back to our earlier example, you now want to create a purchase invoice for an external resource. You create a purchase order for a vendor that bills in USD and purchase an external service, that is, a service rendered by an external resource.

As the purchase has been linked to a WBS line, the work type is already known to the system. This makes it easier to determine on the purchase line a budgeted unit price in the invoice currency stored for the job. In our case, the price comes to CAD140.

This price is then converted into local currency at the latest exchange rate—1.4962 in our example. The Unit Price (LCY) field now shows USD93.57. The rate entered on the budget line was 1.5, so the amount used to be USD93.33 only.

#### Note

You need to ensure that the related WBS line has a valid posting status, that is, the status is set to Open or In Progress when you purchase external services.

Before posting the purchase order, you alter the exchange rate to 1.3 in the Currency Exchange Rate table. You then post the order.

Whether you choose Post or Post and Print, the system creates a job usage entry in both cases. Variations in price between the receipt and the subsequent invoice only affect unit costs but not budgeted sales amounts.

A look at the job ledger entry created shows that usage is billed at the expected unit price of CAD140. At a 1.30 exchange rate, this works out to USD107.69—but that is irrelevant to billing, where the price is kept at CAD140.

#### In payment plans

Like sales documents, payment plans are created based on the currency specified for a job.

Following on from our earlier example, you set up a payment plan for the entire job. This will copy the code from the Invoice Currency Code field on the job card to this payment plan, where it can no longer be changed.

## Note

When you choose a WBS line on the payment plan lines, you need to ensure that the line can be used for invoice revenue. The Warning column must be blank. Lines that show a warning message aren't copied to an invoice suggestion.

### On invoice suggestions

If a payment plan is available, an invoice suggestion will include every payment plan line until all are posted as billed in full. Only when you create a final invoice to bill the entire job can you turn invoices based on a payment plan into credit memos.

For a suggestion, choose the Search icon, enter Invoice Suggestion, and then choose the related link. On the ribbon, choose Create Suggestion Lines.

You can set filters to limit the number of suggestions. For example, you can filter for a specific job.

Lines related to payment plans can only be copied to direct invoices.

1. Open the relevant invoice suggestion.
2. Select the Direct Invoice checkbox on the lines you want to bill.
3. On the ribbon, choose Actions > Create Invoice to create a partial invoice.

The invoice currency used for the relevant job is then included in both the suggestion and the direct invoice. The direct invoice also applies the current exchange rate to all amounts.

## Earned Value

### Overview

Earned Value Management (EVM) integrates project scope, schedule, and cost data to provide project management teams with an advanced method for measuring and evaluating job progress and performance. EVM needs an integrated baseline against which performance can be measured. The principles of the technique can be applied to projects in any industry.

The main tool of earned value management is earned value analysis (EVA). For each work package and control account, it tracks the following dimensions:

- Planned Value (PV)
- Earned Value (EV)
- Actual Cost (AC)

You can use these to identify where a job deviates from the approved baseline. The cost and schedule variances derived from them can also be converted to efficiency indicators to help determine job status and provide a basis for estimating costs and schedule outcome.

### Abbreviations

Acronym	Description
PV	Planned value
AC	Actual cost
EV	Earned value
CV	Cost variance
SV	Schedule variance
CPI	Cost performance index
SPI	Schedule performance index
BAC	Budget at completion (expected costs)
EAC	Estimate at completion (estimated costs)
ETC	Estimate to complete (estimated costs to completion)
TCPI	To-complete performance index

**Setup****Turn on EVM**

You need to set up earned value management before first use.

1. Choose the Search icon, enter EVM Setup, and then choose the related link.
2. Fill in the fields as described in the following table.

Field	Description
Completion Method	Specify the method for measuring job progress.
	<b>0:100</b> Shows 0% until work is complete.
	<b>20:80</b> After work has started, progress is set to 20%. When work is complete, progress will be set to 100%.
	<b>50:50</b> After work has started, progress is set to 50%. When work is complete, progress will be set to 100%.
	<b>+25</b> When employees post their times, they can choose to set progress to 0%, 25%, 50%, 75%, or 100%.
	<b>Custom</b> Employees can freely choose the level of progress when posting their times.
Calculation Base	Specify if you want earned value analysis to use sales or purchase prices to calculate values. The field is set to Purchase Price by default.
Default Calc. Level	Specify at which level earned value analyses are run automatically.
	<b>WBS</b> Only include WBS lines in calculations.
	<b>Budget</b> Only include budget lines in calculations.
	<b>Custom</b> For each WBS line, the system checks the work package to determine whether to calculate at WBS or budget line level.
SPI Warning	Enter a value below which the time status of a job is set to Warning.
SPI Alarm	Enter a value below which the time status of a job is set to Alarm.
CPI Warning	Enter a value below which the cost status of a job is set to Warning.
CPI Alarm	Enter a value below which the cost status of a job is set to Alarm.
CPI Tolerance	CPI values that deviate downward from 1 to a greater extent than the value you enter in this field will later be shown in red on certain pages. Variances in the opposite direction will be shown in green.



Field	Description
SPI Tolerance	SPI values that deviate downward from 1 to a greater extent than the value you enter in this field will later be shown in red on certain pages. Variances in the opposite direction will be shown in green.
TCPI Tolerance	TCPI values that deviate downward from 1 to a greater extent than the value you enter in this field will later be shown in red on certain pages. Variances in the opposite direction will be shown in green.
EAC Tolerance	EAC values that deviate downward from 1 to a greater extent than the value you enter in this field will later be shown in red on certain pages. Variances in the opposite direction will be shown in green.

#### Use EVM on a job

You also need to set up earned value management for the job that you want to track.

1. Open the relevant job card.
2. On the General tab, fill in the fields as described in the following table.

Field	Description
Use EVM	Turn on this toggle if you want to use earned value management. With the toggle turned off, neither manual nor automatic calculations are possible for this job.
Calculation Level	Specify at which level you want to calculate earned value. If you leave the field blank, the value in this field will be copied from EVM Setup.

**Use on work packages**

For work packages, use the following fields to configure earned value management.

<b>Field</b>	<b>Description</b>
Ignore in EVA	Specify whether to exclude WBS lines related to this work package from EVA calculations. This might be useful if a package is called Miles Travelled, for example.
Calculation Level	Specify for a WBS line related to this work package if you want to use the WBS line or one of its budget lines for EVA calculation. This field is crucial if you set the default calculation level to Custom. The option you choose in this field is copied to the WBS line but can be changed there.
Auto Progress Calc.	<p>If you select this checkbox, WBS line progress is calculated automatically. The calculation is based on the following formula:</p> $\text{Line Activity Progress WBS \%} = \text{Line Activity Progress \%} * (\text{quantity planned on all budget lines or quantity planned on WBS line})$ <p>If this checkbox isn't selected, progress is copied from the Job Completion % field. If that field is blank, the value from the Line Activity Progress % field is used.</p> <p>A check mark in this field is transferred from the work package to the WBS line and can be changed there.</p>

**Run earned value analysis**

All EVM functionality related to entire jobs can be found on the job card. To see an overview of EVA calculations for a specific job:

1. Open the relevant job card.
2. On the ribbon, choose Actions > Earned Value > Earned Value Analysis.

EVA fields and functions are explained in the following.

**Validate an analysis**

1. Open the relevant job card. On the ribbon, choose Actions > Earned Value > Earned Value Analysis.

2. Another page opens. On the ribbon, choose Actions > Check Job to determine whether you have filled in the fields described in the following table.

For	Fields
Jobs	<ul style="list-style-type: none"> <li>• Starting Date</li> <li>• Ending Date</li> <li>• Use EVM</li> <li>• An active WBS</li> </ul>
WBS lines	<ul style="list-style-type: none"> <li>• Starting Date</li> <li>• Ending Date</li> <li>• Work Status (= In Progress, Open, or Finished)</li> <li>• Duration (Days)</li> <li>• Quantity (Base)</li> <li>• Unit Cost (LCY)</li> </ul>
Budget lines (if available)	<ul style="list-style-type: none"> <li>• Starting Date</li> <li>• Ending Date</li> <li>• Work Status (= In Progress or Finished)</li> <li>• Duration (Days)</li> <li>• Quantity</li> <li>• Unit Cost (LCY)</li> <li>• No.</li> <li>• Qty. to Complete</li> </ul>

If all fields are filled in, you will see a message that earned value management is now available. Else, you will get an error message that tells you what field has no value.

#### Analyze jobs

You run EVAs from the Earned Value Mgt. Job page. To perform an analysis, you first need to validate all EVA fields as described earlier.

1. Open the relevant job card. On the ribbon, select Earned Value > Earned Value Analysis.
2. Another page opens. On the ribbon, select Actions > Check Job to validate an EVA.
3. If validation is successful, choose New > Earned Value Analysis. This opens a dialog where you can choose if you want to run calculations based on WBS or budget lines. Select your preferred method and click OK.

The system then recalculates and updates all fields on the page. See the following table for more information about these fields.

Field	Description
Description	Shows the name of the job.
No.	Shows the number of the job.
Starting Date	Shows the start of the job.
Ending Date	Shows the end of the job.
Completion %	Shows job progress in percent.  <b>Calculation</b> Completion % = Earned Value / Estimate at Completion * 100
Person Responsible	Shows the resource responsible for the job.
Calculation Date	Shows the date on which EVA was calculated.
No. of Calculations	Shows the number of EVA calculations performed.
Calculation Level	Specifies if the calculation was performed based on budget or WBS lines.
Calculation Base	Specifies if earned value analysis uses sales or purchase prices to calculate values.
PV Calculation Date	Shows, up to the calculation date, the total planned job value, made up of all PV Calculation Date fields on the budget or WBS lines.
Actual Cost	Shows the total actual cost from all WBS or budget lines based on job ledger entries.  <b>Calculation</b> Actual Cost = Usage (Total Cost) or Usage (Total Price) based on setup
Earned Value	Shows the sum of earned values from all WBS or budget lines.  <b>Calculation</b> Earned Value = Planned Value * Completion %
Schedule Variance	Shows the result of comparing time entries for this job to the baseline. If the value is negative, the job is behind schedule, whereas a positive value means the opposite is true.  <b>Calculation</b> Schedule Variance = Earned Value - Planned Value
Cost Variance	Shows how the job performs financially compared to the baseline. If the value is negative, the job costs more than planned. If the value is positive, the opposite is true.

Field	Description
	<b>Calculation</b> $\text{Cost Variance} = \text{Earned Value} - \text{Actual Cost}$
Schedule Performance Index	<p>Shows the relation between the earned and planned value at a specific point in time. An SPI greater than 1 means that more work than planned has been completed. A value smaller than 1 means the opposite.</p> <b>Calculation</b> $\text{Schedule Performance Index} = \text{Earned Value} / \text{Planned Value}$
Cost Performance Index	<p>Shows the ratio of earned value to actual cost incurred as a result. The CPI is the most important EVA metric, as it indicates the cost efficiency of a job.</p> <p>A value below 1 means completed work exceeded cost estimates. If the value is greater than 1, the opposite is true.</p> <b>Calculation</b> $\text{Cost Performance Index} = \text{Earned Value} / \text{Actual Cost}$
Budget at Completion	<p>Shows the total estimated cost at the end of a job, that is, the total budget from all WBS or budget lines.</p> <b>Calculation</b> $\text{Budget at Completion} = \text{Quantity (Base)} * \text{Unit Cost (Base)}$
Estimate at Completion	<p>Shows a forecast of total job cost.</p> <b>Calculation</b> $\text{Estimate at Completion} = \text{Actual Cost} + (\text{Planned Value} - \text{Earned Value})$
Estimate to Complete	<p>Shows what you expect to pay until the job is complete, assuming that the remaining work will be finished at the same rate as before.</p> <b>Calculation</b> $\text{Estimate to Complete} = \text{Estimate at Completion} - \text{Actual Cost}$
To-Complete Performance Index	<p>Shows the projected cost performance you need to achieve to remain on budget and within the scope set by project management.</p> <p>There are two options for calculating the index. If total costs are in line with the costs that you expect to remain, the calculation is as follows:</p> <b>Calculation</b> $\text{To-Complete Performance Index} = (\text{Budget at Completion} - \text{Earned Value}) / (\text{Budget at Completion} - \text{Actual Cost})$

Field	Description
	<p>If the costs to completion are greater than the estimated total costs, the index is calculated based on the following formula:</p> <p><b>Calculation</b></p> $\text{To-Complete Performance Index} = (\text{Budget at Completion} - \text{Earned Value}) / (\text{Estimate at Completion} - \text{Actual Cost})$
	<p>Provides an alternative calculation method for job progress. This method includes not just monetary values but times as well.</p> <p>The value itself has no significance but is the basis for alternative calculations of schedule variances and the schedule performance index.</p> <p><b>Calculation</b></p> $(\text{Calculation Date} - \text{Job Starting Date}) + (\text{Earned Value} - \text{Planned Value}) / (\text{Planned Value} + 1 - \text{Planned Value})$
Earned Schedule	
Schedule Variance (ES Base)	<p>See the Schedule Variance field.</p> <p><b>Calculation</b></p> $\text{Earned Schedule} - (\text{Calculation Date} - \text{Job Starting Date})$
Schedule Performance Index (ES Base)	<p>See the Schedule Performance Index field.</p> <p><b>Calculation</b></p> $\text{Earned Schedule} / (\text{Calculation Date} - \text{Job Starting Date})$

Key figures are shown in the Cost Control section of the Project Lead home page. To see a list of all EVA calculations for a job, go to the ribbon and choose Actions > Earned Value > Earned Value History.

You can then use the Show WBS Lines or Show Budget Lines action on the ribbon to see all lines included in a calculation.

#### Analyze WBS lines

You can analyze individual WBS lines as well.

1. Open the relevant job card. On the ribbon, choose Job > WBS.
2. In the WBS Lines section, choose the line you want to analyze.
3. On the ribbon, select Line > History > Earned Value Analysis.

The page that opens looks almost exactly like the one for jobs. The actions available on the ribbon are Check WBS Line and Earned Value Analysis.

The first checks whether the WBS line meets the requirements described earlier. The second action starts the analysis. Negative variances of more than 10% are shown in red. Positive variances of more than 10% are shown in green.

For a list of all line-related EVAs, choose Line > History > Earned Value History.

### Analyze budget lines

You can also analyze individual budget lines.

1. Open the job card. On the ribbon, choose Job > WBS Incl. Budget View.
2. In the Job Budget section, choose the line you want to analyze.
3. On the ribbon, select Line > History > Earned Value Analysis.

The page that opens looks almost exactly like the pages for analyzing jobs and WBS lines. The actions available to you are Check Budget Line and Earned Value Analysis. The first checks whether the budget line meets the requirements described earlier. The second starts the analysis. Negative variances of more than 10% are shown in red. Positive variances of more than 10% are shown in green.

For a list of all line-related EVAs, choose Line > History > Earned Value History.

### Calculate values automatically

If you don't want to calculate EVAs manually for each job, you can create a report that can be added to the job queue and will analyze jobs for which Use EVM was turned on.

### Evaluate overall performance

You can also use EVM to evaluate entire companies or job types.

1. Choose the Search icon, enter Jobs, and then choose the related link.
2. On the ribbon, select Reports > EVA Company Overview. This opens a report where you can set filters on job types and dates. If you don't set filters, the report will include all jobs to which EVM currently applies.

The No. of Jobs line on the report itself indicates the number of jobs included in the calculation, and the Calculate From field shows the date filter if a filter was set. The job type filter, if available, is displayed above the No. of Jobs field. The values represent the average of all EVA calculations.

### Evaluate jobs

The following options are available for evaluating jobs. 1. Open a job card. On the ribbon, choose Actions > Earned Value > Earned Value History to see all calculations for the job. You can now also see differences in analyses over time. 2. Alternatively, go to the Earned Value Mgt. Job page that relates to the job. On the ribbon, choose Report > Job History to see detailed EVA information. The upper part of the report shows all current data from an earned value analysis. The lower part contains a visual representation of key metrics.

### Archive analyses

You can archive the EVA results of completed jobs so that they are no longer included in the company overview, for example.

1. Open the Earned Value Mgt. Job page from the job for which you want to archive analyses.
2. On the ribbon, choose Actions > Archive Job. This opens a dialog that asks you if you want to archive the results.
3. Choose Yes. You will then see a message that the job has been archived successfully.

To see the results of EVAs run for a job, open the job card, and choose Actions > Earned Value > Earned Value Archive on the ribbon.



Support Contracts

Overview

Support contracts are used to bill customers for products and services periodically. The built-in license feature helps you assign a customer to a license before you add that license to a contract and use a support job to record revenues and expenses and send invoices.

For each contract, the effort spent on updates and help desk inquiries is calculated, reported, and invoiced separately.

Setup

Support contract setup

Before you can work with support contracts, you need to set up the functionality.

- 1. Choose the Search icon, enter Support Contract Setup, and then choose the related link.
- 2. Fill in the fields as described in the following table.

General

Field	Description
Use Support Contracts	Turn on this toggle if you want to use the functionality. With the toggle turned off, support contracts aren't visible in the system.

Numbering

Field	Description
Support Contract Nos.	Specify the series that you want to use to assign numbers to contracts.

## Contract Details

Field	Description
No Starting Date Restriction	Turn on this toggle if you want to set a date other than the first of a month.
Multi-Year Contract Term	Turn on this toggle if you want support contracts to run for more than a year. If the toggle is turned off, you must create a new contract version at the end of each year.
WP Item Sales Filter	To see changes to update-related job ledger entries, that is, to the calculation base for contracts of the update type, choose the work package you want to use to invoice items associated with the update process. These revenues will then be the basis for identifying update-related entries.
WP Services Filter	To see changes to update-related job ledger entries, that is, to the calculation base for contracts of the update type, choose the work package you want to use to invoice services associated with the update process. These revenues will then be the basis for identifying update-related entries.
Base Update Fees %	Shows the default update costs. This field can be changed on the support contract.
Contract Hours per Quarter	Shows the default value for new contracts. The value will change if you enter a support package in the contract.  This field is used for informational purposes only.

## Support Contract Matrix

Choose the Search icon, enter Support Contract Matrix, and then choose the related link.

This opens a page where you can specify the item, resource, or G/L account that you want to use to bill a specific support component.

## Support packages

Choose the Search icon, enter Support Packages, and then choose the related link. This opens a page where you can set up the support packages you want to offer to customers.

## Note

The Hours per Quarter field on this page is used for informational purposes only.

## Other services

Other services might be, for example, additional hours of support.

To specify these kinds of services, choose the Search icon, enter Other Services, and then choose the related link.

#### License types

You need this feature if a product is sold with more than one type of license.

1. Choose the search icon, enter License Types, and then choose the related link.
2. Fill in the fields as necessary.

Select the Default checkbox if you want to specify a standard license that is filled in automatically on new support contract lines. The other fields are used for informational purposes only and indicate how much information is available for a license type in the system, including information on related product types, products, versions, and service packs.

#### Product types

Each license type can be linked to multiple product types. To set up a product type, choose Related > Product Types on the ribbon.

#### Example

You set up a license type called Industry Solution. You then use product types such as Project, Trade, and Factory to cover a variety of industries. The main aim of the product type feature is to identify the purpose of a customer license. The Use field on each line specifies if you can use a type more than once within in a license—or if it determines the version of the license itself.

#### Note

In a Microsoft Dynamics 365 Business Central environment, the license version is, of course, determined by the app.

In the Contract Type field, you can then choose if you want to link the product type to your company's (own) products, to products from third-party vendors, or to the base application.

#### Note

In a Microsoft Dynamics 365 Business Central environment, the base application is, of course, the standard Microsoft Dynamics 365 Business Central app.

#### Products

To assign a product to a product type, choose Related > Products on the Product Types page.

#### Example

You specify an Apps product type. You then store two solutions—named Sanctions Check and Shipping & Handling—for this type. The Update Fees % field on the Products page can be used to enter the yearly update fees as a percentage of the total license value.

#### Versions

To specify what versions are available for a product, choose Related > Versions on the Products page.

## Service packs

To link service packs to individual product versions, choose **Related > Service Packs** on the **Versions** page.

This is the lowest level of the support contract structure.

## Customer licenses

To see a list of all customer licenses, choose the **Search** icon, enter **Customer Licenses**, and then choose the related link.

The fields shown on a customer license card are described in the following table.

Field	Description
License No.	Shows the number of the license. You can enter a number manually.
Customer No.	Specifies a customer for the license. A license is assumed to be the customer's main license if no other has been assigned.
Customer Name	Uses the Customer No. field to show the name of the customer.
Licensee	Uses the Customer No. field to show the licensee.
Licensee 2	Uses the Customer No. field to show the licensee's additional name.
License Date	Specifies when the license was activated.
Expiration Date	Specifies when the license expires.
Main License	Module versions are later copied to support contracts based on this field. The toggle turns on automatically when you enter a license specified as a default license. However, this requires that no other default license has been entered for this customer beforehand.
Main Customer No.	This field is filled in together with the Main License field. The main customer can be changed manually (for example, to indicate a group of companies).
Main Customer Name	Uses the Main Customer No. field to show the name of the main customer.
License Type	Specifies the type of license.
Internal Description	If necessary, you can fill in this field with a description used in-house for the license.

## Configuration

For each license, you can specify an application base and additional modules.

1. Open a customer license card.
2. On the ribbon, choose Related > Configuration.
3. Select the modules you want from the product types and codes.

The Technical Build and Application Build checkboxes can be selected if you chose the Version option in the Use field on the related product type card.

## Modules

You can also link individual modules to item sales instead of a license configuration.

1. Open a customer license card.
2. On the ribbon, choose Related > Modules.

The No. of Update-Related Entries and Total Update-Related Entries fields show how many items of this type were sold during a certain period. More sales typically mean an increase in the total quantity relevant to licensing.

### Example

One item is sold per user. In the beginning, a certain customer purchases 20 items for 20 users. In the following year, the same customer buys the item for another 5 users, leading to an entry in sales. By running a function that will be described later, this entry is then copied to the New Update-Related Entry table.

The entry, in turn, indicates recent sales, and these sales increase module quantity.

## Jobs

License jobs are used to specify the relationship between a license and various jobs. For example, you might want to use one and the same job to bill help desk inquiries and updates, another to invoice customizations, and a third to sell items that result in update-related entries.

To set all these up, open a customer license card and choose Related > Jobs on the ribbon.

## Related support contracts

To see active contracts or contract lines, open a customer license card and choose Support Contracts or Support Contract Lines on the ribbon.

## Create a contract

You set up a support contract per customer and license. Contracts can have multiple versions. To bill a contract, one of these needs to be active. Other versions might be in preparation. Completed versions are best archived.

Support contracts might last for a year—or longer if you turned on the relevant toggle in Support Contract Setup. Setting the contract term to less than a year is possible in any case.

Typically, support starts at the first of a month. You can move this date if you turn on the No Starting Date Restriction toggle in setup.

## Note

Whether a contract starts on the first or in the middle of a month, it must always run for a full month because that is the basis for both calculation and billing (regardless of what invoice period you agreed on).

## Examples

Valid:

01/01/2022 – 12/31/2022 (12 months)

01/15/2022 – 07/14/2023 (18 months)

Not valid:

01/01/2022 – 07/20/2023 (18 months + 6 days)

To create a new support contract:

1. Choose the Search icon, enter Support Contracts, and then choose the related link.
2. On the ribbon, choose the New action.
3. Fill in the fields as described in the following table.

**General**

Field	Description
No.	Shows the number of the contract. This field is filled in automatically with a number from the series that you set up for this purpose.
Version	This field is incremented automatically with every new version that you create by using the New Version function.
Active	Indicates if the contract version is active. Only one version of a contract can be active and used for billing at any given time.
Customer No.	Specify the customer assigned to the license. This customer will then be billed later.
Customer Name	Uses the Customer No. field to show the name of the customer.
Customer City	Uses the Customer No. field to show the customer's location.
Install Location	Uses the Customer No. field to show the installation site.
Install Location Name	Uses the Customer No. field to show the name of the installation site.
External Document No.	Fill in this field if you want to copy a document number to the External Document No. field on invoices created from the contract. The number serves as a unique identifier for the customer and will remain the same on all invoices.
License No.	Enter the number of a license. Only licenses set up for the customer can be entered in this field.
Contract Date	Enter the contract date.
Starting Date Ending Date	Specify the time during which the contract will be billed. The dates must mark the beginning and end of a month.
Invoice Period	Specify the frequency at which you want to bill the customer. This might be once every year, half year, quarter, or month.
Hours per Quarter	This field is filled in automatically with the value from Support Contract Setup. The value will change if you enter a support package.
Payment Terms Code	This field shows the payment terms code stored in the Customer table but can be changed manually. The code in this field is used instead of the code from the Customer table when you create an invoice from the contract.
New Items (Total Price)	Shows the total price of new update-related entries and indicates if a contract must be adjusted because more items were billed for the job.
Calculation Date	Shows the date on which the Calculate Contract action was last used.



Field	Description
Next Invoice Starting Date Next Invoice Ending Date	These fields are important if customers aren't billed annually so that you can see the number of months covered by the next invoice.
Exclude from Invoice Batch	With the toggle turned on, the contract can be excluded from periodic billing (batch runs). You then need to run the Calculate Contract action manually to bill the amount.
Update Fees per Month Help Desk per Month	Show the field totals from the support contract lines after the Calculate Contract action has been run. The values in these fields are used to calculate invoice totals based on the number of months between the dates specified in the Next Invoice Starting and Ending Date fields.
Update Fees per Year Help Desk per Year	Show the field totals from the support contract lines after the Calculate Contract action has been run. These fields might display a prorated yearly amount, that is, if the contract term is under a year, they will show a value proportional to the term.
Update Fees per Term Help Desk per Term	Show the field totals from the support contract lines after the Calculate Contract action has been run. These fields indicate the total amount owed over the full contract term.
Update Fees on Invoice Help Desk on Invoice	Show the result of multiplying the monthly amount with the number of months covered by the invoice period. These fields are filled in when you run the Calculate Contract function. The calculation of the amounts is based on the invoice period.  However, the actual invoice amount of individual contract lines depends on the invoice starting and ending dates, that is, if a line has been or will still need to be invoiced.
Support Job	Shows the first job specified for the license.

**Contract lines**

The lines state the purpose of the contract. As they cannot be created automatically, you need to fill them in as described in the following table.

Field	Description
Type Product Code	Choose the services or products that are part of the contract. These fields also define what counts as an update and what is billed as a help desk service.
Update Fees %	Shows the yearly update fees in percent. This field is copied from the product but can be changed here.
Starting Date Ending Date	These fields are filled in with the dates from the contract header but can still be changed if, for example, additional services were purchased later. Like on the header, the dates must mark the beginning and end of a month.
License No.	The value in this field is copied from the header but can still be changed, for example, if a product is now part of another customer license.
Relevant Base	Shows a product's total price, which determines the update fees. No price calculations are performed in this field. The price is determined with the help of sales entries or contract documents.
Update Fees per Year	Uses the Relevant Base and Update Fees % fields to calculate the yearly update fees.
Help Desk per Year	Shows the annual help desk amount for support packages. The value in this field is copied from the support package.
Update Fees per Month	Shows the monthly amount for updates, that is, the Update Fees per Year divided by 12.
	The value in this field is used if a contract lasts for less than a year. The values of all Update Fees per Month fields on the lines are also added up on the header to show the total update-related amount per month.
Help Desk per Month	<b>Note</b> When you bill the amount, the value in this field will be multiplied by the number of relevant months (see Months to Bill).
	Shows the monthly amount for help desk services, that is, the Help Desk per Year divided by 12.
	The value in this field is used if a contract lasts for less than a year. The values of all Help Desk per Month fields on the lines are also added up on the header to show the total help desk amount per month.
	<b>Note</b> When you bill the amount, the value in this field will be multiplied by the number of relevant months (see Months to Bill).
Months	

Field	Description
	Shows how many months there are between the Starting Date and the Ending Date fields stored on this contract line.
Update Fees per Term	Shows the update fees billed over the duration of the contract.
Help Desk per Term	Shows the help desk amount billed over the duration of the contract.

**Months to bill**

As explained earlier, you can set up support contracts with varying durations but only based on a multiple of full months. If a contract runs for fewer than 12 months or for more than a year, the total support amount will be divided by 12 and multiplied by the actual number of months. The starting and ending dates entered on the contract lines are then used to invoice the customer.

Billing might get complicated if amounts aren't billed once a year but every half year, three months, or one month—and even more so if the lines include different contract terms.

**Example**

Support contract lines	Update Fees License A	Update Fees License B	He
Start – End	05/01 – 12/31	09/01 – 12/31	09/0
No. of months	8	4	
Per year	1200.00	600.00	
Per month	100.00	50.00	
Per contract term	800.00	200.00	

Support contract header	Update Fees	Help D
Per month	150.00	
Per contract term	1000.00	

Support contract header	Update Fees	Help D
On Invoice Year	1000.00	
On Invoice Quarter	450.00 (3 * 150)	60
On Invoice Half Year	900.00 (6 * 150)	120
On Invoice Month	150.00	

The amounts per invoice period show the maximum total value if all amounts were due in the same period. What you can invoice depends on the billing period and the invoice period specified on a line.

Amounts that are due on the next invoice are shown in the Update Fees on Invoice, Help Desk on Invoice, and Invoice Total fields on a support contract header.

Billing		Update Fees	Help D
On invoice Year		1 * 1000.00	
On invoice Quarter			
	01/01	0.00	
	04/01	200.00 (2 * 100)	
	07/01	350.00 (3 * 100 + 1 * 50)	20
	10/01	450.00 (3 * 100 + 3 * 50)	60
On invoice Half Year			
	01/01	200 (100 * 2)	
	07/01	800 (100 * 6 + 50 * 4)	
On invoice Month			
	From 05/01	100.00	
	From 09/01	150.00	

#### Services rendered

You can print a note about the services rendered together with a signature block. To enter texts for later printouts, open a support contract and choose Related > Contract > Contract Text on the ribbon.

#### Invoice

To invoice services for the period between the Next Invoice Starting and Ending Date fields, choose the Create Invoice action on the ribbon. Running this function creates an unposted sales invoice, which you can open immediately.

Although contract headers already include invoice-related update fees and help desk amounts, the entries relevant to billing are found on the support contract lines. Their starting and ending dates determine if a line is invoiced within a certain period.

Partial invoices might be due as well. For example, the quarterly invoice period might run from 04/01 to 06/30, but a specific contract line might only be valid starting on 05/01. This line would then be billed based on a prorated two-month amount.

Information about unposted and posted invoices and credit notes remains available even after the lines have been billed. To view that information, go to the Invoices tab and select one of the figures highlighted in blue.

**Invoice batch**

You can also create invoices for multiple contracts at once.

1. Choose the Search icon, enter Support Contracts, and then choose the related link.
2. On the ribbon, choose Actions > Invoice > Create Invoice Batch.
3. Set filters, for example, to include only certain customers for billing.

This action considers active support contracts for which the Excl. from Invoice Batch checkbox wasn't selected. It can be opened on the list of support contracts but isn't available on individual contract cards.

**Unposted invoices**

When you open an unposted invoice for a support contract, you can see the number of the relevant contract and the invoice period on the Support Contract tab.

This information can also be found on the invoice lines.

**Posted invoices**

When you post an invoice, information about the invoice is copied to the Invoice tab of the relevant support contract. On this tab, you can select a number highlighted in blue to view a posted document. The Last Invoice Starting and Ending Date fields—and the Posted Invoices field—on the tab are updated each time you post an invoice, as are the Next Invoice Starting and Ending Date fields.

**Credit memos**

Credit memos cannot be created from a support contract. Instead, choose the Copy Document action when you create a credit memo for a contract-related invoice. The support contract fields on the credit memo are then filled in like on a posted invoice.

The invoice period is reset when you post the memo.

**Versions and archive**

You can archive contract versions that have been fully billed after a year. To continue using the underlying contract, you need to create another version. Contracts can have multiple versions, although only one of them can be active. Other versions are either being set up or have already been invoiced (and archived).

**Create a new contract version**

1. Choose the Search icon, enter Support Contracts, and then choose the related link.
2. Open the relevant service contract.
3. On the ribbon, choose Actions > Contract > New Version.

**Note**

You must edit the date fields for the new version. If you want to create a follow-on to an existing version, move the starting and ending dates one year into the future.

**Active version**

Only one version of a support contract can be active. To activate a new version, you must either turn off or archive the current version when it is completed, that is, when it has been invoiced in full.



WIP Accounting

Overview

The measurement functionality provides a way for you to record work in process and recognize project revenues and expenses so that you can track the financial value of jobs in the general ledger while the jobs are ongoing.

Setup

For automatic measurements, you need to set up the following features:

- Measurement methods
- G/L integration codes
- Measurement templates
- Resource pricing

Jobs Setup

Field	Description
Balance Filter (Measurement)	Here you can specify the G/L Integration codes that you want included in measurement statistics when you record WIP and revenues.

**Set up measurement methods**

Before you can work with the functionality, you also must set up at least one method of measurement and create a separate page for each. To set up a method:

1. Choose the Search icon, enter Measurement Methods, and then choose the related link.
2. Choose New on the ribbon.
3. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the method. The code must be unique.
Description	Specify a description for the method.
G/L Integration	Select this field if you want measurements based on this method to be copied to Finance.
Job Posting Group	Select a job posting group in this field if you want to measure job ledger entries.
Measurement Template	Select this field if you want to use a measurement ( <i>that is, calculation</i> ) template.
Measurement Base	Select a basis for estimating project values.
	<b>Job Ledger</b> Measures job ledger entries.
	<b>Completion</b> The system determines how far the project has progressed and uses that percentage for calculations in a measurement template.
	<b>Template</b> Measures values according to custom criteria.
WIP Method	Select a basis for estimating work in process: <ul style="list-style-type: none"> <li>• (blank)</li> <li>• None</li> <li>• Costs</li> <li>• Prices</li> <li>• HGB Costs</li> </ul>
Calculate	Specify if the system should use job ledger entries posted for usage or sales, or both, to record WIP.
Recognition Method	Specify if you want to recognize revenue according to the percentage of completion or the completed contract method.
Computation Log	Select this field if you want the system to log WIP calculations so that you can track measurement amounts. To see the log, choose the Assist button on unposted or posted measurement lines.

You can assign methods to a job template so that each job created from the template will have methods assigned to it automatically. Jobs created without the help of a template require manual intervention. To assign a method manually:

1. Choose the Search icon, enter Jobs, and then choose the related link.
2. On the job list, choose Related > Job > Measurement > Measurement Methods.
3. Alternatively, open a job card from the list and proceed as described above.

If you opted for measuring job ledger entries, the default method for measurements will be used and a template will not be created. In this case, you need to specify the relevant measurement accounts through job posting groups.

## Set up job posting groups

Job posting groups store the accounts to which project costs are posted. To set up a group:

1. Choose the Search icon, enter project365 Posting Groups, and then choose the related link.
2. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for the group. The code must be unique.
Description	Specify a description for the group.
WIP Costs Account	<b>(Consumption)</b> Choose the account to which unit costs are debited when you Post Work in Process to G/L and credited when you Post Job Recognition. When you post WIP, the Job Costs Adjmt. Account shown in General Posting Setup is used as the balancing account to this account. For revenue recognition, that function is assumed by the Job Costs Account.
WIP Sales Account	<b>(Sales)</b> Choose the account to which unit prices are credited when you Post Work in Process to G/L and debited when you Post Job Recognition. When you post WIP, the Job Sales Adjmt. Account shown in General Posting Setup is used as the balancing account to this account. For revenue recognition, that function is assumed by the Job Sales Account.
Job Costs Account	<b>(Consumption)</b> Choose the income account to which unit costs are debited when you run the Post Job Recognition to G/L batch job.
Job Sales Account	<b>(Sales)</b> Choose the P&L account to which unit prices are credited when you run the Post Job Recognition to G/L batch job.
G/L Expense Account	Fill in this field if you intend to post to job-related G/L accounts. Amounts are credited to the account when job usage is copied to sales lines.
WIP Profit Account	Choose an account for storing prorated profits as specified by the IAS percentage of completion (POC) method. This account is only required when you measure job completion.
WIP Profit Applied Account	Choose the contra account to the WIP Profit Account. This account is only required when you measure job completion.

## Note

The accounts used to post in Finance aren't copied from a job posting group if you estimate the financial value of a job with the help of a measurement template. Instead, the system will use the accounts specified through G/L integration codes.

### Set up G/L integration codes

G/L integration codes are assigned in measurement templates to line amounts that are posted to Finance. The codes specify the debit and the credit accounts that you want to use to record WIP and recognize revenue.

You need to set up a different code for each measurement method and area covered (by setting up a code for measuring reservations and another for measuring partially finished work according to either HGB or IFRS rules, for example). Afterward, you can assign these codes to the template lines manually (see [Set Up Measurement Templates](#)).

To set up a code:

1. Choose the Search icon, enter G/L integration Codes, and then choose the related link.
2. Fill in the fields as described in the following table.

Field	Description
Code	Specify a code for G/L integration. The code must be unique.
Description	Specify a description for the G/L integration code.
Integration Type	<p>Select an integration type if you need access to posted measurement entries in a job measurement template.</p> <p><b>Example</b> Measurements according to HGB require a calculation of the balance sheet values that you posted the previous year.</p> <p>The following options are available in this field:</p> <ul style="list-style-type: none"> <li>• (blank)</li> <li>• Balance Sheet</li> <li>• Cost of Materials</li> <li>• Labor Costs</li> <li>• Advance Pmt. (Assets)</li> <li>• Advance Pmt. (Liabilities)</li> <li>• POC</li> <li>• POC Job (Assets)</li> <li>• POC Job (Liabilities)</li> <li>• IFRS Prepmt.</li> </ul>
Debit Account (WIP)	Specify the account to which you want to add the debit amount stored for a certain measurement entry when work in process is posted.
Credit Account (WIP)	Specify the account to which you want to add the credit amount stored for a certain measurement entry when work in process is posted.
Debit Account (Recog.)	Specify the account to which you want to add the debit amount stored for a certain measurement entry when revenue recognition is posted.
Credit Account (Recog.)	Specify the account to which you want to add the credit amount stored for a certain measurement entry when revenue recognition is posted.
Evaluation After Closing Invoice	Description to follow.

Set up measurement templates

### Note

You need a valid license to work with measurement templates.

You need to set up a template for each method of measurement that you want to use. Examples are measurements based on IFRS or HGB. To set up a template:

1. Choose the Search icon, enter Measurement Template, and then choose the related link.
2. Fill in the fields on the lines as described in the following table.



Field	Description
	Specify a code for the template, such as R10. The code must be unique.
Row No.	The value in this field can later be used to gain access to the Totaling or Argument and Condition fields.
Description	Specify a description for the measurement line.
Cost Line	Select this field if the source table chosen on the line (see Source Table field) will be used to retrieve job ledger entries or the remaining cost and should be filled only with cost amounts.
Auto Calculate	Select this field if the line should be calculated automatically based on tables that contain certain job-related entries.
	Specify from which table data the line amount should be calculated.
	The following options can be chosen: <ul style="list-style-type: none"> <li>• G/L Entry</li> <li>• Job Ledger Entry</li> <li>• Job Account Entry</li> <li>• Measurement Template</li> <li>• Order Amount</li> <li>• Measurement Entry</li> <li>• Remaining Cost</li> <li>• Completion</li> <li>• Advance Pmt.</li> <li>• Advance Invoices</li> </ul>
Source Table	<p><b>Note</b></p> <p>Please note that the Advance Pmt. and Advance Invoices options are only available if you installed the <a href="#">Advance Payment</a> app.</p> <p>Afterward, you can use the Totaling field to filter data even further.</p>
Use Unit Costs	Select this field to use unit costs even if you chose HGB Costs as the basis for measurement.
Advance Amt. Type	Specify if you want Advance Pmt. or Advance Invoices entries ( <i>see Source Table field</i> ) to be shown as gross or net amounts. For all other source tables, this field is left blank.
Totaling Type	Specify the method for totaling measurements: <ul style="list-style-type: none"> <li>• Account (for G/L, job ledger, or job account entries)</li> <li>• Formula</li> </ul>
Totaling	Fill in this field based on the option you selected in the previous field.

Field	Description
	<p><b>For job ledger or job account entries</b> Specify a job account number.</p> <p><b>For measurement entries</b> Specify a G/L integration code.</p> <p><b>For measurement templates</b> Specify a row number.</p> <p><b>For G/L entries</b> Specify G/L account numbers</p> <p><b>For totaling type Formula</b> Specify a row number and a mathematical operator</p> <p>Leave the field blank if you chose another option than those listed.</p>
Argument 1 Condition Argument 2 Argument 3 Argument 4	<p>If you selected the If totaling type, you must fill in these fields according to the following rules:            If Argument 1 Condition Argument 2,            then Argument 3;else, Argument 4</p> <p><b>Note</b>            The arguments can only contain row numbers and mathematical operators or numbers</p> <p>Options in Condition fields:</p> <ul style="list-style-type: none"> <li>• (blank)</li> <li>• &lt;</li> <li>• &gt;</li> <li>• =</li> <li>• &lt;=</li> <li>• &gt;=</li> </ul> <p>For all other totaling types, the field is left blank.</p>
Date Filter Calculation	<p>If calculated table values are posted to a job automatically, you might need to set one of the following options as a date filter:</p> <ul style="list-style-type: none"> <li>• Previous Year</li> <li>• Year to Date</li> <li>• Current Period</li> <li>• Balance at Date</li> </ul> <p>Otherwise, leave the field blank.</p>

Field	Description
Show	Select this field if you want the line printed on a gross profit and loss report.
G/L Integration Code	Fill in this field if you want to create a measurement entry for the line. The code is then copied to the accounts specified for it when you post to Finance.
Print Description	Select this field if you want its value printed as a heading on a gross profit and loss report.  If the field is left blank, the default description will be used instead.

#### Price resources

Besides standard unit costs, you can calculate direct unit costs on resource cards. The calculation is based on the following formula:

- Personnel Cost Rate + Personnel Cost % + Personnel Ovhd. Cost = Direct Unit Cost
- Direct Unit Cost + Indirect Cost % = Unit Cost

Both the unit cost and the direct unit cost can be used to estimate the value of a project.

You can also choose the Update Personnel Ovhd. Cost function to recalculate the unit cost and the direct unit cost of several resources at once.

The new overhead is entered on the Options FastTab. You can set filters on the Resource tab if you want to update only certain resource records.

#### Post template-based measurements

One way for you to measure the value of a project is to use templates that contain rules specific to a certain accounting standard.

#### Note

You need a valid license to work with measurement templates.

#### Create measurement templates

You create a template for measuring project values by using the Create Measurement Templates function on the Job Measurement Templates page.

On the Measurement Method FastTab, you can then specify for what jobs you want to estimate a financial value. Please note that you first need a completion value (the option selected for the measurement method) before you can proceed, as this value cannot be determined any other way. You can later use the value for other template-based measurements. You also need to select a month (for example, 01/01/21 for January 2021) on the Options tab.

## Note

Turning on the Post toggle on the Options tab immediately posts the template (as a job measurement entry, not in Finance) after it has been created. Don't turn on this toggle if you want to check templates before posting.

If you turn on the Data Transfer toggle, the template is marked as posted to Finance so that the values determined or posted for the job are no longer copied to financial accounting.

This is especially relevant when you create a template to record the status of a data transfer. In Finance, measurement entries are typically posted alongside other account balances so that posting the template to an account would create duplicate measurement entries.

### View job progress

Creating a template based on job completion also creates a completion value for the relevant month. To see the value:

1. Choose the Search icon, enter Jobs, and then choose the relevant link.
2. Open a job card.
3. Choose Related > Job > Measurement > Completion.

The fields on the page are determined as described in the following table.

Field	Description
Budget Profit (Total)	Shows the result of subtracting the budgeted total price from the budgeted unit cost.
Total Cost	Shows the actual unit cost totaled at the end of the relevant period.
Completion %	Shows a percentage resulting from dividing the total cost by the budgeted unit cost and multiplying the result by 100.
Budget Profit (Period)	Shows a percentage resulting from dividing the WIP profit by the budgeted total price and multiplying the result by 100.
WIP Profit	Shows the result of subtracting the WIP amount from the total cost.
WIP Amount	Shows the result of calculating the following formula: Total Cost / [1-Budget Profit (Period)]
Value Posted	Specifies if progress has been posted for this line.

### Review and post measurement templates

To see a template that you created before posting:

1. Choose the search icon, enter Jobs, and then choose the related link.
2. Open a job card and choose Related > Job > Measurement > Measurement Templates.
3. Alternatively, choose the Search icon, enter Job Measurement Templates, and choose the related link.

The template shows you all measured values per accounting standard. If necessary, you can also delete an unposted template and create it from scratch.

After you have reviewed the template, you can choose Post on the ribbon. This will create measurement entries for posting measurements to Finance.

To post multiple templates at the same time, you can choose the Post Measurement Templates function on the Job Measurement Templates page. You can set a filter on the function to limit what templates to include.

#### View posted templates

To see the templates that you posted:

1. Choose the search icon, enter Jobs, and then choose the related link.
2. Open a job card and choose Related > Job > Measurement > Posted Measurement Templates.
3. Alternatively, choose the Search icon, enter Posted Job Meas. Templates, and choose the related link.

You can then choose Related > Posted Job Meas. Template > Measurement Entries on the ribbon to see the entries created for a measurement.

The G/L Integration field there shows you the postings created through the Post Job Work In Process to G/L function in Finance, whereas the Measurement Amount field indicates the amount posted to Finance. The Posted Measurement Amount field will be filled in after you have run the batch job.

#### Post WIP

For posting to Finance, you need the Post Job Work In Process to G/L batch job. On the Job FastTab, you can set filters to limit the projects for which you want to run the function.

On the Job Measurement Entry tab, you can then filter for a measurement method and a posting period. If you like to post IFRS and HGB measurements separately, you need to enter a suitable filter in the Meas. Method Code field on the tab. The filter in the Posting Date field should be set to the end of the month, for example 31/01/21.

On the Options tab, you can choose if you want to post per measurement entry or per job. Please note that the Job option might result in totals being copied to Finance.

You can then fill in a posting date, a document number, and a posting description (in which %1 is replaced with posting type WIP or Revenue and %2 with a posting group, such as IFRS or HGB).

The Post toggle on the page determines whether entries are posted, previewed, and printed. Leaving it turned off will only display and print the report without posting the entries.

Afterward, you can select the Preview button to check what you posted to Finance.

#### Note

With the Post toggle turned on, the standard Preview function isn't really a preview either, as it is used to start posting to Finance.

To see the values posted to G/L Integration accounts in Finance, use G/L integration and select an entry there to open the journal that you last posted to.

For more information about posting-related accounts and records, see [Set up Measurement Templates](#).

If you filtered for a measurement method on the Job Measurement Entry FastTab, you must rerun the Post Job Work In Process to G/L function for each new method.

#### Close a job

To post revenue to Finance, the status of a job must be set to Closed. Alternatively, you can turn on the Final Invoice Created toggle on the job card.

#### Note

You can no longer post to completed projects, but you can post to jobs for which a final invoice was created. However, you should only post to these jobs if necessary, such as when you need to settle warranty claims or perform rework, as they will no longer be included in measurements.

This means that once a job has been set to Completed or Final Invoice Created, it will no longer be part of new measurement templates for calculating WIP.

#### Suggest measurement for revenue recognition

Completed jobs or those for which final invoices have been created must have their revenues recognized through the Job Measurement Jnl. page before they can be posted. You can use the Recognize Revenue function on the ribbon for this.

On the Job FastTab, you can set filters to specify the jobs that you want to recognize revenue for. On the Job Measurement Method tab, you can set a filter on a method if you want to provide separate revenue suggestions for IFRS and HGB measurements, for example. On the Job Measurement Entry tab, you can set filters to suggest only certain WIP entries for recognition.

On the Options tab, you enter a posting date, a document number, and a description (in which %1 is replaced with the posting date). The function suggests for recognition all entries created from WIP measurements.

Posting the journal will not lead to postings in Finance, as the process creates only job measurement entries for revenue recognition. You can see the entries for a job by choosing Posted Measurement Templates or Measurement Methods on the job card.

#### Post revenue recognition

Afterward, you must copy the measurement entries you want to recognize to Finance by running the Post Job Recognition to G/L batch job.

On the Job FastTab, you can set filters to specify the jobs that you want to recognize revenue for. On the Job Measurement Method tab, you can set a filter on a method if you want to provide separate revenue suggestions for IFRS and HGB measurements, for example. On the Job Measurement Entry tab, you can set filters to suggest only certain WIP entries for recognition.

On the Options tab, you can choose if you want to post per measurement entry or per job. Please note that the Job option might result in totals being copied to Finance. You can then fill in a posting date, a document number, and a posting description (*in which %1 is replaced with posting type WIP or Revenue and %2 with a posting group, such as IFRS or HGB*).

The Post toggle on the page determines whether entries are posted, previewed, and printed. Leaving it turned off will only display and print the report without posting the entries. Afterward, you can select the Preview button to check what you posted to Finance.

### Note

With the Post toggle turned on, the standard Preview function isn't really a preview either, as it is used to start posting to Finance.

To see the values posted to G/L Integration accounts in Finance, use G/L integration and select an entry there to open the journal that you last posted to.

For more information about posting-related accounts and records, see [Set Up Measurement Templates](#).

### Undo measurements

Posted job measurements can be reversed.

#### Cancel measurement templates

To undo a measurement:

1. Choose the Search icon, enter Job Measurement Templates, and then choose the related link.
2. Select a template and choose Actions > Correct Posted Measurement on the ribbon.
3. Alternatively, choose the Search icon, enter Correct Posted Measurement, and choose the related link.

We strongly recommend that you set a filter on posted job measurement templates to specify which templates you want to cancel.

### Example

To correct HGB templates that measured jobs in February 2021, you need to set at least the following filters:

Meas. Method Code:	HGB
Posting Period:	01/02/21

When you choose OK, the function deletes all selected templates (their headers and lines) and sets the measured amounts stored with posted entries to 0. Additionally, the Corrected Amount field is filled in with the measured amount that was posted to the relevant entry up to that point.

#### Cancel posted templates in Finance

The corrected entries must now be retransferred to Finance so that the difference between the measured and posted amount is included in financial accounting.

Having set the amount to 0, the amount previously transferred to Finance will then be corrected through a reversal posting. To reverse a posting, you need to rerun the Post Work In Process to G/L batch job (see section [Post WIP](#)).

### Example

For posting a correction regarding the cancelled HGB measurement templates for February 2021, you need to set at least a filter on the measurement entries:

Meas. Method Code:	HGB
Posting Period:	01/02/21..28/02/21

### Note

The filter should be the same as for canceling the posted templates. If the document number or posting description are the same in both instances, they might give an indication of why the template was cancelled.

### Recreate templates

Cancelled measurement templates can always be recreated, reposted, and recopied to Finance.

### Post job ledger measurements

Postings for job usage and sales aren't automatically transferred to Finance but are only copied when you run the relevant batch job.

When posting measurement entries, a distinction is made between posting WIP and recognizing revenue. A job is linked to financial accounting, for example, to compare inventory consumption, salaries, and other amounts with work in process. At the end of the period, the value of ongoing projects must be reported on a balance sheet for accounting purposes. A batch job is available for both WIP and revenue recognition.

When a project is (partially) completed, work in progress needs to be recognized as revenue. Revenue recognition entries offset the amounts posted to work in process accounts and copy them to the G/L accounts that store job sales and costs.

### Measure job ledger entries

Job ledger entries are often the basis for HGB-compliant measurements. Based on unit costs, this measurement method recognizes revenue at the end of a job.

### Calculate WIP by job ledger entry

To use this method, you first need to open the relevant job ledger entries on the job measurement journal and create measurement entries. You then need to copy and post these entries to Finance.

When you run the Measurement Suggestion function from the measurement journal to open the Job WIP Worksheet, you can enter individual projects to be considered by the batch job in the No. field on the Job FastTab. If you leave the field blank, WIP will be calculated for all measured projects.

You can then specify the method for measuring WIP on this worksheet in the Meas. Method code field on the Job Measurement Method tab. If the field is left blank, all methods are included in the calculation.



On the Options tab, the Measurement From and Measurement To fields can be used to enter a period during which entries need to have been posted to be considered for WIP measurement. You also need to enter a posting date, a document number, and a posting description on this tab.

#### Note

Placeholder %1 can be used in both the Document No. and Posting Description. It is later replaced with the posting date.

Choose OK to enter the measurement suggestion in the job measurement journal.

If a journal is filled in through this batch job, you typically don't need to make manual changes to the data. But if the information entered for the batch job is incorrect, you can manually delete lines from the journal and rerun the function.

An example of what a measurement method for posting WIP based on job ledger entries might look like can be seen in the following table.

Field	Description
Code	HGB-L
Description	HGB (Ledger Entries)
G/L Integration	Selected
Measurement Template	Selected
Measurement Base	Job Ledger
WIP Method	Costs
Calculate	Usage
Recognition method	Completed Contract

This method is used to measure job ledger entries of the usage type at unit costs. If necessary, the values are copied to financial accounting.

The method ensures that only usage entries are copied to the journal. Ledger entries of type Sale aren't considered in this context. The measured amount will be retrieved from the Unit Cost field of a job ledger entry. The unit price serves only informational purposes here.

Posting work in progress then creates measurement entries that you can see when you open the relevant job, as each measurement entry is linked to the measured job ledger entry through the Job Ledger Entry No. field. The job ledger entry also stores the WIP amount.

On the job card, you can choose Related > Job > Measurement > Job Measurement to open a matrix that shows you the measurement status of the project. The posted entries are visible in the WIP column during the selected posting period. You can use the lookup in each field to take a closer look at an entry.

### **Incorrect measurement base**

You can perform a second measurement if a wrong measurement base was chosen. However, only job ledger entries not included in the previous measurement are used for this. The measurement method that you used must also be changed accordingly and reassigned to the project. Canceling posted measurements isn't possible.

#### **Post WIP to Finance**

The measurement entries that were created through the measurement journal, which only affected the Job area, can now be copied to Finance by using a batch job. In this context, it is important that the G/L Integration checkbox (*specifying the method and area of measurement*) has been selected for all entries you want to copy.

The values are then transferred to Finance by entering Post Job Work In Process to G/L in the general search field and choosing the relevant link. Individual projects can be selected for inclusion in the batch job on the Job FastTab. You can also set filters on other fields of the job table here.

On the Job Measurement Entry FastTab, you can set filters on individual entries. We recommend that you limit only the period for inclusion here, as the entries are already filtered through the journal.

On the Options tab, you select the method that you want to use for posting. You can create a G/L entry for each measurement entry here or one G/L entry for all of them. You also need to enter a posting date to specify when entries should be transferred to Finance, a document number, and a posting description.

The Post toggle is used to determine if you want to preview WIP calculation (toggle turned off) or whether the posting should already be made.

Afterward, choose Print or Preview at the bottom of the page to start the posting or preview process. This will show you a report listing the work in progress.

After WIP has been posted to Finance, you can open a job card and choose Job > Related > History > Measurement Entries on the ribbon to see the postings. When you post work in progress, the system will update the Posting Date field for the relevant measurement method. The job measurement entries included with the posting are updated in the Posted Measurement Amount field.

In the Finance area, the individual records have been posted as well. As the posting method selected for Post Job Work In Process to WIP was Per Job Meas. Entry, the system posted a great many records.

The posting process is identical when you measure job completion. You only need to first calculate completion values for the period under consideration so that they're included when you run the measurement suggestion from the journal page.

Posting to Finance also works in the same way despite completely different account assignments.

#### **Recognize revenue by job ledger entry**

For revenue recognition, it is important when revenue is recognized, that is, whether it is recognized based on the percentage of work completed or at completion of the contract. If you use the Completed Contract method, the status of the job must be set to Completed. You can then run the Recognize Revenue from the measurement journal.

The date of revenue recognition is specified on the Options FastTab. You also need to enter posting date, a document number, and a posting description there. On the Job tab, you can filter for specific projects or, if you leave the Job No. field blank, use the function on all jobs.

On the Job Measurement Method tab, you can set a filter on measuring methods or, as before, leave the field blank to include all methods.

The Job Measurement Entries tab, on the other hand, can be used to filter for certain posted job measurement entries. In the Entry Type field, you can select either Usage or Sale. If the field is left blank, all entries are considered for revenue recognition.

As was done when posting WIP, the job measurement journal must now be posted. The recognized job ledger entries can then be found in the job measurement matrix in the Recognition column.

#### Post revenue recognition to Finance

Following revenue recognition in the Job area, the entries still need to be posted to Finance. For this purpose, you can choose the Post Job Recognition to G/L action.

If necessary, you can limit recognition to specific projects on the Job FastTab. On the Job Measurement Method tab, you can specify for which method you want to recognize revenue.

On the Job Measurement Entry tab, you can select the measurement entries that you want to transfer to Finance for revenue recognition.

On the Options tab, you can specify whether you want a G/L entry created for each measurement entry or if you want to aggregate the measurement entries into one G/L entry in Finance. Additionally, you need to fill in the Posting Date, Document No., and Posting Description fields on the tab.

With the Post toggle turned on, revenues are then posted to Finance. Leaving the toggle turned off will generate only a test report.

As was the case when you posted WIP, the system creates numerous G/L entries in Finance when you recognize revenue.

#### Post progress measurements

Measuring progress is largely identical to measuring job ledger entries. For this reason, only the differences between them are explained in the following.

#### Calculate job completion

Job progress is calculated by choosing Related > Job > Measurement > Completion on the job card ribbon. You then use the Estimate Completion function on the page that opens to create completion lines.

#### Calculate WIP based on completion

For measurements based on job completion, a suitable measurement method must be created for jobs. Crucial in this context is the Measurement Base field, where you must select the Completion option.

As was the case for measuring job ledger entries, you first run the Measurement Suggestion function on the Job Measurement Jnl. page. Note the filter set on the Posting Date field, as the focus has now shifted to completion values.

All subsequent steps (*posting the job measurement as a job measurement entry and posting this entry to Finance [if the relevant journal gives you the option of doing so], recognizing the entry and posting recognition to Finance*) are the same as for ledger entry-based measurement.

**Analyze measurements**

The measurement functionality also provides you with options of analyzing the data relevant to determining the current value of a project.

**Gross profit and loss report**

This report shows you the lines and values for a posted template and measurement (for example, based on IFRS or HGB and a specific month). A line is only included on the report if the Show checkbox has been selected for it in the template.

On the Job Dim. Value Report Buffer FastTab, you can first specify the dimension by which projects on the report are grouped. In the Dimension Value field, you can then enter a value to show only projects where the value has been assigned as a default dimension (such as range 30). You can also limit what jobs you can see by setting a filter in the Job No. field.

On the Options FastTab, you need to enter a date so that you see only measurement templates valid in that month. In the Meas. Method Code field, you need to enter the code of a measurement method that will be included on printouts.

Additionally, with the Preview toggle turned on, the report will show both posted and created but not yet posted measurement templates on the report.

## German HOAI Fees

### Note

Despite being implemented decades ago, the German HOAI regulations on architects' and engineers' fees continue to have little to no influence over fee schedules developed outside Germany.

The highly localized nature of HOAI is reflected in the online help articles by limiting the language used to describe the related functionality to German.

Finance

Non-deductible VAT

For general information about the feature, see [Set Up Non-Deductible VAT - Business Central](#). This article only explains the additional pages, functions, and fields available for it in KUMAVISION project365.

VAT Setup

You can now also use dimensions to calculate percentages of non-deductible VAT.

- 1. Choose the Search icon, enter VAT Setup, and then choose the related link.
- 2. Fill in the fields as described in the following table.

Field	Option
	<b>(blank)</b> Indicates that this field hasn't been filled in yet. To proceed, you must select one of the following options.
Non-Deductible VAT Type	<b>Standard</b> Corresponds to standard functionality, which means the system posts lines by using the non-deductible VAT percentage that has been specified for them on the VAT Posting Setup page.
	<b>Dimension</b> Determines a non-deductible percentage based on dimensions and dimension values ( <i>and, potentially, a time frame, as will be explained later</i> ).
Non-Deductible VAT Check	<b>Show Notification</b> Shows a message if the current combination of VAT business and product posting groups entered on a line allows for a non-deductible percentage based on dimensions, but none can be found.
	You can still post the line, however.
	<b>Show Error</b> Displays an error message during posting.
Non-Deductible VAT Date	<b>Posting Date</b> Posting dates will be used to calculate non-deductible VAT.
	<b>Document Date</b> Document dates will be used to determine the percentage.

Hinweis

The fields in this table are only visible if the Non-Deductible VAT toggle has been turned on.

**Non-Deductible VAT Dimensions**

Can be opened by choosing Actions > Non-Deductible VAT Dimensions on the ribbon.

If you selected the Dimension option in the Non-Deductible VAT Type field on the VAT Setup page, the non-deductible VAT typically specified in VAT Posting Setup is stored with dimensions and dimension values instead. In that case, you specify on this page the dimensions that you want the system to consider for calculating a percentage, as well as the order of priority in which they should be searched for.

You then need to specify for each dimension value from which date a percentage will be valid for them by choosing Dimension > Dimension Values on the ribbon and filling in the fields as necessary.

Non-deductible VAT is only used for lines on which you stored a business and posting group combination that allows the use of non-deductible input VAT via the Allow Non-Deductible VAT field in VAT Posting Setup (*see the standard help for more details*).

**Hinweis**

If you selected Dimension as the non-deductible VAT type, you cannot enter a percentage in the Non-Deductible VAT % field in VAT Posting Setup, as the percentage from the dimension values should be used instead.

## **Service**

Description to follow.



## 1.2.5 project365 Real Estate

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### KUMAVISION project365 Real Estate

#### Note

This app has been developed with the German market in mind. Because of the industry's differing rules and regulations across the world, the development of app versions for use outside the country will not only require adjustments to some functions and fields but also rewrites of the online help articles.

As a result, the web help describing the solution is currently available in German only.

## 1.2.6 project365 Architects

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### KUMAVISION project365 Architects

#### Overview

KUMAVISION project365 Architects provides engineers and architects alike with key functionalities they require for their work. Tapping into a bundle of solutions built on top of [KUMAVISION project365](#), the app features:

- Work breakdown structures so you can monitor and track orders from a single location.
- Customizable quotation and costing, contact management, and assessment of project success.
- Improved time tracking for each project phase and task.
- Billing based on payment plans or expenditures.
- Project schedules as a basis for costing and cost control.
- Cost control down to the task level.
- Budget-versus-actuals comparisons.
- Actuals trackable on individual documents.
- Quote and order archives that you can use to share expertise.
- HOAI and AHO cost and fee management for both internal and subcontracted orders.
- Powerful advance payment accounting.

Available as a standalone app in Microsoft AppSource, project365 Architects consists of

- [Microsoft Dynamics 365 Business Central](#)
- [KUMAVISION project365](#)
- [Advance Payment](#) (including Bridge App)
- HOAI Fee Management

[Get KUMAVISION project365 Architects from Microsoft AppSource.](#)

## 1.2.7 trade365

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### KUMAVISION trade365

With KUMAVISION trade365 you can easily master the balancing act between service, costs, logistics and adherence to delivery dates. The industry solution is perfectly tailored to the needs of the wholesale sector and offers all functionalities in one system.

- Fast order entry with discount calculation
- Scanner connection to support error-free logistics and batch tracking (Optional)
- Transparent service processes
- Processing of blanket orders and block orders (*framework agreements*)
- Offer Management
- Expansion of customer loyalty through rental of machines and equipment

#### Content

- [General Setup](#)
- [Basics](#)
- [Sales and Marketing](#)
- [Purchasing](#)
- [Warehouse and Inventory](#)
- [External Production with Provision](#)
- [Service](#)
- [Rent](#)

[Link to Microsoft App Source "KUMAVISION trade365"](#)

## General Setup

### Inactive sellers/buyers

The salespersons/buyers are used in the sales and purchasing documents and control, for example, the printing of contact data on the documents. If an employee leaves, the entry in the salesperson/buyer table can no longer be deleted, as documents in which this person was entered can then no longer be subsequently printed. This may result in a large list of salespersons/buyers.

In order to only work with active sellers/buyers in the current process and thus keep the corresponding selection lists in the system short, it is possible to make a seller or buyer inactive. This is done via a check mark in the salesperson/buyer list. If an employee is marked as "inactive", he/she will not be displayed via the lookup in the purchasing and sales documents. This opens the overview filtered to only active employees. The filter can be removed if needed.

## Basics

### Extension of the item card

In the standard system the fields "Quantity in order", "Quantity in order" etc. are displayed.

KUMAVISION trade365 additionally shows you the "Quantity in offer" and "Quantity in inquiry". In both fields you have the possibility to navigate directly to the documents.

### Extension of the inventory data

In the standard system, the fields "Quantity in order", "Quantity in order" etc. are displayed to you.

KUMAVISION trade365 additionally shows you the "Quantity in offer" and "Quantity in inquiry". In both fields you have the possibility to navigate directly to the documents.

### 1-level variants

For easy definition of recurring variants, e.g. many articles exist in the same size, a [variant feature](#) can be defined and stored in the article master.

To create the variants now, select via the menu item > "Actions" > "Features" > "Create variants (matrix)". With this support you can quickly and easily create the variants, alternatively you can enter the variants manually.

### 2-stage variant

In addition to the single-level variants at the article master, it is necessary to work with 2-level variants for certain articles. 2-level variants are used, for example, for articles that are available in different sizes as well as different colors and are to be managed under the same article number.

KUMAVISION trade365 enables the simple generation and easy handling in the sales and purchasing process of 2-level variants.

### Establishment

The following describes how to set up on the article master for 2-level variants.

#### Warehouse facility

When creating 2-level variants, the variant description is combined from the two variant characteristics. In order to separate these visually, it is possible to set up in the warehouse facility with which separator the two descriptions are separated.

To do this, call up the "Stock setup" via the user search. On the information tab "KUMAVISION trade" you have the possibility to enter the desired separator in the field "Separator for variant description".

#### Article variant features

2-level variants are mapped with so-called variant characteristics. For this purpose, general article variant characteristics, such as size or color, are first created and these in turn are assigned characteristic values (*for color, e.g. red, blue and others*). The article variant characteristics can be used for the creation of n:articles.

To define an article variant characteristic, call up the "Article variant characteristics" via the user search. Via "New" in the menu ribbon you can define a new article variant characteristic with the help of the table below:

Field	Description
Code	Defines the unique code of the article variant characteristic
Description	The description of the article variant characteristic is entered here.
Variant description 2	Used for the item description of the variant in the Description 2 field. The placeholder %1 enables the variant description 2 of the characteristic value to be transferred to the variant description 2. For example, if an article is to be created as a T-shirt blue size XL, the value Size %1 must be entered in the Variant description 2 field of the article variant characteristic Size.

Then you have to create the characteristic values for the respective article variant characteristic via the ribbon.

You have the option of creating translations for the article variants. To do this, the article variant characteristics and their values must be translated in each case.

When creating the article variants, the translations for the individual variants are then created automatically. Only the translations for language codes that have also been previously stored in the article master are created.

Individual characteristic values can be locked. These will then no longer be offered when the variants are created for the article. However, if article variants with this characteristic were previously created, they are still available and are not locked. The sort order of the characteristic values determines the order in which the characteristics are displayed in the variant creation matrix. The default sort order is by the "Code" field, in alphanumeric order.

## Article card

To create 2-level variants for an item switch to the item card. The setup is done on the "Stock" info tab by the following fields:

- Variant characteristic 1
- Variant characteristic 2

To create the variants now, select the menu item "Actions" > "Functions" > "Create variants (matrix)" via the menu ribbon.

The matrix for creating 2-level variants for an article opens.

Here you can check which combinations of "Characteristic 1" and "Characteristic 2" are to be created by the system as variants for the article. Click on "OK" to create the selected variants.

The further processing of the 2-step variants is done conventionally in the sales and purchasing processes.

## Default variant for sales

For items that you manage with variants, it may be useful to define a default variant for sales (*for example, if you use variants for versions of products*).

By defining a "default variant", you reduce the amount of data entry required in sales documents. To define a variant as a default for sales, call up the corresponding article.

On the article card on the "Prices and sales" info tab, you can enter one of the existing variants in the "Preset sales variant code" field. Sales Variant Code" field, you can select one of the existing variants. This will then be automatically entered as a variant in the sales documents after the article number has been entered.

Users can change the variant manually at any time in the sales document.

#### **Variant fast entry**

Especially in the area of variant-capable articles, assortments consisting of different variants of the same basic article are often purchased. For this purpose, KUMAVISION offers trade365, a fast entry system for the simple recording of different variant quantities.

#### **Establishment**

To set up the fast entry of variants for an article, first call up the desired article card.

On the "Variants" info tab, you can activate the following switches for the individual business transactions:

#### **Sales variant fast entry: \*\***

- Sales offer
- Sales order
- Sales invoice
- Sales credit memo
- sales blanket order
- sales complaint
- Sales framework agreement

#### **Purchasing Variant Fast Entry:**

- purchasing inquiry
- purchase order
- purchase invoice
- Purchasing credit memo
- Purchasing complaint

#### **Return variant fast entry:**

- transfer order variant fast entry

#### **Book. sheet - Variant fast entry:**

- Article book sheet - variants fast entry

#### **Note**

We recommend that you always activate the variant requirement when using variants. This will ensure that no transactions can be entered and processed without specifying the variant.

**Use in process**

If the field is activated for the purchasing area, for example, the variant fast entry is opened after entering the article number within a transaction.

The desired quantities for the respective variants can now be entered via this fast entry. After confirming the window with the "OK" button, the respective lines are added to the original document.

This process is integrated in the other processes in the same way.

**Exclude individual variants from fast entry**

Variants often change, e.g. a color no longer exists or you no longer want to actively sell certain variants and only accept them for complaints. As long as a variant is not locked, it can be used in the operations.

However, to help you ensure that users only see certain variants in fast entry, you can exclude individual variants from being displayed in fast entry.

To do this, call up the respective variants via the article overview and then the corresponding variant card of the article via the ribbon. Alternatively, you can do this directly via the respective article card. On the "Stock" info tab, you can activate the "Exclude from variant matrix" checkbox. This variant will now no longer be displayed in the fast entry matrix.

**Variant card**

Microsoft Dynamics 365 Business Central provides a list view in the standard for the display of variants. In KUMAVISION trade365, various functions and extensions for working with variants have been provided and are constantly being expanded.

A map view is available to you for the clarity and editing of variants and their associated information. On the article variant map you can:

- Translations
- Non-binding price recommendations
- text modules
- the definition of the complete delivery obligation
- the assignment for the calculation of the Calculated Cost Price and edit and view it yourself (regardless of where you have previously maintained data for a variant). For information on the respective options, see ["Calculated cost price"](#).

**Variants text modules**

The extended text modules are also available for article variants in KUMAVISION trade365. This allows you to store individual text modules for each article variant. The functionality of text modules is described in the section ["Additional texts"](#).

**Purchase code for variants**

In order to always procure items as a direct delivery or special order, Microsoft Dynamics 365 Business Central Standard provides you with the option to store a purchase code on the item card. This purchase code is transferred to the sales transactions and you can change it, if necessary, directly in the transaction. This allows goods to be delivered exceptionally, e.g. via the warehouse.



In practice, it often happens that articles are basically in stock, but certain variants are ordered only when needed, and e.g. should be sent directly to the customer (*direct delivery for a variant*).

KUMAVISION trade365 provides you with the possibility to store purchase codes only for certain variants and to deliver other variants from stock.

To store a purchase code only for a certain variant, call up the articles via the user search. Open the article card and call up the variants (*via the user search or via the menu item Belonging > Article > Variants*). Open the variants card.

In the variant card on the "General" info tab, you can select the purchase code from the stored table. Alternatively, you can show the field in the variant overview by "Personalize".

In further processing, the purchase code will only be transferred to the sales documents for the variant for which a purchase code has been stored.

!!! note "Note If you assign a purchase code directly on the article card, this applies to all variants.

#### Article history

In the article master KUMAVISION trade365 provides you with an overview, each for purchase and sale, with the documents entered for the article. The article history can be called from the article card or article overview. The call is done via "Belonging > History > Purchase- or Sales Statistics".

The individual documents are sorted by document type and displayed in the statistics tabs.

#### Advanced item ledger entries

**For improved evaluation and to simplify searches at item level, the following fields have been shown or newly added:**

Field	Description
Type of origin	<b>Options:</b> Item, Vendor, Customer
Origin no.	<b>Option:</b> assembly order, production order, customer number, vendor number
Name	In the case of the Vendor or Customer options, the "Name" field of the corresponding master record is displayed.

This allows you to directly research or evaluate within the article items which delivery went from which supplier or to which customer or was consumed via which assembly or production order.

#### Advanced view Get origin documents and origin document lines

If you use the function ["Get origin document lines..."](#) in logistics documents, the customer/vendor name for the corresponding documents is also displayed automatically. Also the view of the function ["Get origin document lines..."](#) has been extended in KUMAVISION trade365 by the field "For name".

**Save item attribute filter**

In the item overview you can filter by item attributes. In KUMAVISION trade365 you have the additional possibility to save these filters for the future. To do this, call the function "Filter by attributes" in the item overview and set the desired filters. In the next step, activate the "Save attribute filter" button. A window opens in which you can define a code and a description. With the button "Save filter only for me" you define whether the filter can be used only by you or also by all other users. Saved filters can be accessed via the "Filter item by attribute" page in the "Attribute filter code" field.

**Add document as attachment when printing/sending**

Use the "Add document as attachment when printing/sending" checkbox to specify whether documents should also be automatically stored as PDF attachments when the Print/Send function is executed. If the switch is deactivated, documents have to be stored manually using the "Attach as PDF" function. You can activate the switch for Purchasing in the "Accounts Payable & Purchasing Setup" and for Sales in the "Accounts Receivable and Sales Setup".

## Sales and Marketing

### Create article reference from sales line

In retail, customers often have their own article numbers. These article numbers can be used in the "Reference number" field during order entry, provided they are maintained in the article or customer master under Reference numbers.

If these article numbers are not yet maintained, this reference number can be entered and permanently created in KUMAVISION trade365 during order entry in the respective line.

### Establishment

In order to use this function, the "Create article references automatically" switch on the "KUMAVISION trade" info tab must be activated in the "Accounts receivable and sales setup".

### Procedure

A sales line is recorded with the following fields:

Type	No.	Reference number	Unit	Variant code
Article	Item number	Customer article number	Article purchasing unit	(can optionally be filled depending on the article as well)

A reference entry is automatically created for this item and this customer.

If there is already a reference entry in the system for this customer and this article number, it will be displayed as soon as the field with the article number is left.

The list of article references can be accessed and edited via the user search.

### Order types and payment terms

Via order types on the one hand the documents can be distinguished and structured and on the other hand the behavior can be defined.

The order types exist in addition to the standard for service orders for the following documents:

- Order as sales order type
- Purchase order as purchase order type
- Stock transfer as stock transfer order type
- Production order as production order type

Distinguishing characteristics can be, for example, normal order, rush order, consignment order, external production order or also rework order.

## Sales order types

Depending on the order type a payment term can be assigned which overrides the payment term of the customer.

### Note

At this point of the online help, only the additional functionality of the sales order types in KUMVISION trade365 will be explained to you in more detail. The general setup options are explained to you [here](#).

field	remark
	Indicates the payment condition of the respective order type. This payment term overrides the payment term stored in the customer's master data.
Zlg.-Bedingcode	The payment terms can additionally be changed manually in the order. If the sales order type is used in the document, the payment term of the order type is entered.
Standard for Shopify	Orders created via the Shopify interface included in the standard automatically receive the selected order type.
Exclude from periodic billing	If enabled, orders with this order type will not be included in <a href="#">periodic billing</a> .

## Dimensions assignment

Sales order types can be assigned dimensions for later analysis, which are inherited by the documents.

To do this, select in the ribbon > "Associated" > "Sales order type" > "Assignment for current record" and/or "Assignment for selected records" for the dimension assignment.

**The default dimensions card opens where you can make the assignment using the table below:**

Field	Comment
Dimension code	Specifies the code for the default dimension - a selection from the Dimensions overview table is possible here
Dimension value code	Specifies the dimension value code that is proposed as the default dimension - a selection from the Dimension values overview table is possible here
	Specifies how to use default dimensions and their values.
Dimension value posting	<b>Choice between:</b> <ul style="list-style-type: none"> <li>• Code necessary</li> <li>• Same code</li> <li>• No code</li> </ul>

**Report selection by order type**

In addition to the use of order types as a distinguishing criterion and the presetting of dimensions, different printouts can be controlled for each order type. For this purpose, in addition to the selection of the actual document, the sales order type can also be selected in the report selection of sales, in order to then be able to store different reports accordingly, e.g. other order confirmations for spare parts orders.

To do this, first call up the "Report selection - Sales" via the user search.

Via the "Usage" you can first define for which document you want to make your setups. In addition to selecting the actual document in the rows via the "Report ID" field, you have the option of storing different reports according to the respective sales order type via the "Report selection order types" menu item.

As already in the standard report selection, it is also possible to store several reports in a defined sequence in connection with order types. In addition, it is also possible to refine these printouts in relation to a customer. I.e. per customer and order type different documents can be created if necessary.

**Sales prices based on lime. Calculate cost prices**

In the pricing worksheet of Microsoft Dynamics 365 Business Central you have the possibility to define new prices, revise them and write them back to a price list.

In general, the calculation via sales conditions is available in KUMAVISION. For further information please refer to ["Prices"](#).

KUMAVISION trade365 additionally provides the possibility to use the ["Calculated cost price"](#) as a calculation base in sales conditions.

In the pricing worksheet, select the "Propose Rows" function. Fill in the request window as follows:

field	remark
Product type	<p>Select in this field the product type for which the suggested lines should be calculated. Prices can be suggested for the following options:</p> <ul style="list-style-type: none"> <li>- All</li> <li>- Item</li> <li>- Item Discount Group</li> <li>- Resources</li> <li>- Resource Group</li> <li>- Service Cost</li> <li>- G/L Account</li> <li>- Item Price Group</li> </ul> <p>The selection restricts the base lines for which recalculation should occur. If there is no sales price/discount for the selected combination so far, no lines will be suggested</p> <p>.</p>
Product filter	Depending on the selected value in the "Product type" field, you can select a filter here, e.g. for certain article numbers or resource numbers.
Standards	The options you can select in this field via the lookup will be described in the following.
Minimum quantity	If you only want to recalculate prices that apply above a certain purchase quantity, then enter the minimum quantity here. Prices below the minimum quantity will not be suggested. You can leave this field empty if you want all prices to be considered.
Date Exchange Rate	This field is used for recalculating prices if the price is either issued in a foreign currency or if you select a sales condition in the calculation type that is calculated on the basis of the purchase price or the "Calc. Cost price". In this case, the purchase prices in foreign currency are converted into client currency at this exchange rate.
Calculation type	In the calculation type you can choose between a correction factor or a sales condition. The calculation factor allows you to increase the existing price by 5%, for example. The sales condition allows you to recalculate a price based on the sales condition settings, e.g. based on the calculated cost price valid today.
Select	Select the sales condition to be used for the calculation. If you have selected "Correction factor" for the calculation type, this field will remain empty and you will not be able to select a condition.
Correction factor	Enter the correction factor for recalculation here if you have selected "Correction factor" as the calculation type. Note that the value must be entered as a factor - i.e. 1.05 for a 5% increase. If you have selected "Sales condition" as the calculation type, this field will remain empty and cannot be entered either.

field	remark
Rounding method	In this field you can select a rounding method to be applied to the result after calculating new prices, e.g. if prices should always be rounded with 0.05 only.
Start date	Enter a date here that should be inserted as the start date of the new prices in the price proposal. You can change this date again later in the price worksheet, but here then per line.

For the definitions of the field "Standards" in the query you have the following options:

Field	Comment
Assignment to Type	<p>Select here if the new price should be created for the option:</p> <ul style="list-style-type: none"> <li>- All Debtors</li> <li>- Debtor</li> <li>- Debtor Price Group</li> <li>- Debtor Discount Group</li> <li>- Campaign</li> <li>- Contact</li> </ul> <p>new. Depending on the selection, the definition in the next field will be restricted .</p>
Allocation to No.	For all options of the field "Allocation to Type", except the option "All Debtors", you can make here the appropriate restriction e.g. for a debtor, a price group or a campaign. If you want to do this for several e.g. customers in one step, enter the filters according to the logic of Microsoft Dynamics 365 Business Central.
Currency code	Select a currency code if you want the proposal to calculate prices in a specific currency ( <i>note the "Exchange rate date" field above</i> ).
Start Date	Enter here the start date that should be transferred to the new prices.
End date	Enter here the end date until which these new prices will be valid.
Define	Use this option you can influence the display in the price worksheet / or the result. If you select "Price and discount" here, both the column "Price" and the column "Discount" will be displayed, otherwise only the selected option "Price or discount" will be displayed.

#### Note

Please note that the price worksheet with the "Accept price proposal" function always writes to the default price list. This price list (*which is stored as default in the setup*), will be shown to you in the header of the window - when you lookup to standards. This also means that these entries are not used as filters for the output prices, but as definitions for the results.



Further processing of the price worksheet is done in the standard. However, when using sales conditions, you still have the possibility to check the exact calculation of the condition via the function call "Price calculation" for the respective line.

#### Other fields in delivery addresses

In order to override various fields in the sales document depending on the delivery address, the following fields have been added to the delivery address card of the customers:

- Seller code
- Seller code 2
- VAT Business posting group
- Business posting group
- VAT No.
- Contact (with lookup to the contacts of the customer)
- Consignment storage location code
- GLN number

If nothing is entered in these fields on the delivery address, the corresponding fields of the customer are used in the sales document. As soon as a value is entered in these fields, this field content will be set in the sales document.

By specifying the VAT. Business Posting Group, VAT ID and Business Posting Group at shipping address level, it is possible to pre-populate the appropriate VAT for deliveries abroad for otherwise domestic customers without having to do this manually on a case-by-case basis in the order. This increases the data quality in order entry. By overriding the seller codes depending on the delivery address, it is easy to implement e.g. commissions by area.

#### Invoice shipping address

In practice, it often happens that an order confirmation is to be sent to the customer's main company for approval, but the associated invoice is sent to an address abroad or third party (e.g. billing office).

In KUMAVISION trade365 it is possible to enter several invoice addresses for one customer for sending invoices, similar to the delivery addresses. These invoice addresses can then be used in the sales documents.

To store the invoice addresses with a customer, first call up the desired customer card.

Via the Ribbon > "More options" > "Related" > "Customer" > "Invoice to addresses", you can store several addresses for invoicing, analogous to the delivery addresses. Each billing address is identified by a unique code to be entered for each customer.

When creating the billing address, the complete address is entered including contact person and communication data. All other information regarding delivery, invoice will be taken from the customer's master record when using this billing address.

On the customer card, you can then preassign a default billing address in the "Invoice to Code" field in the "Invoicing" info tab. Invoice to Code" in the "Invoice to Code" field on the "Accounts Receivable" tab. The lookup button displays the entered invoice addresses. If you enter a default invoice address, this will automatically be taken into account in the sales documents.

However, if no standard invoice address has been stored for the respective customer, the user is shown the invoice addresses stored in the customer master for selection during sales document entry. He can then decide per document which is the correct billing address. If the window is closed with "Cancel", the address of the customer master record is transferred to the document.

In order to activate the automatic display of invoice addresses, the checkbox "Display invoice addresses in sales entry" must be activated on the info tab "KUMAVISION" in the Customer & Sales setup.

#### **Automatic display of delivery addresses during order entry**

To minimize data entry errors and streamline the overall sales document entry process, shipping addresses to customers are automatically displayed for selection when a customer is selected in a sales transaction.

After validating the field "Sales to deb. no.", the system checks whether delivery addresses are stored for the respective customer. If this is the case, a list is displayed from which the clerk can select the appropriate delivery address for the transaction. If none of the displayed delivery addresses are to be used, the window can be closed by clicking "Cancel". This will not change the delivery address.

#### **Note**

- The selection of the delivery addresses only occurs when the user enters the sales to customer no. in the sales document header - if a document is created via a function from the customer, the selection of delivery addresses does not occur automatically.
- If a default delivery address is stored on the debit card in the "Delivery" info tab in the "Delivery to code" field for the customer, the system does not display the delivery address selection during sales document entry, but automatically transfers the address of the default delivery address to the delivery information.

To activate the automatic delivery address display, first call up the Customer & Sales setup via the user search.

The Accounts Receivable & Sales setup opens. Then activate the switch "Display delivery addresses in sales entry" on the info tab "KUMAVISION".

#### **Automatic display of invoice addresses during order entry**

To activate the "automatic display of invoice addresses", first call up the "Accounts receivable and sales setup" via the user search.

Then activate the switch "Display invoice addresses in sales entry" on the info tab "KUMAVISION trade".

In order to minimize data entry errors and to optimize the general process of sales document entry, invoice addresses for customers are automatically displayed for selection as soon as a customer is selected in a sales transaction.

To do this, after validating the "Sales to customer no." field, the system checks whether invoice addresses are stored for the respective customer. If this is the case, the list of invoice addresses will be displayed. You can now select the corresponding invoice address for the transaction. If none of the displayed invoice addresses are to be used, the window can be closed by clicking "Cancel".

## Note

If on the customer card on the info tab "Invoicing" a "Default invoice address" is entered in the field "Vorg. Invoice to Code" field for the customer, the system will not display the invoice address selection when entering the sales document, but will automatically transfer the address of the default invoice address to the invoice information.

### Separate collective invoice

Especially with regard to customers that have group structures, many delivery addresses are often used in the form of customer cost centers. In order to be able to split the collective invoice according to delivery addresses in this case, a new field "Separate collective invoice according to" has been included on the "Delivery" info tab in the customer master record.

This field can be used to specify for the corresponding customer that a subdivision of the collective invoice is to be made according to "Sales to deb. no." (e.g. for association invoices) or according to "Delivery to code".

In these cases, the collective invoice run will create a new invoice document for differing records in each case.

If this option field is left <empty>, no separation will be made when creating the collective invoice.

### Text modules in delivery addresses

If you work with delivery-to-addresses in sales, it is necessary to print different information per delivery address in the documents. For this purpose KUMAVISION trade365 offers the possibility to create specific text modules for delivery addresses. The functionality is analogous to the document texts.

The text modules in delivery addresses are called up via the ribbon > "Addresses" > "Text modules" of the respective customer.

### Infobox "Invoice To Debtor No."

In addition to the infobox "Sales to Debtor History" the infobox "Invoice to Debtor No." is available in KUMAVISION trade365.

The content of the infobox "Customer history - Invoice to customer no." refers to the customer which is entered in the field "Invoice to" on the info tab "Delivery and settlement". The date filter limits the number of vouchers that can be viewed directly by clicking on the respective number. The two info boxes can be displayed in all sales documents, but if necessary they must be displayed using the "Personalize" function.

Further information and setup can be found [here](#).

### Contact person for reminders

Contact persons for reminders often differ from the general contact persons of the customer. In the standard version of Microsoft Dynamics 365 Business Central, the primary contact persons stored in the customer are always used as contact persons.

KUMAVISION trade365 provides you with the possibility to store special contact persons for the dunning process in the customer. Call up the debtors via the user search and open the debtor card. On the "Invoicing" info tab, you can select an existing contact in the "Dunning to contact code" field. This contact will be

transferred to the reminder as the contact person for any reminders you create in the future. Leave the field empty if you want the reminders to be sent to the primary contact.

## Listings

In KUMAVISION trade365 the term "Listings" means purchase and/or purchase exclusion definitions. That means, with this functionality you have the possibility to restrict your items in connection with the customers/customer groups for sale or to exclude certain products from sale to customers/customer groups (*assortment restrictions*).

### Note

Please note that this function is not a suggestion principle, but the system ensures that only items as defined can be sold.

To set up listings, call up the customers via the user search. In the menu ribbon "Belonging > Customer" you will find the call "Article listing". In the "Item Listing" you can set up the following:

field	description
Type	In this field you can choose between the "Item" and "Item Category" options. Select the option you want to set up in the listing, e.g. if you are dealing with single items, then select the "Item" option.
No.	Depending on the option selected in the "Type" field, in this field you can select the item number or the item category to be included in the listing.
Start Date	Enter a start date here from which the listing will become valid. If you leave this field empty, the check will take effect immediately.
Enddate	Enter an end date here until which the listing is valid. If you leave this field empty, the check will not run until you enter an end date or delete the row.
	In this field you define whether this listing is a positive or negative listing.
	As a positive listing is a "buy list". That is, a customer can only purchase items that are positively listed ( <i>typically associated with retail chains</i> ).
Negative Listing	If you activate the switch, this corresponds to the reverse - i.e. the customer is allowed to purchase all products except the negatively listed items.
	<b>Note:</b> Please note that for a customer, all entries must be entered as either positive or negative listing. In the following we will still explain the possibilities for a combination.

If customers are in a hierarchy (see "[Management of hierarchies](#)") listings are always inherited downwards within the hierarchy, i.e. to the associated customers (*even over several levels*), and can be supplemented or restricted in the subordinate level if necessary.

For example, if you define a listing for certain article categories at a parent company, you can exclude articles from this article category or add another article category at a subsidiary. This listing is then only valid for the customer or, if applicable, the assigned customer of the customer.

To check the assignment, you can use the "Display listed articles" function in the customer. You can call this up from the customer via "Belonging > Customer". On this page you will see all the articles that a customer can purchase, and all the hierarchy levels will also be checked.

#### Check setup

Once you have set up a listing for a customer, the listing will be checked when releasing sales documents. Documents that contain items that are not allowed to be sold to the customer according to the listing, the document cannot be released.

#### Note

Please note that older transactions in the system that you reopen may also be subject to this check. If these checks are only to be active from a certain date, you must define the start date in the listing entries accordingly. All sales documents with an order date before the listing start date will not be included in the check. Optionally, you can check the item as soon as it is entered in the sales document; users will then receive a message directly upon entry that this item may not be sold to the customer.

For an immediate check during entry, call up the "Accounts receivable and sales setup" via the user search. On the "KUMAVISION trade" info tab, activate the "Check listing directly on entry" checkbox. Regardless of whether the check is done directly at entry, the check is always run at release to ensure that at the time of release the same validities are still present as at document entry.

#### Exclusive items

Exclusive articles are a special form of listing functionality. If you have articles in your assortment that may only be sold to a certain customer, e.g. due to branding, you can assign them to a customer as an "Exclusive article". As with listings in general, the assignment of an "Exclusive Article" applies to the customer and the subordinate customers in its hierarchy.

#### Note

Note that an article can be assigned exclusively to one customer only. This article is automatically "negatively listed" for all other customers. That is, the item cannot be sold to other customers unless the customer is in a subordinate level of the hierarchy of the customer for whom, the item was exclusively listed.

#### Country exclusion for items

Some items may not be delivered to all countries or are only available for a specific country. This facility allows you to exclude items from delivery to these countries, regardless of the customer.

It should be noted that the check is always made on the delivery address in the sales documents, regardless of the buying customer's address (*Sales-to-customer*). To exclude items from sale to certain countries, access the "Prohibited sales items to countries" from the user search. Fill in the table as follows:

field	description
Type	Select in this field whether you want to exclude a single item or a category of items for delivery. If you select an item category, it will also include all items in that category that will be created at a later date.
Number	Select the article number or the article category here.
Country/ Region Code	Select here from the "Country/Region" page the country which should be excluded for delivery.
Federal Region	Enter the federal region here if you want the restriction to apply only to a specific state/province.  <b>Note:</b> Please note that the standard does not provide a page here and the entry must exactly match the entry in the address data.
Start Date	Enter here the start date from which this country exclusion should apply. If you leave the field empty, the check will take effect immediately when the orders are released. The start date is linked to the order date of the sales document during the check.
End date	Enter the end date here. Orders with an order date after the end date will not be checked and the goods can be delivered.

As with listings or exclusive items, depending on the setting in the "Accounts Receivable and Sales Setup", the system checks directly when the document is entered or when it is released.

#### Inventory/acceptance lot size

In order to control fixed purchase lot sizes in sales, there is a field called "Stock/Purchase Lot Size" on the "Stock" information tab in the article master. If a value is entered here, this article can only be sold in this lot size or a multiple of it. The multiple always applies with reference to the storage location, per storage bin and per batch number.

If the article has variants, deviating stock/receipt lot sizes are maintained at the article variant. If no value is entered in the variant, the stock/receipt lot size from the article card is used.

This fixed inventory lot size applies only to sales lines that refer to storage locations that are not a quarry warehouse.

If an item line in a sales order is entered with a quantity below the stock/acceptance size, the user will receive a corresponding message. The system offers a rounding up of the quantity to the lot size.

The hint message always appears,

- when the "Quantity" field is entered in sales documents (except the blanket order).
- when the "To be delivered" field is entered in a blanket order line.
- when the "Quantity" field is entered in a stock transfer order line.

If the "Quantity" field is entered in the blanket order, the user only receives an info message without any rounding up or down function. This also applies when changing "No.", "Variant code", "Reference no.", "Storage location code" and "Unit code" if the quantity is already filled.

If the stock/receipt lot size is only changed after an order or quotation has already been created, this is checked again when releasing, posting and creating an order from a quotation.

An error message is issued in each case.

If an invoice is created and deliveries are called off there, there is no longer a check for the purchase lot size when the invoice is posted, since this has already been delivered. The same applies to credit notes for complaint lines.

## Reservation

You can use several comfort functionalities for reservation in KUMAVISION trade365. You can activate them in the "Setup debtors and sales" in the info tab "KUMAVISION trade".

field	description
Check replenishment period on reservation	<p>If this function is activated, the replenishment parameters of the item to be reserved will be taken into account on reservations. By this function not unnecessarily much capital binding stock is built up.</p> <p><b>Example</b></p> <p>Today is the 01.01.2023. An order is seized with the delivery date 13.01.2023. The article has a replenishment lead time of 10 days, can be procured therefore today (goods receipt 10.01.2023). In this case, it is unnecessary to reserve the stock.</p> <p><b>Note</b></p> <p>If no procurement time is stored for the article and at the same time the switch is activated in the "Setup accounts receivable and sales", the article can never be reserved. Unaffected by this attitude remain also articles, which stand on reserve "Always". These are always reserved regardless of the replenishment period.</p> <p>If the procurement period with the goods issue date of the order line is exceeded, you will receive a corresponding message when reserving.</p>
	<p><b>Reserve special orders automatically</b></p> <p>If you activate this function, item lines in special orders are automatically reserved when the associated purchase order is created.</p>
	<p><b>Allow reservation in offer</b></p> <p>If you want to use reservation already in the offer, you can enable this by activating this functionality. If you create an order from the quotation, the reservations are retained and do not have to be created again for the order.</p>
<b>Allow reservation in blanket order</b>	<p>If you want to use the reservation in the blanket order, you can enable this by activating this functionality. If you create an order from a blanket order, the reservations are retained and do not have to be created again for the order.</p>

## Time limitation of blanket orders

In the case of blanket orders, there is not only a quantity limit, but also a time limit to prevent the conditions of the blanket order from continuing to be used after the validity has expired.

For the time limitation of blanket orders, an additional field "Valid until" is inserted in the blanket orders and provided with a function. An error message is issued during manual retrieval.



## Note

The field "Blanket order:

valid until" has also been added to the sales lines in order to be able to control the validity of blanket orders at the line level later on, if desired. Currently, the fields are not included in the respective windows and contain the values from the blanket order header.

### Blanket order Remaining quantity

In blanket orders, the remaining quantity to be delivered to the customer is visible. What is not directly visible to the user is the quantity from the blanket order that has already been called off to an order but has not yet been delivered. For this purpose, the blanket order lines have been extended by the fields "Remaining quantity in order" and "Remaining quantity less order.

### Sale items

Sales articles are articles that are being discontinued from the product range. They can either be articles that are no longer reordered by the company or articles that are no longer supplied by the supplier. In order for the sales department in wholesale to be aware of this when entering orders for these articles, there is a sales message through the system with the availability check.

A sales item can be either an item itself or variants of the item.

To mark an article or an article variant as a sale article, first call up the desired article card.

On the "Item" info tab, you can mark the item accordingly by activating the "For sale" button.

Alternatively, you can mark each variant by checking the "For sale" checkbox for the corresponding variant. Article variants can thus be marked individually "For sale".

## Note

If an article that has article variants is itself marked as "On sale", this automatically applies to all its variants, regardless of whether they themselves have been marked as "On sale" in the Article variants table.

When entering an item marked for sale in a sales order, the user receives a notice with the availability message that this is just such an item.

Any existing orders for this item will not be displayed for items marked for sale in the availability check. Planned receipt is always set to 0, as it cannot be guaranteed that this order will still be delivered.

## Note

If an order exists for this item, it will not be included in the availability message if the delivery date of the order is later than the delivery date of the order.

If the desired delivery date of the order is earlier than the planned goods receipt, an "Earliest availability date" is displayed.

## Recommended retail price

The recommended retail price, often referred to as the "retail price", is often included in the wholesale trade for information purposes. However, this recommended price has no influence on pricing in order processing and is usually quoted inclusive of VAT.

The recommended retail prices can be stored in KUMAVISION trade365 per item and period. In addition, it can be defined for which customer they should be displayed.

### Setup

As with pricing prices (*sales or purchase prices*), you have the option to automatically end the validity of a previous price when you create a new one. The previous EIA is always terminated the day before the new EIA starts.

For this option, call the "Accounts Receivable and Sales Setup" from the user search. On the "KUMAVISION trade" information tab, activate the "Automatically terminate recommended retail prices" checkbox. "Automatically close recommended prices in articles". The system will now ensure that only one MSRP is valid at any given time, unless users manually override this by manually overwriting the end date.

### Assignment to items

To assign a UVP to an article, call up the articles via the user search. Open the article card. In the menu ribbon via the menu tab "Prices and discounts" you can call up the "recommended retail price".

field	description
Variant code	Select a variant here if the MSRP should only be stored for a specific variant. If you leave this field empty, the UVP will be used automatically for all variants of the article.
Currency code	Select a currency code here to define the UVP in a currency.  <b>Note:</b> Please note that this UVP will only be used subsequently if the currency code of the customer is identical to the currency code of the UVP.
Sales Unit	Select a unit from the item units for which the UVP applies. You can define different UVPs for different packaging units by creating a row in this table for each packaging unit.
Start date	Enter the date from which this EIA is valid.
End date	Enter here the date until which this UVP is valid.  If you have activated the automatic ending of prices in the setup, the system will automatically enter the end date one day before the new price starts.
Price incl. VAT	Insert the UVP in this field, this is always deposited incl. VAT by definition in KUMAVISION trade365.

**Printing of recommended retail prices**

For each customer, you can activate whether the stored MSRP prices are to be printed on the order confirmation.

Call up the customers via the user search. On the customer card on the "General" info tab, activate the "Unverb. Print recommended retail price on order confirmation". Analogous to the pricing of the sales purchase prices, the recommended retail price is determined in relation to the order date and additionally printed on the order confirmation.

**No residues on sale**

There are customers who do not want an order to be re-delivered. Only what can be delivered in one shipment should be delivered from the ordered goods, the rest of the order is reordered by the customer.

For this requirement, KUMAVISION trade365 has the function "No residues in sales".

**No-residues-on-sales**

There are debtors (customers) who want an order not to be delivered on backorder. Only what can be delivered in one shipment should be delivered from the ordered goods. If necessary, the customer orders the remaining quantity again afterwards.

For this requirement KUMAVISION trade365 provides the function "No backorders in sales".

**Setup****Debtor (general)**

To perform this setup, first call up the desired customer who does not want any subsequent delivery.

Then, on the "Delivery" info tab, activate the "One-time delivery per order" checkbox.

**Certain delivery addresses**

If you have activated the "No backorders in sales" switch directly on the customer card, this setting generally applies to this customer, regardless of a delivery address.

To activate this option for specific delivery address only, call up the desired customer. Open the delivery address of the customer or the "Delivery to address" for which no subsequent deliveries should be made.

Activate in the delivery address the switch "One-time delivery per order". With this setting, backorders are generally created for the customer, but not for this delivery address.

**Use in process****One time delivery per order**

If you then enter a sales order for a customer with the "One-time delivery per order" checkbox enabled, the "One-time delivery per order" field will be transferred from the customer master record to the order. The field is editable in the sales documents. I.e. it is possible to allow one-time exceptions from the default setting of a customer.

If there is subsequently a quantity deviation of the "Quantity" field from the quantity to be delivered / invoiced, the system automatically reduces the quantity when posting and sets the order to completed.

If you work with logistics in goods issue / picking for a one-time delivery, the quantity of the respective item is also reduced in the order by posting the delivery.

The posted delivery of the order contains the field "Order quantity original". Here, the originally ordered order quantity is displayed and recorded, which enables later evaluations of the delivery capability.

Orders with one-time delivery are not automatically deleted when the invoice is posted. To delete these orders, the standard function "Delete completed orders" is used.

The logic for the one-time delivery can not only be set for the complete order as described above, but also per order line differently, if e.g. only for a certain article of the order is not subsequently delivered, but for all other articles of the order is subsequently delivered. To do this, set the "One-time delivery per order" checkbox.

#### Note

#### **The setting Shipping type:**

Complete delivery and additionally One-time delivery = Yes exclude each other. With complete delivery, the system expects that the order quantity is also completely available.

#### Lost sales

This report provides an overview of lost sales. If a sales order line with the "One-time delivery per order" indicator is not delivered in full, this item appears in the "Missed sales" report. There you will see information about the quantity originally ordered and actually delivered, as well as the original and actual sales amount. From the selected row, you can dive directly into the associated document using the "Posted document" function.

#### **Complete delivery per order item**

In the Microsoft Dynamics 365 Business Central standard, you can define orders for complete delivery. This means that the order is only made available for picking in Logistics when all order items are available. If you already define this setting for a customer, it automatically applies to all orders of the customer.

In addition to the standard, KUMAVISION trade365 provides you with the possibility to define complete deliveries for individual order lines.

#### Note

Please note that the settings of the industry solution are only applied if the sales order basically allows partial delivery. I.e. orders, which you have planned for complete deliveries, cannot be defined differently in the individual lines.

You have the possibility to define the default for complete delivery for certain customers and articles. This default is transferred to the sales orders and you can change it again if necessary. If you do not define any defaults in this regard, you have the option of defining this for each order item.

To create defaults for certain customers and articles, call up the "Articles with complete delivery obligation" via the user search.

The fields in the header of the display are used to filter the existing lines. In the overview you can define the following settings:

field	description	example
Sales type	In this field you can define if the following entry has its validity for: - a customer - a customer group or - all customers.	If you select in this field e.g. "Customer", the lookup in the field "Sales code" will show you the overview of the customers.  This line has its validity for exactly the defined debtor. Other debtors are not affected by this.
Sales code	Select here the customer, or the customer group.	Depending on which value you have selected in the "Sales type" field, you can select a customer or a customer group in the lookup. If you select "All customers" in the "Sales type" field, this line will automatically apply to all customers in the system, this field will remain empty.
Delivery. To Code	Here you can select a delivery address of a customer.	The lookup to the delivery addresses is available if you have selected "Customer" as an option in the sales type and have entered a customer number in the "Sales code" field. If you enter a delivery address in this field, the entry will only be valid for orders of the customer with this delivery address.
Item no.	Select here the Item for which the order line is to be defined as a complete delivery.	In this field you define which article should always be completely gelled in an order ( <i>complete line</i> ).  <b>Note:</b> If all articles should always be completely delivered, select the setting in the customer.
Variant Code	In this field you can select an item variant for which complete deliveries are required.	For items with variants, it is not mandatory to create an entry for all variants.  If you leave this field blank, this implicitly applies to all variants. However, if the default only applies to a specific variant, then enter it here.

#### Use in sales order

You can use the complete delivery function at line level independently of a general setup.

For use, the field "Complete delivery mandatory" is available in the order lines (*display this field via "Personalize" if necessary*).

If you have already made a presetting for the customer or customer group and the article, the field "Complete delivery obligatory" is automatically filled with "YES" in the sales line. As a result, this means that for logistics transactions, this line will only be taken into account if it can also be delivered in full.

You have the possibility to activate or deactivate the field manually in the line. However, if the shipping instruction "Complete delivery" is generally set in a customer or you have selected this setting in the order header, you cannot change the field. Please note that this field is also checked if you deliver directly from the order.

## Prepayment

### Compress prepayment

In the "Accounts Receivable and Sales Setup" you can activate the "Compress prepayment" switch if you want the "Compress prepayment" field to be activated by default in sales orders on the "Prepayment" info tab.

### Detailed prepayment invoices / credits

The standard "Prepayment" function is used to pre-bill part or 100% of the order value to the customer. The prepayment amount can be calculated as a total amount ("Compress prepayment") or per order item. However, information about the item, unit price and unit is lost, because in the standard the corresponding G/L account of the accounting is printed.

In KUMAVISION trade365 there is therefore the possibility to enrich the prepayment invoices and credit notes with detailed information. For this purpose, the switch "Detailed information for prepayment" has to be set in the Accounts Receivable & Sales setup on the info tab "KUMAVISION". In the sales order, the "Compress prepayment" checkmark must not be set in the Prepayment tab.

Now, when a prepayment invoice is posted to the customer and printed, it contains the same detailed information as a normal sales invoice.

### Consignment processing

Via consignment warehouse control, users are able to manage an "external warehouse" at a customer location and settle the consumption on the part of the customer.

Since the goods at the customer storage location remain the property of the user until resale to the end customer, the goods must be properly distributed to storage locations within Microsoft Dynamics 365 Business Central.

### Example of application-side flow :

The consignment warehouse is "initially loaded" by transfer order, e.g. from the user's main storage location (MAIN) to the customer's consignment warehouse (KONSI).

The customer consumes / sells these goods. The consumption is reported by the customer to the user. This can be done either by sales reports or new orders.

Within Microsoft Dynamics 365 Business Central an order/invoice is now created for the customer with corresponding positions. If the field "Consignment storage location code" is filled in the customer, the consignment warehouse is used as storage location for the sale after user query.

The order lines automatically receive the storage location "consignment storage location code" from the header as the preliminary storage location.

The delivery of the order is posted and invoiced (either by individual or collective invoice). Thus the stock / stock value on the consignment stock is reduced and the consumptions are invoiced to the customers. This process also ensures that items requiring batch or serial numbers are handled properly.

When posting the delivery, a new stock transfer order for the consumed items is automatically created in the background of the application after a user query ("Do you want to replenish the consumed goods at the consignment warehouse?"), so that the stock of the consignment warehouse is replenished without any further manual effort and without explicit logistical interventions (standard logistics expansion stages are used).

#### Establishment

#### Consignment stores

To set up a consignment store, first call up the "Storage locations" via the user search.

Via "New" in the menu ribbon you can create a new storage location as usual.

**The following fields must be additionally set up for the consignment store on the "General" info tab:**

Field	Description
VK Consignment Camp	Activate the switch to indicate that the storage location is a consignment store.
Consi. Apportion. from code	Enter the storage location code in this field from where consignment stocking is to take place. This entry is necessary for the stock transfer.

#### Note

In the storage location map, certain storage locations can be marked as sales consignment warehouses (field "Is sales consignment warehouse" = Yes). In addition, a defined storage location can be set up in the "Consi. stock transfer from code" field for stock transfers to it for replenishment. If no "Stock transfer from code" storage location is defined, the stock will be transferred from the customer storage location or the standard storage location.

#### Debtor

In order to assign the consignment storage location set up to the desired customer, first call up the customer card.

Then enter the corresponding consignment warehouse on the "Delivery" info tab in the "Consignment storage location code" field. If a storage location is entered here, it is considered the consignment warehouse of the customer. A unique assignment of a consignment storage location to exactly one customer must be maintained.

Alternatively, a consignment location can be assigned to a single delivery address of the customer in the .

To do this, call up the "Deliveries to addresses" via the ribbon > Associated > Customer and enter the corresponding consignment warehouse in the "Consignment storage location code" field.

## Note

If a consignment storage location was assigned to a delivery address, this has a higher priority than the assignment on the customer.

For a quick overview, it is possible to call up the overview "Articles by storage location" filtered according to the "Consignment storage location" stored in the customer card from the customer card via the menu item "Belonging" > "History" > "Article stock by consignment storage location".

## Relocation routes

Set up the stock transfer routes accordingly for consignment stocking. To do this, call up the "Stock transfer routes" via the user search. For more information on the stock transfer routes, refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Stock posting setup

In addition, the G/L accounts for the consignment warehouse must be entered in the warehouse posting setup. To do this, call up the "Stock posting setup" via the user search. For further information on the warehouse posting setup, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Article

On the respective article card you have the possibility to display articles in consignment storage location via the menu ribbon > "Belonging" > "Availability" > "Article by storage location". As soon as you set the switch, only the storage locations with "Is consignment stock" = Yes will be displayed in the storage location overview.

In addition, you can set up the inventory data as usual.

### Consignment processing on the customer side

When entering a customer in the field "Sales to customer no." in a sales order or a sales invoice, the system checks whether a consignment storage location is assigned to the customer in his customer card. If this is the case, a query is made as to whether a consignment issue is to be processed.

If the user confirms this query with "Yes", the consignment storage location assigned to the customer is entered in the sales order header in the new field "Consignment storage location" and this consignment storage location is entered in all sales order lines of the sales order in the field "Storage location" (issue warehouse).

## Note

If the storage location is changed in the Delivery to code field, a query is issued. The storage location in the sales order lines is editable as in the standard, i.e. a storage location different from the consi storage location of the order header can be entered in the respective lines.

There is a corresponding availability check based on the storage location when the items are entered. After posting the delivery (from the sales order or from the goods issue), the system checks whether at least one line to be delivered contains the consignment storage location from the sales order header as a storage location. If this is the case, a query is sent to the user asking whether the consumed goods should be replenished at the consignment warehouse.



If this query is confirmed, a stock transfer order is created for the consignment storage location from the sales order header with the delivered lines of the order as items.

When creating a stock transfer order for consignment storage locations, the system checks that the selected consignment storage location is assigned to only one customer. If this is not the case, the system terminates with an error message.

#### Note

For this functionality (creating the stock transfer orders) it is necessary to set up the various stock transfer routes, as the transit storage location codes are required for the stock transfer orders.

**In the stock transfer order, the following fields are filled according to the sales order:**

Field	Description
Apportion. by code	The consignment storage location is entered in the stock transfer header and stock transfer lines.
Quantity	If the "Quantity to be delivered" from the sales order line (i.e. the quantity just delivered by the current delivery) is in the stock transfer lines
<p><b>Is determined in the following hierarchy:</b></p> <p>The stockkeeping data of the article with the storage location code of the consignment storage location are checked. If the corresponding storage data are found, the "Stock transfer from code" storage location stored there is decisive as the issue storage location.</p> <p>In the second step, the system checks whether a storage location code is stored in the "Cons. Stock transfer from code", if necessary this is defined as issue storage location.</p> <p>If necessary, the next step is to check whether a storage location has been assigned to the customer.</p>	
Apportion. from code	<p>If none of the preceding hierarchy levels apply, the standard storage location is defined as the issue warehouse.</p> <p>If the determination of the storage location in this 4-step hierarchy search did not result in a storage location for the article, no stock transfer line is created for the sales line.</p> <p>So, if the corresponding stock transfer lines could not be created for all article lines of the delivery, a corresponding message will be issued at the end.</p> <p>If several stock transfer orders have been created (because different \ have been determined for the different items), a message with the first and the last no. of the newly created stock transfer orders is issued and the overview of stock transfer orders with the newly created stock transfer orders is opened.</p>

In the stock transfer order, the two fields External document number and Your reference can be filled manually. Data contained there will be printed in the logistics documents. This allows detailed information about the customer order on a delivery bill or in the EDI message.

#### Archiving reasons sales documents

Sales documents can be archived for different reasons. The system archiving reasons are automatically written to the archive.

**Archiving reasons for offers:**

- Manual
- Delete
- Print
- Offer according to order

**Archiving reasons for orders/sales complaints:**

- Manual
- Delete
- Print
- Booking

**Archiving reasons for blanket orders:**

- Manual
- Delete
- Print

**Follow-up task for offers**

In standard Microsoft Dynamics 365 Business Central, when printing a quote, the user is always asked if he wants to create a follow-up task for the quote. Customers who do not work with the task management do not need this query. Therefore, in KUMAVISION trade365 the follow-up task is always disabled when printing a quotation. It can be reactivated by setting up "Enable follow-up task" in the Accounts Receivable & Sales setup.

**Periodic billing**

In standard Microsoft Dynamics 365 Business Central, customers can be assigned a "Collective Invoice" identifier. With this, collective invoices can be created. However, not in intervals, but always only in manual accrual of posted delivery dates. In companies, however, there are various constellations of how a company can issue its invoices to the customer. Collective invoicing at fixed intervals, collective invoicing for an order with the last delivery for this order, immediate invoicing, etc. In order to take these possible constellations into account, the invoicing can be handled using the "Periodic Invoice" function. This function issues invoices to customers as agreed with the customer.

The periodic billing cannot be used in combination with prepayment invoices. In case of prepayment, the prepayment invoices must still be posted manually.

**Establishment**

The setup for periodic billing is mainly done on the customer card. To do this, you first call this up.

**The possible setups of periodic billing are explained below:**

Collective invoice (period)

**For the collective invoice (period), make the following setup on the desired customer card:**

**"Invoicing" information register**

<b>Field</b>	<b>Description</b>
Invoicing type	For the collective invoice (period), the "Invoicing type" field must be set to "Collective invoice (period)".
Invoicing rhythm	The "Invoicing rhythm" field must be set to "Periodic" for the collective invoice (period).
Invoicing interval code	In the "Invoicing interval code" field, the corresponding interval code is stored. For example 2W
Next billing date	The Next billing date field is calculated automatically by the system. When setting up the customer, it must first be set for the first invoice interval.

**"Delivery" information register**

<b>Field</b>	<b>Description</b>
Collective invoice	The "Collective invoice" switch must be active.

If the periodic billing document is now created, all posted deliveries of the customer are retrieved in a new sales invoice, which are currently pending for billing. See also Periodic billing process. Depending on the billing date of the periodic billing document and the next billing date on the customer, the delivered items are retrieved into a collective invoice. If the next billing date has not yet been reached, the collective invoice will not be created.

**Invoice per order (period)**

The setup is analogous to the setup for collective invoice (period). Only in the field "Invoicing type" the option "Invoice per order (period)" is set. All other settings must be made in the same way.

In the Periodic billing run, all deliveries of an order that lie within the billing period are now combined into one sales invoice. One collective invoice is thus generated per order per billing period.

**Invoice per order (last delivery)**

This setting is about invoicing per order, i.e. not combining multiple orders into one invoice. However, the invoice is generated only after the order is completely delivered. If the order still contains an item with remaining quantity, it will not be proposed for billing in the periodic billing.

**The required customer is set up as follows:****Invoicing information register**

<b>Field</b>	<b>Description</b>
Invoicing type	For the invoice per order (last delivery), the "Invoicing type" field must be set to "Invoice per order with last delivery".
Invoicing rhythm	The "Invoicing rhythm" field must be set to "Immediately".

### "Delivery" information register

Field	Description
Collective invoice	The "Collective invoice" switch must be active.

### Invoice per delivery bill

The setting Invoice per delivery bill corresponds to the procedure of manual posting Deliver + Invoice. A sales invoice is generated for each delivery posted by the customer.

#### **The following settings are to be set up on the customer:**

### "Invoicing" information register

Field Description Invoicing type For the invoice per delivery bill, the "Invoicing type" field must be set to "Invoice per delivery bill". Invoicing rhythm The "Invoicing rhythm" field must be set to "Immediately".

### "Delivery" information register

Field	Description
Collective invoice	The "Collective invoice" switch must be active.

### Periodic billing process

To trigger the periodic billing, first call up the "Periodic billing log" via the user search.

To create all invoices for the current day, call up the "Execute periodic billing" menu item from the ribbon.

#### **The execution screen for periodic billing opens where you can set the following filters for executing the billing:**

**Options tab:**

Field	Description
Posting date	Posting date for the invoices to be posted
Replace posting date	Yes replaces the posting date of the created sales invoices with the posting date from the options.
Replace document date	Yes replaces the document date of the created sales invoices with the posting date from the options.
Calculate invoice discount	Yes calculates the invoice discount for the customer in the generated document.
Invoicing date	This date is checked for the collective invoices to be created or invoices per order that are settled periodically. If the billing date from the options is not identical or is greater than the Next billing date on the debit card, no sales invoices will yet be created for the customer in question.
Update next invoice date for customer	The next billing date field of the customer card is entered based on the billing interval. This is done regardless of whether invoices are currently being created for a given customer. As soon as it is in the filter of customers to be passed through, its invoicing date will be updated.
Post invoice	Yes causes the generated sales invoice to be posted directly.
Print booked invoice	Yes causes the posted sales invoice to be printed on the Windows default printer.
Delivery date filter	Specifies the period of time to search for posted deliveries in order to create sales invoices.

**Customer tab and Sales order tab:**

If filter criteria are entered in these two tabs, they will be taken into account when the "Execute periodic billing" function is run. For example, only orders from a specific customer. Only orders without prepayment, etc.

After you have made your filters, confirm your input with "Ok" to execute the periodic billing.

All invoices that have been created are set in the "Periodic invoice" overview. Green marked rows are posted invoices. Yellow marked lines are set invoices that have not been posted yet. Red marked rows are invoices that could not be posted due to error messages. In this case, the errors must be corrected manually and the invoices must be posted manually.

The posted and unposted documents can be opened from the overview. In addition, the messages due to which a posting could not be made are displayed in the error log.

The error text can also be called up separately in the menu ribbon under [...] - "Actions". In addition, the actions for deleting older entries are also located under this menu item.

In the ribbon under [...] - "Related" the report "Adjust periodic billing settings at customer" can be called.

This allows the Next invoicing date to be overwritten or reset on the customer card. With the type "Fixed date" a new fixed invoicing date, e.g. 01.01.2021, is entered manually. With the type "Date of last invoice" a new next invoicing date is calculated based on the last invoicing date of the customer and his invoicing interval and stored on the customer. In the "Customer" tab, the selection of customers to be processed can be limited.

When periodic billing is run, sales invoices are created, it is not posted directly from the order. The effect of this is that orders that have been fully billed using this function are not automatically deleted on completion. They are only displayed in the overview as fully billed.

To delete these orders from the system, the "Delete completed orders" report must be run at regular intervals.

#### Dispatch of reminders incl. associated invoices

For the end customer, it is easier to process reminded invoices if the invoices are sent directly to him together with the reminder. In addition, this eliminates the need for the end customer to request invoice documents that can no longer be found. Therefore, in KUMAVISION trade365, when printing or sending registered reminders by e-mail, the corresponding invoices are printed automatically.

If the reminders for a customer are sent by e-mail document dispatch, the invoices are integrated as PDF documents in the e-mail document. When printing at the printer, please note that the reminder and the attachments are each printed on the printer set up in the printer selection. This leads to the fact that with PDF printing (not with e-mail document sending) the reminder is generated as PDF, but the attachments to it on the standard printer set up at the user.

#### Automatic calculation of flat rates for freight costs

In KUMAVISION trade365 you have the possibility to insert freight charges either automatically or by function in the sales documents. In the "Accounts Receivable and Sales Setup" you make the basic settings, for this purpose the following fields are available on the "KUMAVISION trade" info tab:

field	Options	Description
Insert freight costs automatically on release	Never In offer and order Only in order	Here you define that freight costs are inserted automatically in the offer and/or exclusively in the sales order, if freight costs have been defined during the determination process.
Notice message if no freight costs determined	Never Always	In this field you can define whether you want to receive a notice if freight costs should basically be incurred for the document, but these could not be determined.
Automatically close freight charges		Use this facility to define whether freight charge lines in the facility should be automatically closed. Shipment cost rows are ended, if necessary, when you enter the same basic settings for shipment costs with a new start date (Costs from).

The decisive factors for shipment cost determination are:

- Delivery condition code
- carrier
- Carrier shipment type
- country code
- Postal code
- Weight
- Value of goods (freight allowance)
- Goods issue date/delivery date from document header

#### **Setup**

To set up freight charges in general, call up "Freight charges" via the user search.



Use "New" to create a new freight cost table. The possible settings for a freight cost table are divided into header and row information. The following fields are available in the freight cost header (*General info tab*):

field	Options	Description
Code		Define a unique code (abbreviation) that is as meaningful as possible. The assignment to the customers will be done in a later step using this code.
Description		In this field you can add a description.
Calculation base	None Weight Goods value Weight and goods value	<p>The calculation base defines on which basis an automatic determination should be made. If you select "None" as option here, and automatic insertion is activated in the setup, a freight cost line will be created without reference to the offer/order content (<i>if this is stored accordingly in the customer</i>).</p> <p>If you select one of the other options, the calculation will always be done in reference to the document lines. Note that the weight option requires appropriately maintained item data.</p>
Start date		Here you define a start date ( <i>Valid from</i> ) for all rows of the freight cost table.
End date		Analogous to the start date, you can define an end date for the entire freight cost list here.
Line based start and end date	Yes / No	If you activate this field, you can define the validity on line level and the fields Start date and End date in the header lose their validity.
Currency code		Define the currency code of the freight charges. Please note that the currency code of the freight cost table must match the currency code of a customer in order to be assigned.
Status	New Enabled In progress Disabled	<p>In this field you can define the status of the freight charges table. If you create a new table, this is created automatically in the status "New".</p> <p>Only activated freight cost tables become active when automatically inserting freight costs.</p> <p>The status "In Processing" is used to change existing freight costs.</p> <p>With the status Deactivated, you can provide expired freight cost tables and, if necessary, recognize them directly in the overview or hide them using a filter.</p> <p>The status "In Processing" is used to change existing freight costs.</p>

After you have first made the basic settings in the freight cost header, the detailed costs and, if necessary, calculation limits are defined in the rows. To do this, fill in the fields as follows:

Field	Options	Description
Delivery condition code		Select a code from the Delivery conditions table for which the freight cost row should be used. If you leave this field blank, this line will apply to all delivery conditions.
Delivery Code		In this field you can select a delivery agent from the stored table.
Delivery agent transport type		<p>Here you select a delivery agent transport type, note that this field must always be filled when a delivery agent has been selected.</p> <p>You can use the delivery agent transport type to define different costs, e.g. for standard shipping and express shipping.</p>
Countries/Region code		<p>Select here the country code for which this freight cost line is to be used. The country code refers to the country code of the delivery address during the automatic determination in the document.</p> <p>The country code must be entered.</p>
PLZ Code Filter		In connection with a country code, certain postal code areas can also be defined here, for which the freight cost line becomes valid.
Also with the postal codes is checked with regard to the delivery address.		
For definition, the <a href="#">standard filters</a> of Microsoft Dynamics 365 Business Central can be used.		
Type	General Ledger Article Resource Add/Discount	In this field you define with which line type the freight charges will be inserted into the document.

Field	Options	Description
		<p>Select G/L Account or Resource if you want the posting to be made directly to a G/L account or via a resource.</p> <p>For the type "Item" you can only define an item without inventory management for the creation of the line.</p> <p>The Add/Discount option allows you to insert an add/discount line automatically for the freight charges into the document. Please note that the allocation of the addition/deduction line in the document must be done manually.</p> <p>.</p>
Number		<p>Depending on the selected type, you can select the corresponding G/L account, resource, item or surcharge/deduction type here.</p> <p>This value will be transferred to the document accordingly.</p>
Variant	<p>The field "Variant" can only be selected in connection with the selected type "Article" and an article with created variants.</p> <p>By using it in an article, for example, the same article can be used for different shippers and you still have the possibility of a detailed evaluation of the data.</p>	
Description		<p>In this field first the description of the selected basic data record (G/L account, resource, etc.) is taken over.</p> <p>You have at this point the possibility to enter the description, which should be displayed in the later document in the line.</p>
Description 2		<p>In this field the description 2 of the selected basic data record (G/L account, resource etc.) is taken over.</p>

Field	Options	Description
		<p>At this point you have the possibility to enter the description 2, which should be displayed in the line in the later document.</p> <p>The description 2 of the selected basic data record (G/L account, resource etc.) is taken over.</p>
Quantity		<p>Enter here the quantity to be inserted in the sales line (<i>usually the quantity 1 is defined here</i>).</p> <p>However, if you want to define a different flat rate via e.g. the value of goods or the weight but not a higher amount but 2 x the same amount to be inserted in the document for calculation, they enter here a 2.</p>
Unit		<p>The base unit of the selected G/L account, resource, etc. is automatically entered here. You can select an alternative unit code. Note that this unit code must first be created in the base table (resource units, item units).</p> <p>The unit is transferred to the document line during determination.</p>
Cost Price		<p>Enter here the sales price of the shipping costs.</p> <p><b>Note</b></p> <p>Note that, if applicable, the price for B2B customers is a net value and for B2C customers (indicator in the customer, prices incl. VAT) should be entered in a separate freight cost price list.</p>
Cost price (MW)		<p>Here you can enter a cost price in client currency, which can be used for the post calculation of the document.</p>

The following fields are displayed or hidden depending on the settings in the shipment cost header:

Field	Options	Description
To weight	This field is only displayed if "Weight" or "Weight and value of goods" has been selected as the calculation basis in the freight cost header.	Here you can define the weight limit up to which this line becomes valid. By defining different values (in further lines), you can achieve a graduation according to weight.
To goods value	<p>This field is only displayed if "goods value" or "weight and goods value" was selected as the calculation basis in the freight cost header.</p> <p>Here you can define a value limit up to which the freight cost line is taken into account.</p> <p>To grant freight-free deliveries from a certain goods value, do not create another line for higher values.</p>	
Start date	This field is only displayed if you have activated "Line based start and end date" in the freight cost header.	<p>Define the start date of the validity in this field.</p> <p><b>Note:</b> If you have activated the switch "Automatically close freight cost prices" in the "Setup accounts receivable and sales" and create a new line with the same values (shipper, value of goods, etc.), the end date in the existing line will automatically be set to one day before the new start date.</p>
End date	This field is only displayed if you have activated "Line based start and end date" in the shipment cost header.	Define the end date of validity for this shipment cost line in this field.

The definition of which shipment cost line is used for calculation is always determined based on the quotation/order data.

#### Assignment of freight charges to a customer and/or a customer delivery address

In order to be able to use the defined freight cost rates in the sales documents, these must be assigned to a customer or a customer delivery address.

To do this, call up the "Customers" via the user search. Select the corresponding customer in the overview and open the customer card. On the "Delivery" info tab, you can select and assign the code from the freight cost table in the "Freight cost code" field. An assignment on the customer card will be used for all delivery addresses that may be stored, unless you store a different code in the delivery address, for example, to calculate different costs for a delivery address abroad.

Freight costs are assigned to individual delivery addresses directly in the respective delivery address (Delivery to code), which you can open from the customer. Here you can assign a code from the freight charges table in the "Freight charges code" field. This assignment is only valid if this delivery address is selected in the document.

#### Use in documents

In quotations/orders, the freight cost code is copied from the customer or, if applicable, from the customer delivery address to the individual document. The freight code is displayed in the Delivery info tab and can be changed manually for the individual transaction if required.

After entering the quotation/order lines, you can optionally calculate the freight charges, using the "Insert freight charges" function. If freight costs are incurred for the document, the freight cost line is inserted. If you have set "Note message if no freight costs can be determined" to "always" in the setup, you will receive a corresponding message if no determination is possible.

If you have selected the "Insert freight charges automatically on release" indicator in the "Accounts receivable and sales setup", you do not have to carry out this function. When the document is released, the line will be inserted automatically. If you open the document again, the shipment cost line is automatically removed again and recalculated and inserted when the document is released again.

#### Long-term supplier declaration

For deliveries to recipients within the European Union, certificates of the originating status of a good must be issued per long-term supplier's declaration. And this in terms of a preferential arrangement maintained by the European Union. In order to generate a Long Term Supplier Declaration based on the underlying item sales in Microsoft Dynamics 365 Business Central, a new report Long Term - Supplier Declaration has been developed in KUMAVISION trade365.

#### Establishment

For the Lanzeit supplier declaration, some basic setups must first be made, which are explained in more detail below:

#### Accounts Payable & Purchasing Setup

Call up the "Accounts Payable & Purchasing Setup" via the user search. On the info tab "KUMAVISION" you have the possibility to enter a text for the printout for the European countries of origin in the field "European country of origin text".

#### Countries / Regions



In the countries/regions list, the countries of the European Union are marked. To do this, call up the "Countries / Regions" list via the user search. In the "European Union" field, place a check mark next to the countries that belong to the European Union.

All countries marked here, are supplemented in the report edition with the text for European countries of origin.

#### Article - Preferential countries assignment

Since there is no uniform rule for the assignment of articles to the preference rule, the respective preference countries for a particular article must also be stored there. The countries stored on the article are listed in the long-term supplier declaration.

To make this assignment, first call up the desired article card. You can call up the preference country table via the "Belonging" > "Article" > "Preference countries" ribbon. All valid preference countries for this article are entered in the table.

#### Execution of the report long-term - supplier declaration

The Long-Term Vendor Declaration report can be accessed from the Accounts Receivable list or from the User Search.

Basically, the report checks items for a given customer in a given period of time and creates a long-term vendor declaration for the items sold to the customer in that period of time.

To run the long-term supplier declaration, access it first. The criteria for executing the report are explained in more detail below:

#### Register languages:

Here you can select in which language the supplier declaration should be created. You can choose between German or English.

#### Register Customer:

Field	Description
Debitor no.	Enter here the customer no. for which you want to create the supplier declaration.
Contact no.	In this field you can specify a contact person to be printed in the report.

#### Register goods delivery date:

In the tab "Goods delivery date" the filter for the posting period of the article items is entered. I.e. all articles from sales article items of this customer in the posting period From to will be listed in the long-term supplier declaration.

#### Register validity period:

In the Validity period, enter the validity period with Valid from date and To date, which will be printed on the report.

#### Accumulation tab:

If there are items for which the cumulation indicator must be specified because a component of the item was manufactured in Morocco, for example, even though the item itself has a region of origin within the EU, the indicator must be checked when the report is run.

If you have made all the entries, you can first view the supplier declaration via "Preview" or send it or print it out in advance via "Send to" or "Print".

If you have activated the "Cumulation" check box, the input table for the articles with cumulation notes will appear first. If the checkmark is not set, this table will be skipped.

In the table "Cumulated articles" all articles are entered, for which you have to indicate a cumulation note in the Lanzeitlieferantenerklärung. The selection of the articles is done via the lookup in the field article number. Then the country of origin for the cumulative remark is entered.

If the customer has now purchased the item in question in the selected period, an accumulation note will be entered for this. Marketing

#### Extension profile questionnaire

When categorizing contacts, it may not be sufficient to use the fields or profile questionnaire functionalities provided by the Microsoft Dynamics 365 Business Central standard.

For example, if the number of possible answers to a question of the profile questionnaire is too large (E.g. year numbers or not only a number of employees range, but the exact number of employees), the usability is no longer given. In KUMAVISION trade365 the profiles of the CRM are extended in such a way that not only an answer can be selected, but also values can be recorded when answering.

In addition, once selected answers can be saved in a history table so that it is always possible to see which answers were given and when. The current value must always be displayed in the profile questionnaire and in the display of answers in the contact's rows.

When setting up the profile questionnaires, two additional columns have now been added. The column "Answer type" defines how the user's input should look like. Until now, only a yes or no answer was possible. Now answers can also be entered as a numerical value (with/without decimal places) and as free text.

#### The selection option for this is:

- Integer
- Decimal number
- Text

An entry of, for example, "3.5" is not yet meaningful. By means of the "Response unit code" column, the entered number also receives additional significance, e.g. 3.5m<sup>3</sup>. This unit can be used for preconfiguration. The unit codes set up in the system are available.

The operation of the questionnaire is the same as before. For "Yes/No" answers, the corresponding column can simply be clicked. For free text answers and/or the recording of numbers, the value is entered in the "Answer" column.

If a user places a check mark in the "Selected" column to select this answer, he or she will receive a message that a text or number answer must be entered in this row.

The responses made will then be displayed in the contact management - map in the lines as an overview.

When creating a segment, the values entered in this way can be filtered. The user selects his addresses according to the criterion Profile questionnaire and can specify the desired answer text of a line.

#### Archiving the answers of a profile questionnaire

If the information in the profile responses for a contact changes, the user can archive the "old data". The archiving of the answers is done manually. The user opens the desired profile questionnaire. There in the menu ribbon "Belonging" he can call this menu item and archive the answers.

When archiving, the work date is also written.

#### Note

Changing a once archived answer in the profile questionnaire is only possible if the question for "Multiple answers possible" is activated.

Once archived answers can be viewed again via "View archived answers". The last version is automatically called up. It is possible to access all versions of the answers at any time via the "Version number" field.

#### Create segments with reference to service information

The segments in the Marketing section are used to create address lists. In segments contacts can be added and removed. In addition to the standard criteria areas such as Contact, Profile, Value Items, etc., in KUMAVISION trade365 it is also possible to tap information from the Service area to create segments with contacts. This can be used to generate address lists of customers who own service items whose warranty date is about to expire, in order to be able to offer you follow-up contracts. Or alternatively, customers can be targeted based on service contract information.

#### Procedure

Create a new segment. Add new contacts. If information from the service item or service contract is to be accessed, the respective switch must be activated in the options of the request page. If segments are created based on contacts, the switch in Consider contacts must be enabled.

#### Note

For the Consider service items option, only contacts of the Company type are added (Customer contact). The Extend company etc. options work only for the Consider contacts option. For the Consider service contracts option, the contacts that are listed in the Contact no. field in the service contract header are listed. These can be persons or companies.

#### Accounts receivable groups

Use the "Customer group" field to classify your customers into A/B/C customers. To do this, call up the "Customer groups" via the search. Define your customer groups with a code and an associated description. In addition, you can use the function ["Article with complete delivery obligation"](#) to store articles for the selected customer group that may only be delivered to this customer group as a complete delivery. The created customer groups are then stored on the respective customer cards in the "Customer group" field. You can filter the reports according to the customer groups that have been set up.

## Note

You can also use the customer groups as a filter in the [MRP](#).

### Accounts receivable group dim. code in items

In Microsoft Dynamics 365 Business Central Standard, you can define customer group dimensions or the code to be used for them in the "Accounts Receivable and Sales Setup". However, this will not be displayed to you directly in the items (*customer, item and value items*).

KUMAVISION trade365 shows you the posted dimension values directly in the items, this facilitates ad hoc analyses.

### Use recurring sales lines for all customers

In Microsoft Dynamics 365 Business Central Standard, recurring sales lines have to be assigned to individual customers after they have been created. With KUMAVISION trade365 you can make recurring sales lines directly usable for all customers. To do this, open the user search "[Recurring sales lines](#)" and create an entry there. Via the menu item "*Manage*" → "*Edit*" you get to the standard sales lines card in which you can create recurring sales lines. If you want to use these standard sales lines for all customers, activate the checkbox "Use for all customers".

### Duplicate check for external document number in sales orders

If you want a duplicate check for the external document number in sales orders, open the "Accounts Receivable and Sales Setup" via the user search and activate the checkbox "Duplicate check for external document number in sales order" in the KUMAVISION trade tab. After entering an external document number in a sales order, you will receive a message if a sales order with the same external document number has already been entered for this customer. This message can be confirmed with OK.

## Note

The entered external document number will not be deleted or automatically changed after confirming the note message. If the same external document number is used for different customers in sales orders, you will not receive a note message.

### Get delivery lines extension

If you retrieve the delivery lines via the function "Get delivery lines" in a sales invoice or use the collective invoice, only the delivery number is taken over into the lines as reference by default. However, since this is insufficient in many cases, you have the option of having the following additional information copied to the lines:

- Delivery date
- order number
- order date
- Your reference
- External document number

To do this, activate the respective checkbox in the "Accounts Receivable and Sales Setup" on the KUMAVISION trade info tab in the "Get Delivery Lines" section.

**Credit limit warning extension**

By default, the warning message that the credit limit has been exceeded appears as soon as the credit limit is exceeded in a sales document. The "Credit limit check type" field in the "Accounts receivable and sales setup" allows you to control when the warning message should appear. The options "On document release" and "By line" are available for this. Select "On document release" if the message is only to appear after the release function has been executed. If you select the "Line by line" option, the message appears as soon as you enter a line if the credit limit is exceeded.

## Purchasing

### Purchase order types and payment terms

Purchase order types can optionally be provided with payment terms. If the corresponding purchase order type has been selected in the transaction, these terms of payment override the terms of payment stored in the vendor's master data.

To store terms of payment for a purchase order type, call up the "Purchase order types" via the user search.

Via "New" in the menu ribbon, you can create a new purchase order type or edit an existing purchase order type via "Edit list".

In the field "Zlg. condition code" you can deposit a payment condition to the respective purchase order type.

#### Note

Support for the setup and further use of purchase order types is available [here](#).

### Automatic display of purchase order addresses when entering purchasing documents

In order to activate the automatic display of purchase order addresses, first call up the "Accounts Payable & Purchasing Entries" via the user search.

Then activate the switch "Display purchase order addresses in purchasing document entry" on the info tab "KUMAVISION trade".

To minimize data entry errors and to optimize the general process of purchasing document entry, purchase order addresses for vendors are automatically displayed for selection as soon as a vendor is selected in a purchasing transaction.

For this purpose, after validation of the field "Purchase from credit no.", the system checks whether purchase order addresses are stored for the respective vendor. If this is the case, the list of order addresses will be displayed. You can now select the corresponding order address for the transaction. If you do not want to use any of the displayed order addresses, you can close the window by clicking "Cancel". This will not change the order address.

#### Note

The selection of the order addresses appears only if you enter the "Eink. von Kred.-Nr." in the purchase document header. If a document is created via a function from the customer, the order address selection does not appear automatically.

### Create article reference from shopping line

Suppliers usually use their own article numbers in their price lists. These supplier article numbers can be used in the field "reference number" during order entry, provided that they are maintained in the article or vendor master in the article references.

To make the master data maintenance easier for you, these reference numbers can be maintained or created in KUMAVISION trade365 from the purchase line.

**Establishment**

To use this function, activate the "Insert article reference record" button on the "KUMAVISION trade" info tab in the "Accounts Payable & Purchasing Setup".

**Procedure**

**A purchase line is recorded with the following fields:**

Type	No.	Reference number	Unit	Variant code
Article	Item number	Supplier article number	Article purchasing unit	(can optionally be filled depending on the article as well)

The system now automatically creates a reference entry for this article and this vendor.

If there is already a reference entry in the system for the combination of article and vendor, you will be prompted whether the existing reference entry should be overwritten.

If you confirm this message with "Yes", the existing reference entry will be overwritten. If you select "No", the process is canceled and the entered number is not saved in the article references.

**Extension for direct delivery / special order**

In Microsoft Dynamics 365 Business Central Standard, direct delivery purchase orders and orders are firmly linked. This means that once an order has been created, it is no longer possible to make changes with regard to deviating quantities, units or changed item numbers.

Especially in the retail environment with daily changing articles or critical availability times, this circumstance is not feasible, because e.g. an article was ordered, but another article is delivered by the supplier as a replacement.

With this enhancement it is possible to modify purchase orders that were created as direct deliveries for orders. As well as to delete orders, which were created as direct deliveries, again.

The following extensions were made:

- Exchange of items (*ordered item A1, but manufacturer can only deliver item A2*) or units.
- Quantity change (*ordered 5 pieces of article A1, but manufacturer can only deliver 3 pieces or delivers 6 pieces*)
- Delete link (*order was entered as direct delivery, but manufacturer does not deliver the goods to the customer, but to the house*)
- Post sales invoice before purchase invoice
- Create direct delivery order automatically
- Special and direct delivery orders in service

**Exchange / change of article, quantity and unit code**

To exchange an item in a direct delivery order or to make changes to the quantity / unit code, first call up the purchase order in the system.

Make the changes in the corresponding order line. After entering a different article number or changing the quantity / unit codes, the system will ask you if you want to update the changes in the corresponding sales order. Confirm the query with "Yes".

The change is executed. The link between the sales order line and the order line remains intact.

When the order is deleted, the referencing is removed from the order line so that the order can be processed further as a "normal order" or a new direct delivery order can be created.

#### Delete "Direct delivery" or "Special order" link from the order

In the purchase order, the referencing of the direct delivery and special order to the sales line can be deleted.

To do this, first call up the purchase order in the system.

Then select the desired order line and choose "Lines" > "Order" > "Direct delivery" or "Special order" in the info tab and then execute the "Remove direct delivery link / special order link" function.

When these menu items are called, the corresponding link of the order line currently selected in the order to a sales line is deleted, there is then no direct delivery link or special order link between the order line and the sales order line, the documents can continue to be processed as "normal" order line and sales order line

#### Create direct delivery order automatically

With KUMAVISION trade365 you have the possibility to create direct delivery orders automatically when releasing a sales order.

For this purpose, you only need to define for which vendors, purchase orders should be created automatically. Select the corresponding vendor and activate the field "Create direct delivery order automatically" on the info tab "General". In the next step you deposit the vendor on an article card on the info register "procurement" in the field "Vendor no.". If you now enter sales orders with this item and it is classified as a direct delivery, the associated purchase order will be created automatically when you release the sales document.

#### Note

Vendors that are stored in the article/supplier catalog are not taken into account with this functionality.

#### Special and direct delivery orders in service

In Microsoft Dynamics 365 Business Central Standard it is not possible to work with special or direct delivery orders in Service. Especially for on-site repairs, it can be useful to have the replacement item sent directly from the supplier to the customer.

If you want to use special or direct delivery in the service, select the appropriate line in the "Service Item Worksheet" rows and activate the "Direct Delivery Order" or "Special Order" field. Alternatively, select the appropriate purchase code in the "Purchase Code" field. When you have selected all the rows, you can use the ribbon to "Actions" → "Schedule" → "Direct Delivery"/"Special Order" to create the purchase order, or open the linked purchase order.



## Note

If the fields "Direct delivery order", "Special order" or "Purchase code" are not available, you can show them via the "Personalize" function.

### Allow invoicing of the purchase direct delivery order before the sales order

If the direct delivery process requires that the purchase order is invoiced before the sales order, you can activate this functionality in the "Accounts Payable & Purchasing Settings" section of the KUMAVISION trade info tab by activating the "Allow invoicing of direct purchase order before sales order" checkbox. By default or if the switch is deactivated, the corresponding sales order must be invoiced before the purchase order can be invoiced.

### Archiving reasons purchasing documents

Purchasing documents can be archived for different reasons, the origin of this archive record is not documented in the standard. By using KUMAVISION trade365, the system-side archiving reasons are automatically documented in the respective archive version.

Archiving reasons for requests:

- Manual
- Delete
- Print
- Request after order

Archiving reasons for purchase orders/purchase complaints:

- Manual
- Delete
- Print
- Booking

Archiving reasons for blanket orders:

- Manual
- Delete
- Print

### Marking sale items in purchase

Sales articles are articles that are being discontinued from the product range. They can either be articles that are no longer reordered by the company or articles that are no longer supplied by the supplier. By using this indicator, purchasing employees are informed in the ordering process that this order may no longer be fulfilled by the supplier.

Articles or only individual article variants can be marked for sale.

To mark an article or an article variant as a sell-off article, first call up the desired article card.

On the "Article" info tab, you can mark the article accordingly by activating the "For sale" button.

Alternatively, you can mark each variant by checking the "For sale" checkbox for the corresponding variant.

#### Note

If an article, which possesses article variants, is marked with "To the sales", then this applies in the effect automatically also to all variants of the article, independently of whether these were marked in the table "Article variants" as "To the sales".

When entering an article marked for sale in a purchase request/order, users will receive a notice that this is just such an article.

The order or request can be processed by default, as this is only a message. The planned receipt is also displayed in the availability overview of the article.

#### Minimum order quantity and purchase lot size

If you are working with the "purchase order worksheets" function, the lot sizes in which an item can be purchased can be controlled on the item card or in the inventory data. However, if an item is ordered from multiple vendors and their minimum order quantity and purchase lot size is different, this cannot be mapped in the standard Microsoft Dynamics 365 Business Central. In addition, if the minimum lot size is entered, no information is provided to users if they enter a manual purchase order for this item. This is solved in KUMAVISION trade365 by the function of minimum order quantity and purchase lot size per supplier.

Basically, when working with minimum order quantity, purchase lot size and stock/receipt lot size, these sizes have to be maintained in dependency of each other. The minimum order quantity must always be a multiple of the purchase lot size. If you also work with the stock/receipt lot size, this must correspond to the purchase lot size or the minimum lot size.

#### Minimum order quantity

The minimum order quantity is used in the article/supplier catalog to control per supplier how large the smallest quantity to be ordered must be. If, for example, the supplier requires a minimum purchase quantity of 1,000 pieces, 1,000 is entered here.

The minimum order quantity has no effect on the order worksheets. The order worksheet is controlled by the field "min. Lot size". However, the order worksheet will check if there is a minimum order quantity for this vendor if:

- manually the "quantity" field is entered.
- manually the vendor number is entered.

The system will issue a warning message accordingly. This message is a warning message, not a cancellation message. I.e. a smaller quantity than the minimum order quantity can be ordered. If the smaller quantity is ordered from the order worksheet, no further message appears.

The check for the minimum order quantity is also performed when an order is entered manually. Here it is checked if

- The Quantity field is entered
- The field Variant code is entered (even if the article with variant obligation is entered via the matrix window).
- The reference number is entered
- The unit is entered.

The minimum order quantity of the supplier is also checked when a purchase order is called off from a blanket purchase order.

#### **Purchasing lot size**

The purchasing lot size is the same as the "Inventory/Receipt Lot Size" field on the item card. However, it controls the purchasing lot size per vendor. It has no effect in the calculation of the purchase order worksheet. This is calculated based on the default "min. Lot size" field. The basic application is the same as the setting in the "Warehouse setup". More detailed information can be found [here](#).

If the vendor is changed in the purchase order/planning worksheet and the quantity in the worksheet row does not match the inventory and acceptance lot size, users will receive a message and can decide whether to round up or down. If a purchase order is subsequently created for such a worksheet line, it is recommended to set the planning flexibility to "none" when doing so, in order to exclude the possibility that a recalculation in the event of over-coverage will not suggest a change to this purchase order.

If a purchase order is entered manually, or the purchase order worksheet line is changed manually in the "Quantity" field, users will be asked if they want to round up or down to the next larger inventory and purchase lot size.

This allows only a quantity that is a multiple of the inventory and purchase lot size to be entered and ordered.

When entering an article with stock and purchase lot size in a blanket purchase order, there is only a message indicating that the quantity does not correspond to the stock and purchase lot size. However, when the "Quantity current delivery" is called off from a blanket purchase order in a purchase order, the check is performed again. If the "Quantity of current delivery" does not correspond to a multiple of the stock and purchase lot size, a termination occurs and the purchase order cannot be created. If the "Quantity of current delivery" is entered manually, the Round to stock and purchase lot size window appears again and you can round up or down.

#### **Display of volume and weight per vendor in the order worksheet**

To better plan the purchase of items from the purchase order/planning worksheet, you can display the total volume and total weight planned in the purchase order/planning worksheet for each vendor.

To do this, select a row in the purchase order/planning worksheet. The values are determined for the vendor stored in the line. By clicking on "Volume / Weight (Vendor)" in the menu ribbon, the system calculates the volume and net weight of the goods to be ordered using all the lines in the order/planning worksheet and displays the values.

### Statistics on-time delivery

The on-time delivery performance of suppliers can be evaluated. Optionally, the data "desired date of receipt of goods", "confirmed date of receipt of goods" or "expected date of receipt of goods" can be defined as basis for the evaluation. The setting which date should be evaluated is done in the "Accounts Payable & Purchasing Setup" on the info tab "KUMAVISION trade".

The evaluation table is opened directly on the respective vendor via the call "Delivery date adherence". The table shows the number of deliveries by "week" or "day" (*selectable*).

It can be selected in which time horizon the deliveries should be considered, i.e. how much deviation should be considered in the evaluation.

All deliveries that are not in the time frame are displayed as before or after.

### Order worksheet without date reference

The purchase order worksheet in Microsoft Dynamics 365 Business Central Standard always calculates the items to be ordered at the correct time (*as late as possible*) based on the demand originator and the demand creator. This leads especially in case of postponements to cancellation suggestions and new orders based on the correct demand date. In retail, the Microsoft Dynamics 365 Business Central proposal with strict date reference often cannot always be implemented effectively.

For customers who can no longer reorder goods once they have been ordered and for whose requirements in purchasing it is sufficient to have goods orders suggested and, after the order has been triggered, to simply see the ordered quantity as the requirement cover, without reference to goods issue and goods receipt data shifts, there is therefore an addition in the order worksheet in KUMAVISION trade365.

In the order worksheet, the "Simplified plan calculation" can now be called and executed via the menu ribbon.

### Calculation of the order quantities with the simplified plan calculation

In general, all requirement quantities are totaled, as are all requirement coverages. Requirement sources of the simplified plan calculation are the same as in the normal order worksheet, i.e. also minimum stock and safety stock messages.

The planning period is always start date to end date. If in this period the total requirement is larger than the requirement coverage, an order worksheet line is created with order date = work date.

The following replenishment procedures are supported:

- Fixed order quantity
- Replenishment to maximum stock
- Lot-by-lot

Replenishment parameters from the inventory data have priority over the replenishment parameters of the article card analogous to the standard order worksheet.

In addition, open (*unreleased*) sales or purchasing documents can be excluded for the calculation of the purchase order worksheet.

## Process Simplified plan calculation

Call up the planning run as described above from the order worksheet.

**This opens the options page, where the desired planning parameters are entered:**

### Options tab:

Field	Description
Start date / End date	The Start/End date fields limit the planning period. Within this period, the demand sources are calculated against the demand covers. The setting is selected analogously to the standard order worksheet.
Consider blanket orders	In simplified planning, blanket orders are not planned, contrary to the standard order worksheet. If blanket orders are to be demand generators, the field must be activated here.
Only released orders	In the standard order worksheet, all orders are costed as requirements originators. However, as very often only the released orders are to be planned for process-related reasons, this can be controlled by activating this field.
Only released orders	In the standard purchase order worksheet, all purchase orders are calculated as requirement covers. However, since very often only the released purchase orders are to be planned for process-related reasons, this can be controlled by activating this field.
Only released Uml. Orders	In the standard purchase order worksheet, all stock transfer orders are costed as demand creators or demand coverers. However, since very often only the released stock transfer orders are to be planned from a process-technical point of view, this can be controlled by activating this field.

In the "Articles" tab, individual articles or article groups can be filtered for planning analogous to standard planning.

When planning, the storage location filter must always be set.

As a result, users receive a filled order worksheet. From here, as in the standard, it can be decided which default lines will be ordered.

### Minimum order value and freight limits in purchasing

For the wholesale trade an optimization of the order costs is mandatory. In KUMAVISION trade365 it is possible to consider the minimum order values and freight allowances of the suppliers in the ordering process.

To define a minimum order value or freight limit for your supplier, call up the desired vendor card.

On the "Delivery" info tab, enter the desired amounts in the "Minimum order value" or "Freight allowance" fields. The specification of the two fields at the vendor always refers to the currency of the vendor.

The values entered here are displayed in the order statistics and in the order/planning worksheets, but do not cause the process to be aborted.

## Order statistics

In an order, you can view the order statistics in the ribbon > "Order" > "Statistics".

In the "Vendor" info tab, the two fields "Minimum order value" and "Freight allowance" are included. Thus, this information can be viewed directly in the order creation process. The display of the two fields "Minimum order value" and "Freight limit" in the order statistics in the info tab "Vendor" is always done in the currency of the vendor, regardless of which currency the purchasing document currently has.

## Order worksheet

In the order/planning worksheet, below the proposal sheet, you will also see the minimum order values and freight limits (*if any*) of the vendor.

In addition, the amount already planned by the respective vendor is displayed in this order/planning worksheet in the "Vendor order value" field.

When an entered purchase order is released, the values are checked against the freight allowance and the minimum order value. If the values fall below these limits, a corresponding message is displayed.

When releasing an order, a check of the order value against the minimum order value only occurs if the currency of the order is the same as the currency of the vendor.

Users can decide at this point whether the order should be released anyway.

The minimum order value, which is stored at the vendor, is compared with the net or gross value of the order lines, depending on the setting of the switch "EK prices incl. VAT". If this switch is set, the system compares with the value including VAT of the order line and determines whether the minimum order value is reached. Therefore, when the order is released, a check is only made if this switch is the same as the switch of the vendor for the order to be released.

In the purchase order worksheet, the purchase prices are recorded accordingly. In the order worksheet line there is no field "line amount". Here the "Line amount" is added, which would result from the fields "Quantity", "EK price" and "Line discount %". In the case of EK price incl. VAT = Yes, the VAT amount to be expected in an order is added per line.

### Note

Any invoice discount is not taken into account in the check.

If "Purchase from vendor" and "Payment to vendor" differ, the settings of "Purchase from vendor" will be taken into account for the check.

## Infobox Item/Supplier Catalog Prices in Order Worksheet

This infobox on the order worksheet provides you with further information on alternative suppliers and the associated price information at first glance. The content of the infobox always refers to the selected line.

## Manual assignment of blanket order

If a purchase order is entered manually, users can also transfer the conditions of the blanket purchase order by assigning the blanket purchase order line in the purchase order. To do this, the relevant framework order

number is entered in the "Framework order no. "/"Framework order line no." column in the purchase line. Users are prompted whether the purchase price and the percentage line discount are to be transferred from the blanket purchase order line.

If confirmed with "Yes", the corresponding conditions will be transferred. If confirmed with "No", the price of this line will be kept as in the purchase order.

#### **Time limitation of blanket orders**

The standard limitation of the quantity of blanket orders by KUMAVISION trade365 can also be limited in time. A time limit was added so that after the expiration of the validity, the conditions of the blanket order can no longer be used.

In the blanket purchase order card, the validity of the blanket purchase order can be entered in the "Valid until" field. If the field is not filled, the blanket purchase order is considered to be valid for an unlimited period of time.

#### **Note**

The field "Blanket purchase order: valid until" has also been added to the purchase lines, in order to be able to control the validity of blanket purchase orders on the line level later on, if desired. This option is currently not supported in the standard system.

#### **Frame order Remaining quantity**

In the standard system, the blanket purchase orders show the remaining quantity to be delivered. What is not directly visible to the user is the quantity from the blanket purchase order that has already been called off in a purchase order but has not yet been delivered. For this purpose, the blanket purchase order lines have been extended by the fields "Quantity in purchase order" and "Remaining quantity less purchase order".

#### **Container management**

In overseas business, the ordered goods are usually delivered by ship or air freight in containers. The delivered containers often contain various partial deliveries from several orders.

Suppliers are invoiced by the container, as payment is usually due when the container is loaded onto the ship, i.e. when the risk is transferred.

The compilation of the individual partial deliveries by container takes place several times during the handling of the business process in Microsoft Dynamics 365 Business Central, e.g. when goods are received on board, when they are transferred to the bonded warehouse, when invoices are issued, when surcharges for customs and freight charges are distributed. To simplify these processes, container management is integrated in KUMAVISION trade365.

## Container plant

First, containers are created with the container number. To do this, call up the "Containers" via the user search. Via "New" in the menu ribbon you can define a new container with the help of the table below.

Field	Description
Code	In this field, a unique code is assigned per container. The code can contain 20 digits.
Description	The description is used to describe the container in more detail.
External document number	In the External document number field, for example, the document ID for the container can be entered. The external document number is inherited by all documents where this container is entered.
Ship tracking	In this field the ship with which the container is transported can be stored. See <a href="#">Ship tracking</a> .
Quantity ...Purchasing heads ...purchase lines ...Purchasing delivery heads ...purchase delivery lines ...Goods Receiving Heads ...goods receipt lines ...rearrangement heads ...rearrangement lines ...rearrangement output heads ...stock transfer output lines ...rearrangement input heads ...Stock transfer input lines	Specifies the number of document headers / document lines in which the container is used. By clicking on the number you can view the corresponding document.

In the list of containers it is possible to branch to the documents in which this container number is used. Containers can be displayed in

- Orders
- Goods receipts
- Post. purchase deliveries
- Stock transfer orders



be used.

#### Ship tracking

Ship tracking" makes your supply chains even more transparent. To do this, call up the "Ships" page via the user search and specify the ship that will be used to transport your container.

Field	Description
Code	In this field a unique code (abbreviation) is assigned per container.
Name	Enter the name of the ship here.
IMO	The IMO number is a number assigned by IHS Maritime when the ship is built or when it is first registered in a ship register, preceded by the letters IMO ( <i>for example: IMO 8712345</i> ).
MMSI	Enter here the Maritime Mobile Service Identity, the nine-digit radio call number of the ship.

#### Note

One of the fields "IMO" or "MMSI" must be maintained for the ship tracking to work.

Now open the "Containers" and assign the ship to the respective container via the field "Ship code". Via the function "Ship tracking" in the menu ribbon a window opens with a map and the current location of the ship.

#### Container in orders

Containers can already be assigned in a purchase order at header or row level. This procedure simplifies the later creation of a goods receipt consisting of different purchase orders.

To assign a container to a purchase order at the header level, first call up the desired purchase order. On the "General" info tab, you have the option of assigning a container to the purchase order in the "Container no." field.

If the container is already stored in the order header, it can be automatically entered on all lines of the order if the query is answered with Yes. This query appears only if lines are already included.

When entering the lines, the container number is automatically transferred from the header to the lines. In the order lines the container numbers can be changed manually if this goods is packed in another container.

#### Set expected goods receipt date

As it often happens in reality that deliveries are delayed, you have the possibility to change the expected goods receipt date for deliveries of a container by using the function "Set expected goods receipt date". With this functionality, you only have to change the expected goods receipt date once in the container overview. For all order lines and stock transfer lines linked to the container, the expected goods receipt date will be adjusted automatically.

## Note

The expected goods receipt date will no longer be adjusted in the linked order lines if the delivery has already been posted. The date will then only be changed in the associated stock transfer order.

To do this, open the list of containers and select the corresponding container. In the menu ribbon you will find the function "Set extended goods receipt date". A window opens in which you can enter the expected goods receipt date and confirm it with "Ok". Afterwards you will receive the confirmation that the expected goods receipt date has been changed.

### Create goods receipt for container

## Manual assignment

If the container number is not yet maintained in an order, it can be assigned via the goods receipt. For this purpose, a goods receipt is created, the container number is entered in the header and the order lines are retrieved via the available functions Get origin document or Get origin document lines.

The container number from the header is automatically transferred to the lines. When the goods receipt is posted, the container number at line level is also transferred to the posted delivery lines and is thus available for further processing.

## Retrieve container to a goods receipt

As an alternative to manual assignment, by maintaining the container number in the order lines or order header, you can filter on this when executing the Get origin document or line function.

### Create transfer order for container

To create the transfer order from the warehouse at the port to the customs warehouse or even the final warehouse, the necessary transfer order can be created for the Create transfer order function in the container list.

First, a page opens where both storage locations (the departure and the arrival storage location) and the transit storage location for this stock transfer are specified. By clicking OK the stock transfer order is created.

This can be accessed via the lookup on the number of stock transfer order lines.

The external document number from the container is transferred and all posted goods receipts to the issue warehouse with this container number are transferred to the stock transfer order lines.

When posting the stock transfer, the container number is transferred to the respective posted documents.

Alternatively, the stock transfer order can be created manually and the Get Container function will retrieve all purchase delivery entries for this container number.

As an alternative to the container number, the purchase order number or the vendor delivery note number can also be used to retrieve the containers.

**Retrieve container in purchase invoices**

To retrieve deliveries from a container into a purchase invoice of the supplier, a new purchase invoice is created and the function Get goods receipt lines is used to branch to the posted deliveries. Here it is then possible to filter on the container number.

**Allocation of addition/deduction for containers**

If a customs invoice or a freight invoice is subsequently posted, the costs of which are to be allocated to the delivery from a container, then the container number can also be filtered in the allocation of surcharges/deductions.

**Vendors delivery bill no. in delivery lines**

To improve the management of purchasing deliveries, the field "Credit delivery no." has been added to the purchasing delivery lines. If a delivery is posted in the goods receipt, the credit delivery number is transferred from the corresponding field in the order header or goods receipt header to the posted delivery at line level.

The credit delivery number is also available when calling up goods receipt lines in purchase invoices, so that the assignment of the vendor delivery to a vendor invoice is simplified.

**Range planning**

The classic minimum stock planning is sufficient for the retail customer in most cases. However, due to the usually very large article masters, it is almost impossible to permanently maintain this MRP parameter. The range of coverage planning functionality calculates the average consumption per day for a defined period. This value multiplied with the procurement time is then suggested again as minimum stock for the article. I.e. on rising or declining sales of articles "automatically" in the Dispo is taken into account.

The prerequisite for this is that a so-called weighting scheme is stored for the article, in which the date formulas for the reference periods are stored with percentage weighting. The basis for the calculations of the range of coverage planning are the article items with the item type "sales" and "consumption".

The weighting scheme can be stored on the following levels and in this prioritization:

- Article category
- Article
- Stock data

**Setup weight scheme:**

The weight scheme is used to calculate the weighted "consumption" of an item in the "Items" table. Here we understand the "consumption" of the item as the sum of its items of the item type "Sales", "Assembly consumption" or the item type "Consumption" in production. The consumption of the item can be calculated in different time periods, which are defined in the rows of the weight scheme. Variable periods (*Date formula*) or fixed periods (Fixed date) can be defined. In the case of the former, date formulas are specified for the start and end of a period, and in the case of the latter, concrete start and end dates are specified. The weighting of the individual periods can be different for each period. It is specified in the "Weighting %" field. The sum of the field over all lines of the weighting scheme must be 100%.

To create a new weighting scheme, call up the "Weighting scheme overview" via the user search. Via "New" in the menu ribbon you can define a new weighting scheme with the help of the table below:

"General" information tab

Field	Description
Code	Clear meaningful abbreviation of the respective weighting scheme.
Description	Description of the weighting scheme.

"Weighting scheme lines subform" info tab

A period or several periods with different weightings can now be entered in the rows of the scheme.

Field	Description
Line type	Specifies whether a formula for calculating a date (date formula) or a fixed date is entered in the line.
Start date formula	Can only be edited if date formula has been entered in the line type. A formula for calculating a start date for the weighting is entered here. The date value that the system calculates from this can be viewed in the Start date column.
End date formula	Can only be edited if date formula has been entered in the line type. A formula for calculating an end date for the weighting is entered here. The date value that the system calculates from this can be viewed in the End date column.
Fixed start date	Can only be edited if Fixed date has been entered in the line type. A concrete date is entered here. For example, "01.01.2021".
Fixed end date	Can only be edited if Fixed date has been entered in the line type. A concrete date is entered here. For example, "31.01.2021".
Weighting %	Here the user enters the percentage with which this weighting period is to be evaluated. The sum of the lines must add up to 100%.
Description	Here the user specifies the description of the weighting line.

Assignment weight scheme

**The weighting scheme can be stored at the following levels and in this prioritization:**

- Article category
- Article
- Stock data

Article category

Call up the article categories via the user search. In the desired article category, you have the option of storing the weight scheme via the "Consumption weight scheme code" field.

Article

Call up the articles via the user search. On the desired article card, you have the option of storing the weight scheme on the "Planning" info tab via the "Consumption weight scheme code" field.

## Stock data

In the inventory data of the item on the info tab "Planning" via the field "Consumption weight scheme code" the possibility to store the weight scheme.

### Range Planning Procedure:

Range planning is carried out in the article Planning parameter proposal. You can call this up via the user search. This is a book sheet. As with other book sheets, any number of book sheet names can be created for different filling runs.

In the book sheet the data of the article are shown with or without special data for variants or storage locations. The "Calculate rows" report in the ribbon is used for filling.

The filling run passes through all articles (filtered by the user, if applicable). The user has the option of first transferring all the data to the book sheet, editing it there and then transferring the edited data to the database. One or more book sheet rows are created per article, depending on the setting in the options part of the report.

The following logic is used to determine the data when filling the book sheet and the weight scheme of a book sheet line determined in the process:

### **Priority 1:**

Have the article and the stockkeeping data equally.

If a concrete data record from the stockkeeping data exists for the article and the specifications for the used storage location filter and article variant filter of the book sheet line, the weighting scheme assigned to the stockkeeping scheme is determined.

If no applicable stockkeeping data exists or no weighting scheme is assigned there, the weighting scheme assigned to the article is used.

The determination of stockkeeping data, if they exist at all, can therefore only be successful if the storage location filter used contains exactly the code of one storage location and not, for example, a filter of several storage locations.

The same applies to the article variants in analogy.

The "Stock data available" field of the book sheet also shows this. If in this way a weight scheme is already determined either from the article or from the stockkeeping data, this weight scheme will be used.

### **Priority 2:**

If no weighting scheme is assigned to the article or the stock data, the next step is to check the article category that may be assigned to the article.

If no weighting scheme has been determined in this way for a concrete book sheet line, the book sheet line will not be inserted into the book sheet during filling, because no range can be determined for the data of the book sheet line without a weighting scheme.

## Note

The stock level is the stock level of the item applying the used variant filter and/or used stock location filter at the time of performing the filling run. The Stock field of the book sheet is not a calculated field. If required, users can display a number of calculated fields. fields of the item, including the current stock level.

The calculation determines the "Calculated consumption per day" using the weighting scheme and the periods defined in it. Taking into account the "Reference date" (*this comes from the field of the same name from the options part of the calculation report*) results in a range (date) of the determined stock.

Users can also view the calculation of the "Calculated consumption per day" in detail for checking purposes. To do so, they either click on the drill-down arrow of the field itself or on button Line - Range of coverage calculation in the menu ribbon. A corresponding diagram appears for display.

In addition to the range calculation with current stock and weighted consumption, the Parameter suggestion article also suggests new planning parameters based on these values. These can be edited in order to manually enter deviating data, if necessary. In addition, the old planning parameters, which have been transferred from the master data, are displayed in read-only mode.

The logic of how the new parameters are calculated from the old parameters is as follows:

- The new safety stock is the same as the old safety stock with the following exception:  
In the event that the "Lime. Consumption per day" of the book sheet line is  $\leq 0$  and the user has ticked the "Clear safety stock at 0 consumption" checkbox in the options part of the fill run, then the New Safety Stock = 0.
- The new minimum stock level is equal to the new safety stock level plus the consumption that results from the "Calc. Consumption per day" in the period *Procurement time + safety margin procurement time*.

The new maximum stock level is equal to the new minimum stock level plus the consumption resulting from the "calculated consumption per day" in the time span *procurement time + safety margin procurement time*. Consumption per day" in the time span order cycle results.

When filling the book sheet, there is a possibility to include in the book sheet only those lines whose values in the proposed new parameters differ from the values in the existing parameters. This is done with the help of the "Show rows without changes" button in the calculation run option part.

Users can, after manually adjusting the proposed new parameters if necessary, transfer them to the master data of the article or stock data. For this purpose, two functions "Apply changes to article..." and "Apply changes to stock data..." are available, which have an effect on the previously marked rows in the book sheet (Windows mark).

## Sale proposal

The same logic as for range of coverage planning and the same prerequisites regarding the weighting scheme can be used to fill the "Article sales proposal" booklet. You can call up the "Article sales proposal" via the user search.

The "Article sales proposal" book sheet contains the cost price and the sales price of the article, as well as the contribution margin. The application fills these by calculating with the corresponding fields of the article or the

stock data (*cost price only*). Again, the values previously contained in the master data in read-only old fields of the book sheet, are compared to the editable values in the new fields.

The suggestions of the values of the new fields are always set equal to the values of the old fields by the calculation. Users can change them manually. Users can transfer the values of the selected lines into a campaign by means of a function. This campaign will be newly created and the new prices from the marked lines will be set up as sales prices for this campaign. This is done via the function call "Create sales campaign" in the menu ribbon.

#### Catalog item extension BMEcat

While the active article master of a typical wholesale company basically contains about 40 - 50,000 articles, several 100,000 articles can in principle be supplied. This difference results from the fact that a company can procure all articles from the corresponding partner companies. From a performance point of view as well as from the area of data maintenance, a direct transfer of the article data of the suppliers into the article master of the company does not make sense. For this reason, the catalog management area is used for this purpose. In Microsoft Dynamics 365 Business Central Standard, catalog articles should represent the so-called "shadow article master", i.e. all articles that could be supplied in principle but have never been moved.

Microsoft Dynamics 365 Business Central Standard offers the possibility of reading article catalogs from suppliers into the catalog articles via a standard interface.

For wholesalers, however, it is necessary not only to read in new articles, but also to make changes to the master data of the articles via read-in, or to obtain information about which articles have been changed in price by the supplier, for example, and are already in "active" article master. This is possible for the interface BMEcat.

#### Basic procedure:

It is first read in via an import list from the input files (*incl. Mapping*), thereby e.g. also articles which have changed are marked separately.

In addition, an import suggestion is available, which offers certain defaults and possibilities for the import. From the import list, the next step is to import into the catalog article master, and depending on the import template, the active articles are updated directly.

#### TRADE Catalog Article Furnishings

To define the necessary facilities in advance, call up the "TRADE catalog article setup" via the user search.

Generally you have to activate the use of the extended catalog articles of the trade solution KUMAVISION trade. Please restart the application after activation.

In the following, the setup fields will be explained to you in more detail:

Field	Description
No. Format	<p>Sets the format of the catalog item number that appears on the item card.</p> <p><b>You can choose from:</b></p> <ul style="list-style-type: none"> <li>• Credit item no.</li> <li>• Prod. + credit item no.</li> <li>• Credit item no. + Prod.</li> <li>• Lfd. No.</li> <li>• Catalog item no.</li> <li>• Independent No. Series</li> </ul>
No. Format Separator	Specifies the character that separates the elements of the catalog item format, if the format uses a code and a number.
Number series	This can be used to store an internal number series for the catalog items to be imported.
Standard Article	Creation Template In this field you can define a default article creation template that will be used for the automated transfer of catalog articles into the article master.
Standard Article Change Template	In this field you can define a default article change template that will be used for automated, transfer of changes to the article master.
Use the KUMAVISION article catalog module	Activate the switch to use the "KUMAVISION Article Catalog" module.

#### Catalog items interfaces

Catalog item interfaces are used to define the various import formats. The call is made via the user search "TRADE catalog article interface". A BMECat interface is supplied as standard with the industry solution.

Business Central objects are assigned to the freely storable codes and descriptions via the fields "Object type" and "Object ID", which ensure the import of the respective data. This way, individual interfaces can be integrated at this point, if necessary.

In KUMAVISION trade365 the "Report 5157138" for the BMEcat import is included by default. Alternative objects could process e.g. Excel files, CSV or other separated files, XML-based formats as well as Datanorm, Eldanorm or own formats, these interfaces are not included in the scope of delivery.

#### Catalog Articles Catalogs

Different catalogs can be stored for each catalog item interface. The catalogs are used to identify the imported data and are saved with the catalog article import or the catalog article (*origin of the data*). The catalogs can be used to name different suppliers that use the same interface, as well as to store the annual catalogs for the import.



To store different catalogs of a catalog article interface, first select the desired interface. You can define the catalogs via the ribbon > "Associated" > "Interface" > "Catalogs".

#### Data mapping

A data mapping code can be assigned to each catalog article catalog. This code is used to name the respective data mapping that is to be used for the corresponding import. Field value substitutions can be made via the data mapping. For example, the value "PCE" is transferred via a supplier catalog for the unit "Piece". This can be converted into the customer-specific unit via the data mapping. The mapping itself takes place during the import.

Behind the mapping codes are the field assignments that define the individual field mappings.

A special feature applies here in relation to the article categories and product groups, since these must be set via a hierarchical assignment, the fields are to be deposited via a special area.

#### TRADE Catalog Article Templates

Via the "TRADE Catalog Item Templates" different formats can be defined which are used for the transfer of catalog item imports into catalog items. Thus, for example, it can be set up that a creation template is used for the creation and modification of data, whereas another template is only used for the transfer of price changes and does not change any master data.

The following settings can be made in the templates:

field	description
Code	The code is used to uniquely identify the template and can be freely defined.
Description	Here you can enter a description for the template, which helps you to distinguish between the different templates.
Import Action	You can choose between the "Add & Update", "Add" and "Update" options. Depending on the selected setting, new catalog items will be added to your catalog item master and, if necessary, existing data will be updated.
Delete catalog item import after transfer	Activate this button if you want to delete catalog item import entries from the overview after they have been transferred to the catalog item master.
Modify existing articles	This switch allows you to update not only catalog articles but also articles already existing for this purpose with the data from the import.
Article creation template	Select a creation template that you want to use for transferring data to the article master. The setup of article creation templates is described in the <a href="#">next section</a> .
<b>Transfer</b>	Use the following buttons to select which data, if any, should be transferred to the catalog article master and articles:
Transfer price	Select this setting if you want the purchase prices to be automatically transferred to the catalog article and, if applicable, to the article in the corresponding tables.
Transfer line discounts	Select this setting if you want the purchase discounts to be automatically transferred to the catalog article and, if necessary, to the article in the corresponding tables.
Transfer sales prices	Select this option if you want the sales prices to be automatically transferred to the catalog article and, if necessary, to the article in the corresponding tables.
Transfer sales discounts	<p>Select this setting if you want the sales discounts to be automatically transferred to the catalog article and, if necessary, to the article in the corresponding tables. Select this setting if you want the text modules to be automatically transferred to the catalog article and, if necessary, to the article in the corresponding tables.</p> <p><b>Note</b></p> <p>Please note that you may have to manually check and set the indicators for when a text module is to be printed.</p> <p>&gt;Copy Text Modules</p>
Copy variants	Select this setting if the variants are to be automatically transferred to the catalog article and, if applicable, to the article in the corresponding tables.

**field****description**

Please note that if necessary, the indicator for the variant obligation must be set manually in the article if this has not already been set up beforehand.

In the area of the lines you can define for each field how the transfer of the individual fields should take place. In doing so, you can also, for example, supplement missing information with standard information.

Via Actions "Insert all fields" you can fill the following lines with the available fields of the table and then define them according to the following description.

<b>field</b>	<b>description</b>
FieldNo	The field number of the field in the catalog article table is displayed here.
FieldName	This field shows you the name of the field.
Display	Indicates whether the field should be displayed.
Import	<p>Choose between the options here:</p> <ul style="list-style-type: none"> <li>- Never</li> <li>- Always</li> <li>- If new value is not empty or null</li> <li>- If old value is empty or null</li> </ul> <p>Depending on the selected setting, the data will be transferred from the catalog item import to the catalog item and, if necessary, to the article when importing.</p>
Default value	Specify here a default value to be used if necessary, depending on the "Use default value" field.
Use default value	<p>Select here between the options:</p> <ul style="list-style-type: none"> <li>- Never</li> <li>- Always</li> <li>- If import value is empty or null.</li> </ul> <p><b>Note</b> Note that if the option is "Always" or "If import value is empty or null" must be entered.</p>

#### Article creation templates

The article creation template differs from the catalog article creation template in that here you can define the settings (*analogous to the previous description*) to be used when creating articles in connection with the transfer from the catalog article import or at a later time.

In this section only the fields that are different from the catalog creation template are explained:

<b>field</b>	<b>description</b>
<b>Register Numbering</b>	
No. Format	<p>Sets the format of the catalog item number that will appear on the catalog item card. You can choose from:</p> <ul style="list-style-type: none"> <li>-Cred.item no.</li> <li>- Prod. + Kred.-Artikelr.</li> <li>- Kred.-Artikelr. + Herst.</li> <li>- Lfd. No.</li> <li>- Catalog item no.</li> <li>- Independent no.-series</li> </ul>
No. format separator	Specifies the character that separates the elements of the catalog item format if the format uses a code and a number.
Number Series	This can be used to store an internal number series for the catalog items to be imported.
<b>Register Locking</b>	
Blocked on deletion	In some catalog formats you receive the message of article deletion from your supplier, if this message is transmitted, you can decide here that the article is generally blocked at your site.
Sale blocked on deletion	If you do not want to block the article completely when transmitting the article deletion, you can use this facility to block the article for sale only.
Purchase locked on deletion	If you don't want to block the item completely when sending the item deletion, you can use this setup to block the item for purchase only.

#### Importing an article catalog in BMEcat format

To perform the import, call up the "TRADE catalog item import overview" via the user search.

Via the "Actions" > "Functions" > "Import..." menu ribbon, you have the option of selecting a corresponding catalog and importing it.

Then the selection of the file name for the import and the specification of a directory for the MIME information (*images, documents etc.*) and the selection of a creditor takes place.

Now the import run is started. And the articles are read into the "Trade catalog article import overview".

To transfer the catalog articles read in this way to the catalog article master, the "Transfer catalog article import" function is called up in the Actions menu ribbon.

The selection of the import template follows. Afterwards the articles are created or changed in the catalog article master.

## Comparison report and comparison list

To get an overview of the changed or new articles of a import, there is a comparison report. The comparison report is called up via the ribbon from the "Catalog items import overview" > "Reports" > "Print comparison..." window.

The report runs over all catalog items import entries. Filters or options can still be set.

In the Catalog Item Import Log (Ribbon > "Actions" > "Functions" > "Import Log") it is recorded who has imported what and when.

### Calc. unit cost

In Microsoft Dynamics 365 Business Central Standard, purchase prices and discounts are available for use when creating a quote. In addition, the system calculates the cost price on an item basis and carries it along, as well as using it to calculate the inventory value.

Thereby the cost price contains beside the direct procurement costs if necessary also procurement additional costs, which were booked additionally over surcharges/deductions. The cost price refers always to already booked transactions, it is thus from the price view "backwards".

For purchasing decisions - where to order, what is the actual price incl. additional costs, the standard offers no support. KUMAVISION trade365 provides you with the functionality of the "Calculated Cost Price" for this purpose.

You can define various calculation templates and assign article-supplier combinations. Optionally, the calculation of the calculated cost price can be automated or manual. Cost prices can be calculated automatically or manually and you always have daily updated values available for procurement decisions. The calculated cost price is always displayed in client currency.

The calculated cost price is not calculated via postings, but via the master data of the purchase prices and discounts and the entries from the calculation templates. The calculation is archived and you can access older calculations in detail at any time.

In addition, the lime. Cost price in sales is available as a basis for the minimum coverage check.

### Setup

## Inventory setup

To be able to work with the imputed cost price, you must first activate this functionality. To do this, call up the "Stock setup" via the user search.

On the info tab "KUMAVISION trade" activate the checkbox "Use cost price". Use cost price". Only after activating the checkbox, the fields on the item card and in various other places in the system will be displayed.

In the field "'Replace cost price with cost. Replace cost price" you can define if and how the calculated cost price should be used for the ["Minimum DB check in sales"](#), the following options are available:

option	description
Never	The minimum DB check always uses the cost price as a basis.
If the available stock is not sufficient for the quantity of the sales line, the minimum DB check uses the "imputed cost price". If the quantity is sufficient, the check is made against the cost price.	
Always	The minimum DB check always uses the "Cost price" as the calculation basis.

#### Calc. unit cost charge types

The "Cost. The "Costing price surcharge/deduction types" are the basis for the costing templates and offer you the possibility to create the same surcharges/deductions only once and to use them in various costing templates.

In addition, these surcharge/discount types offer you the possibility to change the surcharge/discount at one point in the system in case of changed conditions and to transfer this automatically to all calculation templates. The next calculation is then carried out with the new values of the surcharge/deduction types.

To set up the surcharge/deduction types, call up the user search function "Cost. Set price surcharge/deduction types". Press NEW / + to create a new surcharge/deduction type.

#### General

On the General info tab you define the following values:

field	description
Code	Unique code for the addition/deduction type. You can use 20 digits alphanumerically.
Description	Capture the description of the addition/deduction type in this field. You have 100 characters available.

#### Calculation

On the Calculation info tab, define how the surcharge/discount type should affect the calculation. The following fields are available for this purpose:

field	Description
In this field you can define if the calculation value in the calculation should increase ( <i>surcharge</i> ) or decrease ( <i>discount</i> ) the calculated cost price.	
Calculation type	<p>You have the options "Amount" or "Percent" available.</p> <p>With the option "Amount", the calculation value is added or deducted as a fixed value.</p> <p>The "Percent" calculation type will calculate and mark up or mark down the calculation value as a percentage value on the base amount.</p>
Calculation value	Enter here the fixed value or factor to be used for the calculation.
Currency code	<p>If the calculation value (<i>only for the option Amount</i>) is a value in foreign currency, then enter the corresponding currency code here, e.g. "USD" if it is a surcharge/deduction in US Dollar.</p> <p>When calculating the calculated cost price, daily updated exchange rate of the standard exchange rate table is used for conversion into client currency.</p>

#### Automatic calculation of the calculated cost price

When you activate the Calculated Cost Price function in the "Warehouse Setup", you will receive a prompt asking if you want the system to automatically create a task queue item. If you answer "YES" to this query, all preparations are made to calculate the Cost. Cost price automatically.

Then call up the task queue items, make any necessary changes to the settings, and activate this task queue item. For more information, see ["Using Task Queues for Task Scheduling"](#).

#### Ad Hoc Calc Calc. Cost Price

This function allows you to calculate the calculated cost price for a larger purchase quantity. The cost. Cost price on the article card always refers to the base unit and always has the reference to the purchase quantity that was stored in the calculation template assignment.

If you change the Cost. If you want to calculate the cost price for a different purchase quantity, call up the "Purchase price calculation" via the user search.



With the help of this calculation, you can also check cost prices for which a different purchase quantity has been entered. With the help of this calculation, you can also check cost prices for which no template assignment has been stored so far. To do this, fill in the fields on the page as follows:

Inforegister General

Field	Description
Select the vendor number via the lookup or enter it directly. The determination will be done for this vendor. This means that the prices and discounts stored for this vendor will be accessed.	
Article no.	Select the article number via the lookup or enter it directly. The combination of vendor/article and the following fields will be used to determine the price.
Variant Code	If necessary, select a variant here for which a price is to be calculated. Please note that, depending on the settings, individual variants may have different purchase prices/discounts stored and therefore it is not possible to draw conclusions for all variants. Leave the field empty if the article has no variants.
Storage location code	<p>Select the storage location for which the procurement is to take place. If you have not stored warehouse dependent prices/discounts for purchasing, please select the storage location for which the calculation is to be performed.</p> <p>The result then corresponds to the logic of the lime. Cost price in the inventory data.</p> <p>The result corresponds then to the logic of the Kalk.</p>
EK-Quantity	Enter here the quantity that should be used for the calculation. Depending on this quantity, scale prices and scale discounts will be calculated, if they are maintained in the system.
Purchasing unit code	<p>Select depending on the quantity the purchasing unit.</p> <p>For example, 5000 pieces or 5 pallets (<i>if a pallet contains 1000 pieces</i>).</p> <p><b>Note</b>It is important to select the purchasing units if you receive different purchase prices/discounts from the vendor for the containers, if applicable.</p>
Calc. Select one of the cost price templates to be included in the calculation. This will include the additional costs from the template in the calculation.	

To calculate, select the "Calculate" function from the ribbon. The system now calculates the lime. Cost price.

In the right part of the window the result of the calculation is summarized. In addition to the cost price, the system displays the calculated purchase price and discount, as well as the cost price. Cost price.

As long as you do not leave this window, you can perform further calculations. You can compare these calculations directly in the following info tabs. When you exit the window, these temporarily calculated data are deleted again.

#### Inforegister Calculations

The different calculations are displayed on the "Calculations" info tab. These calculations may have been performed for different vendors or with different quantities, for example. You have the possibility to compare the values directly.

#### Inforegister Calculation Details

The info tab "Calculation details" always shows you the detailed calculation on which the entry on the info tab "Calculations" is based. This means that in addition to the actual price factors, all surcharge and budget billing items that were taken into account from the calculation template are also displayed.

#### Display of the calculated contribution margin

The calculated contribution margin is a calculation of the expected contribution margin based on the sales price minus the discount at the calculated cost price. Cost price. Thus a consideration, which DB is gained, if the commodity must be procured today again and thereby different bases than with the cost price to the effect come.

The calculated contribution margin is displayed in % in the sales documents (*offer, order, etc.*) on the one hand directly in a field in the sales line. You may have to display this field via "Personalize".

In addition, the cost price, cost. Cost price, Cost. Cost amount as well as the cost. Contribution Margin in Client Currency and the Cost. Contribution margin in % in the info box "Sales line contribution margin details".

!!! note "Note Please note that the Calculated Cost Price must generally be activated in order to display this information.

#### Check whether item is included in the supplier catalog

If you enter items in purchasing documents that are not included in the vendor catalog, you will not receive an alert message in Microsoft Dynamics 365 Business Central Standard. However, if you want to receive an alert message when you enter items that are not in the vendor catalog, or even prevent this from happening, set up your system as follows:

Open the "Accounts Payable & Purchasing Settings" via the user search and select one of the following options on the "KUMAVISION trade" info tab in the "Message if item not in supplier catalog" field:

Option	Description
No	Articles that are not in the supplier catalog can be entered without error message or notification.
Information	If an article is entered that is not in the supplier catalog, you will receive a notification message.
Error	Articles that are not in the supplier catalog cannot be entered. When you try to enter such an item, you will receive an error message. Notification to the user if the vendor is not in the item vendor catalog.

## Warehouse and Inventory

### Inventory/acceptance lot size

Via the stock/withdrawal lot sizes, you have the option of mapping exclusively full packaging units in the warehouse and/or sales.

The basic use is defined in the "Warehouse setup".

To do this, call up the "Warehouse setup" via the user search. On the "KUMAVISION trade" info tab, in the "Stock/withdrawal lot size check" field, you can define how the defined stock/withdrawal size should affect the process.

You have the options:

- No check - an entry for this in the item master is only informative and has no effect in the process.
- Outbound check - the lot size only has an effect when it is entered in sales documents.
- Continuous check - the checks affect all processes in purchasing, sales and warehouse. This setting can be used to ensure that only full packaging units are managed throughout.

Both checks can be defined in combination with the warehouse. Basically, the checks initially affect all storage locations. In the storage location, you can define that the warehouse is a partial warehouse and therefore the checks should not apply. For this setup, select the desired storage location and activate the "Partial storage" checkbox from the Storage bin check info tab.

To control fixed inventory lot sizes in purchasing and sales, you can enter the appropriate factor in the "Inventory/withdrawal lot size" field on the "Warehouse" info tab in the item master. If a value is entered here, then in the purchase and/or sales this article can be bought and/or sold only in this lot size or a multiple of it (*Dependent on the selected attitude in the camp mechanism*).

If the article has variants, you can enter different stock/receipt lot sizes in the article variant. If no value is entered in the variant, the stock/withdrawal lot size from the article card is used.

This stock lot size only applies to purchase/sale lines that refer to storage locations that are not defined as partial stock.

If an item is subsequently entered in the processes with a quantity that is not a multiple of the inventory/withdrawal lot size, users will receive an appropriate advisory message.

The system offers to round up/down the quantity to the lot size. If you confirm the message with "Yes", the "Quantity" field of the purchase line will be rounded up. If the option is "No", it will be rounded down.

The above message always appears,

- when the "Quantity" field is entered in purchase/sales documents (*except blanket purchase orders/framework orders*).
- when the "To Be Delivered" field is entered in a blanket purchase order/blanket purchase order line.
- if the "Quantity" field is entered in a stock transfer order line (*when the "Continuous check" option is selected - and one of the two storage locations is not a partial warehouse*).

If the "Quantity" field is entered in a blanket purchase order/blanket order, users will only receive an informational message with no round up or round down function. This also applies when changing "No.", "Variant code", "Reference no.", "Storage location code" and "Unit code" if the quantity is already filled.

If a delivery that has already been posted is called off or credited to a purchase/sales invoice, there is no longer a check against the stock lot size, since the "crooked" delivery has already been posted.

#### **Purchasing code for inventory data**

In order to always procure items as a direct delivery or special order, Microsoft Dynamics 365 Business Central Standard provides you with the option to store a purchase code on the item card. This purchase code is transferred to the sales transactions and you can change it, if necessary, directly in the transaction. This allows goods to be delivered exceptionally, e.g. via the warehouse.

In practice it often happens that articles are basically in stock, but are ordered for a certain storage location and variant only if required and should be sent e.g. directly to the customer (*direct delivery for a certain combination*).

KUMAVISION trade365 provides you with the possibility to store purchase codes only for certain stock dates and to deliver from stock for other stock dates.

To store a purchase code only for certain stockkeeping data, call up the articles via the user search. Open the article card and call up the stockkeeping data (*via the user search or via the menu item Belonging > Stock > Stockkeeping data*). Open the map of the inventory data.

In the card on the "General" info tab you can select the purchase code from the stored table.

In the further processing, the purchase code will be transferred to the sales documents only if these stock data come to bear, which a purchase code was deposited.

#### **Note**

If you assign a purchase code directly in the article card, this applies to all stockkeeping data.

#### **Synchronization of the supplier item number**

Microsoft Dynamics 365 Business Central provides the option to store supplier item numbers in several places in the standard system. However, these have to be maintained manually in all tables and can lead to undesired results if they differ from each other. KUMAVISION trade365 extends this standard area by the synchronization of these fields, thus reducing the manual maintenance effort and the data is identical in the respective tables.

#### **Setup**

To use this synchronization, it must first be activated in the setup. Call up the "Accounts payable & purchasing setup" via the user search. On the "KUMAVISION trade" info tab, activate the "Create item references automatically" checkbox. This switch causes on the one hand that you can enter a new number directly in the lines of the purchase documents in the field "Reference number". If this number is already stored, you can also use it to enter transactions.

If the system detects that a different reference number has been stored for the combination of vendor and article, you will be notified of this and can have the reference number replaced if necessary.

**Use**

On the article card, you can directly store the master supplier and its article number (*Kred. Artikelnummer*) on the "Procurement" info tab. If there is not yet an article reference for this in the "Article references", this will be created automatically. If you change the supplier article number on the article card or in the article references at a later time, the entry is changed automatically at the other place, i.e. a change on the article card updates automatically the article references.

However, the synchronization goes beyond these two tables; if the initial situation is the same (*same vendor and the same original vendor article number*), the data in the inventory data and in the catalog articles will also be updated, if applicable. Also for these other tables it does not matter in which table you make the changes, all other tables will be updated by the system.

**Delete goods issue / goods receipt for partial delivery**

In Microsoft Dynamics 365 Business Central Standard, after posting or registering partial quantities, the documents remain with the corresponding remaining quantity.

In logistics, however, this effect is often not desired. There, the documents are usually created again when there are new deliveries or availabilities.



In KUMAVISION trade365 you can set if and how logistics documents are cleaned, i.e. deleted. You make the setting in the logistics setup as follows:

field	setting	description
Delete goods issue after posting	Delete lines	Once a partial delivery has been made, only the goods issue lines with a remaining quantity will be deleted.
	Delete lines + header	Once a partial delivery has been made, the complete goods issue is deleted.
Delete unavailable goods issue lines after picking creation	Yes	Goods issue lines for which picking could not be created ( <i>no availability available</i> ) will be deleted after picking creation.
		This function only applies to storage locations that have the following logistics setting: Goods issue required = YES Picking required = YES
Delete picking after register	Yes	An availability check is performed when picking is created.
		If there is a difference between inventory accounting and physical inventory, the entire pick cannot be registered.
		These picks are then deleted with the registration.
		This function only takes effect for storage locations that have the following logistics setting:  Goods issue required = YES Picking required = YES

Furthermore, two other functions are available for cleanup. The functions can be executed manually or via the task queue:

Function	Description
Clean up goods receipts	All partially delivered goods receipts will be deleted.
Clean up goods issues	All partially delivered goods issues will be deleted.

#### Storage location lock

Storage locations can be blocked for bookings if they are no longer to be used. To do this, first call up the "Storage locations" via the user search.

Open the desired storage location card. Activate the "Locked" button on the "General" info tab to lock the storage location for bookings.

#### Storage location determination per article and user

For articles which, for example, are exclusively available in a dangerous goods warehouse or for certain employees in another warehouse, only this storage location will be proposed for these articles during sales document entry.

For this purpose, a storage location can be defined per item or per item and user. By default, a customer is assigned a storage location from which it is normally supplied. By defining a storage location per article or article and user in combination, there is the possibility to always deliver certain articles only from a certain warehouse regardless of the customer's settings. In the article card, the user setup as well as the storage location card, a storage location can be assigned to each article and user via the menu item "Article-user-storage location assignment".

If an article is assigned a storage location without a user, this assignment is valid for all users and therefore always when the article is used in a sales document.

**To permanently assign an article to a storage location, the article-user-storage location assignment is opened on the article card via the call:**

Item-User-Storage Location Assignment. Only one storage location is then entered without user assignment.

When setting up via the user, the items are entered with a storage location, the assignment to the user is filtered in advance

To assign an article from the storage location, only the article number is entered in the article-user-storage location assignment. If an article is to be assigned to a storage location and a user, the user is also entered. The assignment to the storage location is pre-filtered here. The storage locations assigned in this way are taken into account in sales documents during storage location determination.

#### Note

However, this storage location is only taken into account when entering sales lines manually.

**The storage location determination per document line is carried out with the following prioritization:**

- Storage location assignment for items and users
- Storage location assignment for articles
- Storage location assignment for users
- Warehouse assignment from the standard (customer/unit of responsibility)

#### Pressure control per storage location

In order to be able to automatically create and print warehouse documents on the respective warehouse printers, it is possible in KUMAVISION trade365 to assign a fixed printer to a warehouse location, which is controlled by the system when warehouse documents are printed.

**The following warehouse documents are then printed on this printer:**

- Storage bin relocation
- Pick list
- Storage list
- Goods receipt
- geb. goods receipt
- Outgoing goods
- born goods issue

The setup is done via the storage locations. On the information tab "KUMAVISION" on the respective storage location card, the standard printer to be controlled can be selected for this storage location.

#### **Colored display of articles with article tracking in logistics documents**

In a company's item master, there are items with and without serial or batch number tracking. For the employees in the warehouse it is not always easy to recognize from a list of goods receipt or goods issue lines for which line a corresponding article tracking item has to be created, especially if scanners are not used.

**Therefore, in KUMAVISION trade365 it is possible to set up that in the logistics documents:**

- Goods receipt
- Storage
- Warehouse storage
- Outgoing goods
- Picking
- Warehouse picking

the rows with articles that require a serial or batch number input are displayed in color.

Not all fields are displayed in color, but only the origin document type, no., document line type, no., article number and description.

The setup is done in the logistics setup. To do this, call it up via the user search. On the "General" info tab, you can use the "Color for items with SN & CN" field to control how they are displayed.

**The following colors are possible:**

Standard	Bestellung
StandardAccent	Bestellung
Strong	<b>Bestellung</b>
StrongAccent	Bestellung
Attention	<i>Bestellung</i>
AttentionAccent	Bestellung
Favorable	Bestellung
Unfavorable	<i><b>Bestellung</b></i>
Ambiguous	Bestellung
Subordinate	Bestellung

#### Posting block for articles or storage bins in inventory

In Microsoft Dynamics 365 Business Central Standard, it is possible in certain logistics constellations to post items that are in an inventory ledger sheet or inventory order.

Since this leads to complications in the warehouse management when bookings are made during inventory, a corresponding booking block for storage bins can be set up in KUMAVISION trade365. Items are generally not postable when they are in inventory, not even with 2-step logistics.

In the logistics setup it is possible to control how to proceed when posting an item that is in inventory.

#### The options are:

- " " (**empty**): Bookings are possible (default)
- **Message**: The user is warned that an item is in inventory and can optionally cancel the posting.
- **Error**: As soon as an item that is in an inventory and postings take place, the posting aborts with an error.

#### Inventory : Indicator counted

In the inventory ledger sheets there is a counted identifier. This is set by the system as soon as an entry has been made in this book sheet line in the counted quantity field.

This makes it easier for the user to process inventory lists in the inventory ledger sheet.

**Number of logistics documents in the sales order and stock transfer order**

On the General info tab in the sales order as well as in the stock transfer order, the section "Logistics documents" has been added in KUMAVISION trade365.

Here you can see at first sight how many logistics lines are available for the in the selected document. With a click on the corresponding number an overview with all lines is opened first. From there you can dive into the corresponding logistics documents.

The following fields are available:

<b>field</b>	<b>description</b>
Number of goods issue lines	Displays the number of goods issue lines linked to the selected document.
Number of Posted Goods Issue Lines	Displays the number of posted goods issue lines associated with the selected document.
Number of Pick Lines	Displays the number of pick lines linked to the selected document.
Number of registered pick lines	Displays the number of registered pick lines linked to the selected document.
Number of warehouse picking lines	Displays the number of warehouse picking lines linked to the selected document.
Number of registered warehouse picking lines	Displays the number of registered warehouse picking lines linked to the selected document.

**Extensions of the logistics facility**

KUMAVISION trade365 comes with various extensions for the warehouse and logistics processes. To do this, open the "Logistics Setup" via the search to make the functional extensions on the info tab "KUMAVISION trade". These are explained in more detail below:

field	description
Color for items with serial and batch no.	<p>For the employees in the warehouse it is not always easy to recognize from a list of goods receipt or goods issue lines for which line a corresponding article tracking item has to be created. Select here in which way the affected lines should be highlighted.</p> <p>For a detailed description of the individual selection options, see the section [Colored display of articles-with-article-tracking-in-logistics-documents]] (WarehouseAndLogistics.md#colored-display-of-articles-with-article-tracking-in-logistics-documents).</p>
Storage bin movement when managed in inventory	<p>In Microsoft Dynamics 365 Business Central Standard, it is possible in certain logistics constellations to post article movements that are in an inventory book sheet or inventory order. Set up here how to proceed when posting an item that is in an inventory.</p> <p>The following options are available:</p> <p><b>empty:</b> Postings are possible (<i>default</i>)</p> <p><b>message:</b> The user is warned that an item is in inventory and can optionally cancel the posting.</p> <p><b>Error:</b> Once an item that is in inventory and postings take place, this posting will abort with an error.</p>
Reservation Approval	<p>By default, users are allowed to create and delete reservations. With this switch you control which users are allowed to create or delete reservations.</p> <p>Activate this switch and then open the user setup via the user search. Select the users who should not be allowed to create or delete reservations. Deactivate the fields "Authorized to create reservations" and/or "Authorized to delete reservations" for the corresponding users.</p>
Use Internal Item Description (Receipt)	<p>Activate this switch if the internal item descriptions are to be used in goods receipt, putaway and warehouse receipt documents. If this switch is deactivated, the description, if available, will be taken from the article references.</p>
Use internal item description (Outbound)	<p>Activate this switch if the internal item descriptions should be used in goods issue, picking and warehouse picking documents. If this switch is deactivated, the description, if available, will be taken from the article references.</p>
Goods issue - Set default storage	<p>This field is used to control whether the default storage location of the processor should be adopted when creating a new goods issue.</p>

field	description
location from warehouse employee	Open the "Warehouse employees" page and activate the "Default" field for the desired employees at a storage location for which they work with goods issue.
Delete unavailable goods issue lines after picking creation	<p>In Microsoft Dynamics 365 Business Central Standard, all item lines from the sales order are automatically copied to the goods issue document when the goods issue is created. Availability is not taken into account in this process. If the available items are picked, the unavailable item lines will remain in the document when the goods issue is posted and the goods issue will not be automatically deleted.</p> <p>If this switch is enabled, lines that are not available will be deleted from the goods issue document when the pick is created.</p> <p>For more information, see <a href="#">"Delete goods issue / goods receipt for partial delivery"</a>.</p>
Delete goods issue after posting	<p>If a goods issue has been posted and lines remain in this goods issue after this posting process and there are no unregistered pick lines for these lines, then these lines are deleted from the goods issue.</p> <p>For this purpose, there is the field "Delete goods issue (book.)" in the logistics setup with the following options:</p> <p><b>empty</b> No effect on the posting of a goods issue</p> <p><b>Delete lines</b> Lines are deleted that meet the above. g. conditions.</p> <p><b>Delete rows + header</b> Rows are deleted that meet the above conditions and if there are no more rows in the goods issue, then the entire goods issue is also deleted.</p> <p>For more information, see <a href="#">"Goods Issue / Goods Receipt Delete for Partial Delivery"</a>.</p>
Disable goods issue for open warehouse activities	In Microsoft Dynamics 365 Business Central Standard it is possible to delete goods issue even though there are still open warehouse activities. If you enable this switch, you will receive an error message when trying to delete goods issues with open warehouse activities.
Order assembly - Set goods issue quantity to be delivered	This switch only affects storage locations that work with goods issue and picking. If a picking is registered in the standard for an assembly article, with the setting Program production in the field "Assembly directive", then the field "To deliver" is not updated in the goods issue.



field	description
	If you activate this switch, after registering the picking for an item with order assembly, in the goods issue the field "To deliver" is automatically filled with the picked quantity.
Goods receipt - Set standard storage location from warehouse employee	<p>With this field you control whether the standard storage location of the processor should be taken over when creating a new goods receipt.</p> <p>Open the page "Warehouse employees" and activate the field "Default" for the desired employees at a storage location for which they are working with goods receipts.</p>
Do not set goods receipt bin code in bin contents to default	Description will follow soon.
Report Picking Completely Created	<p>In Microsoft Dynamics 365 Business Central Standard, an availability check is performed when creating picks from a goods issue. Only items with corresponding quantities are suggested for picking that are available, i.e. that have stock for picking.</p> <p>If you activate the switch "Report picking completely created", then you get a message output if the picking cannot be created for the entire goods issue.</p> <p>This message appears only for storage locations that have the following logistics setting:  Goods issue required = YES  Picking required = YES</p>
Reduce order assembly - reduce picks to available quantities	<p>Check this field if you want order assembly to take into account the availability of components and reduce the quantity in picks to the available quantity in case of doubt.</p> <p><b>Example:</b>  Goods issue with order assembly for 10 bicycles. A bicycle consists of the following components: 2 x wheel, 2 x pedal. Available are 20 bikes but only 10 pedals. If the switch is activated, the quantity of picking will be reduced to 5 bikes.</p>
Delete Picking after Register	<p>When the picking is created, an availability check is performed.</p> <p>If there is a difference between stock accounting and physical stock, the entire picking cannot be registered. If the switch is activated, these picks are then deleted with the registration.</p> <p>This function only takes effect for storage locations that have the following</p>

field	description
	logistics setting:
	Goods issue required = YES
	Picking required = YES

#### Extension of the demand planning

In MRP, the "Sales type filter" and "Sales code filter" fields give you the option of creating customer or customer group-related requirements planning.

To do this, select between customer or customer group in the "Sales type filter" field. Then select the corresponding customer or customer group in the "Sales code filter" field.

#### Item successor

Items are often revised and launched as successor articles. In the standard of Microsoft Dynamics 365 Business Central, many manual operations are necessary in the order processing to handle this business process.

This problem is solved by the article successors in KUMAVISION trade365. Employees are automatically notified that there is a successor article and can select whether the remaining stock of the original article or the successor article should be delivered.

#### Setup

Call up the warehouse setup via the user search and activate the "Use article successor" button on the "KUMAVISION trade" info tab.

Now open the article card of the original article for which you want to set up a successor article. On the "General" info tab, click the [...] Assist button in the "Article successor no." field to get to the "Edit - Article successor" page.

On the "General" info tab, the fields are automatically filled with the information from the article card of the source article. The assignment of the successor articles is done in the lines.

Field	Description
ArticleNo.	Allocate the successor article here.
Variant code	If only a certain variant of the selected article is considered as successor, the corresponding variant code is entered here.
Description	Description of the successor article.
Description 2	Description 2 of the successor article.
Exchange quantity	The exchange quantity specifies the quantity with which an original article is to be replaced by the successor article.
Unit code	Unit code of the successor item.
Start date	Enter here the date from which the article can be replaced by the successor. From this date on you will get a hint message as soon as the original article is entered in sales documents.

!!! note "Note If necessary, it is recommended to block the original article for purchasing.

#### Item successor in sales documents

If an article is now entered in a sales document and a valid successor article is stored, after entering the quantity you will receive the note message that an article successor has been found for the original article. In

addition the entered quantity as well as the available quantity of the original article is indicated to you. Now you have the possibility to decide how you want to proceed.

Selection	Description
Use only the available quantities of the item	If the available quantity is smaller than the entered quantity, the quantity of the original item will be reduced to the available quantity.
Available. If the available quantity is smaller than the entered quantity, the quantity of the original article is reduced to the available quantity and another line with the article successor and the missing quantity is added.	
Use successor with entered quantity	Line with original article is deleted and replaced by article successor with original quantity.

#### Item successor for range of coverage planning

The planning parameter proposal of [Range of coverage planning](#) refers to past consumption. Range planning can still be used for subsequent articles. When creating the planning parameter proposal for successor articles, the historical consumption of the original article is used, thus significantly simplifying planning.

## External Production With Provision

A work process that is outsourced (also called extended workbench) occurs particularly frequently in contract finishing processes and also in the assembly of subassemblies. Outsourcing is also a possible alternative to in-house machining when capacity bottlenecks occur in the company itself. Components are often provided that are required for the machining of the material. In some cases, a product that has already been machined is also provided.

In the case of external production with provision, the standard functionality of external production has been extended by a provision. The materials to be sent for external production can be defined by the provision. For logistical processing, a stock transfer order can be created from the external production order. The delivery bill can be printed out via the posted stock transfer issue.

When the external production order (*incoming posting*) is posted, the material to be provided is debited from the external production warehouse in the corresponding quantity.

### Establishment

The following sections discuss the setup of external production with provision. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

### Production bill of material, version

In the following, only the special features of external production with provision are discussed. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

Infregister lines

In the production BOM (version), the fields "Connection code" (this field identifies the component as a raw material provision relevant to logistics) and "Provision type" must be set.

- Parts are always sent to the external processor only if an order exists

Option	Description	Note
Empty	no provision (Business Central Standard)	
Order-related	the goods are always sent to the external processor only if an order (FA) exists	connection code must be maintained
Neutral	the external processor usually receives a certain quantity of goods in advance, independent of the production order. When a production order is created, the external processor only receives the order for external processing. The parts to be provided are already with the supplier.  The issue storage location is set to the external processor ( <i>is entered at the work center group under origin storage locations</i> ).	Connection code must be maintained
Supplier	here the component is only for information (" <i>Info part</i> ") in the bill of material. The material to be provided is included in the external work price. The procurement is done by the supplier ( <i>external processor</i> ) himself. This setting is also used if the customer provides parts. Here no stock or issue posting takes place.	No transfer to the production order.

#### Note

A component defined on a parts list of an item can be linked to an operation by means of connection codes. Thus, it can be defined at which operation an item is needed, or consumed. Similar to the Microsoft Dynamics 365 Business Central standard, you must first define the connection code in the operation before the setting for the component can be made in the production BOM. Otherwise, an error message will be displayed when trying to certify the BOM.

#### Tip

It is recommended to use a separate connection code for each third-party manufacturer.

#### Work plan, versions

In the following, only the special features of external production with provision are discussed. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

## Information register lines

Field	Description
Standard catalog code	The standard catalog code can be used for external labor pricing. If an external manufacturer carries out several operations on an article and these have different prices and are shown separately in the purchase order, this can be implemented using the standard catalog code. If there is only one external operation per article at an external manufacturer, then the standard catalog code does not have to be used.
Connection code	Selection of the connection code

### Workstation group

In the following, only the special features of external production with provision are discussed. As a prerequisite for setting up external production with provision, the facilities for manufacturing/production apply. For further information, please refer to the [Microsoft Dynamics 365 Business Central Helpsite](#).

**Usually, the following settings are made when creating a workstation group for external work:**

### Inforegister General

In the "Department code" field, the workstation group is assigned to the External work department.

### Information register booking

On the work center group, the vendor must be stored in the "Vendor no." field that performs the external work. If the calculation of the external work is done in pieces, then you must set the "Cost price calculation" field to "Pieces".

#### Note

The product posting group defines G/L accounts, which are posted in sales and purchase postings. For a better distinction it is recommended to define a different product posting group. In the product posting group, a tax rate for the external work order must be stored. If there are external manufacturers with full and reduced tax rate, then two separate product posting groups with corresponding tax rate must be stored here.

### Inforegister Planning

The "Unit code" field is usually set to days, since external processing is usually calculated in days.

As a rule, a separate company calendar is created for external processing.

### Navigate menu tab

You can store the external labor prices and the origin storage location via "Navigate" > "Workplace group".

### Determination of prices for external work

In Microsoft Dynamics 365 Business Central Standard, a price for external labor (i.e. the price that is later used in the purchase order) can only be stored on the work center group card. Different prices per vendor, per scale quantity, per activity (standard catalog code) or time period dependent prices cannot be maintained.

In KUMAVISION trade365 you have your own price table for the external work orders. The prices for the external labor can be stored in different places. Thereby the entries of the external labor prices override the prices of the work center group card.

#### **Work center group per time:**

see Basic data - Production - Work center groups

#### **Workstation group per piece:**

see Basic data - Production - Workstation groups

#### **Work center group special cost price:**

see Basic data - Production - Work center groups

#### **Third-party work prices**

**Prices (with the option of graduated prices) can be stored for the following combinations via the external work prices:**

- Workstation group (MUST)
- Article (MUST)
- Vendor (MUST)
- Standard catalog (external work activity)
- Start and end date
- Minimum quantities (graduated quantities)
- Price units (conversion factor weight share)

**The external work prices can be called from the following masks with appropriate filtering:**

- Article card/list
- Workplace group card / list
- Accounts payable card / list

In the production setup you can set the switch "Automatically close external labor prices", so that external labor prices automatically get an end date when a new price is created. The end date is the day before the start date of the new price.

#### **Origin camp location**

With the origin storage locations it can be controlled which storage locations should be used for the provided goods. Either a specific article is stored per work center group or the option all articles is selected. The call of the origin storage locations is made from the workstation group map/list.

- **Type of origin:** workplace group
- **Origin code:** which specific workstation group
- **Type:** All items or a specific item
- **Code:** for specific article: Item number
- **Storage location code:** which storage location is to be controlled

## Relocation routes

With the help of the stock transfer routes you have the possibility to create the link between the vendor warehouse (i.e. the warehouse of the external processor) and your own warehouse.

To set up the stock transfer routes, call them up via the user search.

The stock transfer routes overview opens. In the info tab "Stock transfer route matrix" you can now make the assignment for your own warehouse (stock transfer from code = own warehouse (e.g. BLUE)) and the vendor warehouse (e.g. external).

By clicking on the Assist button you get to the transfer route specification on which you enter in the field "Transit Code = Own-LOG". This field must be filled with an appropriate code, the other fields can remain empty if no fixed deliverer is defined.

Please set up a stock transfer order type with the type = "Stock transfer external labor".

You can then close the Stock Transfer Route Specification and Stock Transfer Route Matrix windows.

## Process of external production with provision

### Initial situation:

Production is planned and a released FA has been created. For items with item tracking, this should be stored with the components and in the production order.

## Third-party work proposal

### Calculate external labor

In the external work worksheets, it is possible to calculate which released production orders are to be sent to the vendor. Here, it is possible to filter on the work center group, the vendor or the FA number, among other things.

The external work worksheet then lists the pending external work calculated according to the filtering. The vendor is taken from the work center group, the price depending on the stored prices.

### Work in the external work proposal

#### Modification of the creditor:

Per line (*order*) the vendor can be changed, thereby also the external labor price deposited with the new vendor is drawn.

### Perform event reporting

With the function "Execute event message" and the activated hook "Accept event message" the suggestion line can be transferred into an order. The stock transfer order can be created here with the hook activated. Lines in which the check mark is not activated remain in the external work proposal without an order being generated.

## Released production order

### Pursuit of the foreign work



The external work is tracked at line level in the production order. To do this, select the relevant line and call up the "External work tracking" function via Line. The linked documents can be viewed and called up via the window called up by this function.

#### Order

The order is placed via the service of external production, as the necessary components for the article to be produced are provided to the order via stock transfer.

Accordingly, the description of the item line in the purchase order does not contain the name of the item, but of the service. The columns: Third-Party Items, Quantity Third-Party Items at Third-Party, FA No., FA Line No., Workstation Group No., and Operation No. should be shown because they represent the reference to production.

The article tracking of the production order is printed on the purchase order.

The order type for external production is automatically preset for orders from the external work worksheet, but can be changed manually. This can be used to pre-populate certain data, such as payment terms and other fields.

Please set up a purchase order type with the type = "Purchase order external work".

If the purchase order is delivered, the work operation is confirmed at the same time.

#### Note

If this is the last operation of a production routing, this will report the actual production item. For articles with article tracking, the external work operation should not be the last work operation, since the recording of the article tracking in the purchase order is not possible.

#### Reference of a provision on the document

If an external production with provision is carried out, the stock transfer lines (*provision*) of the articles from the production order are referred to when the purchase order is printed. The external labor price is printed here per piece according to the setting (*In determination of prices for external labor*). If this is a staggered price of the work group, it is automatically taken over here and updated in case of changes.

#### Post delivery in the order

The purchase order is posted according to the document. As a result, the goods receipt is now posted via the manufactured goods. The stock of the provided components in the external work storage location is thereby debited (consumed).

If the order was delivered, this can be seen in the released production order. If the delivery is complete, the released production order is now at 100%.

## Note

About the switch "Check for delivered not invoiced EK orders (external work)" in the production setup, you can set up that the production order can not be finished before the incoming invoice of the external worker is completely received and posted. This is recommended so that the cost prices always include the outside labor price and are not readjusted.

### Stock transfer

In the stock transfer header, the field "Stock transfer order type" indicates that this is a stock transfer of external labor.

If you do not receive a separate goods receipt message from your external processor, you should check the box "Outbound automatically posts inbound", as otherwise the goods would be in the transit warehouse and you would have to post the putaway to the vendor again.

If the product (*semi-finished product*) is also sent, the quantity will not be shown in the field "Quantity" but in the field "Quantity produced externally". Reason: The article has no stock yet and the stock transfer can only be simulated.

The provided items, on the other hand, have to be debited from the warehouse - in the case of the provision type Order-related - and the provided quantity is therefore also found in the "Quantity" field. Via the stock transfer order, the components to be provided can now be sent to the paver.

## Note

Check the box "Outbound automatically posts inbound" if you do not expect a separate inbound message from your external processor. Reason: When the stock transfer order is posted, the quantities are first posted to the transit warehouse via the defined stock transfer route. If you do not check the box, the receipt must be posted to the supplier subsequently. For the items to be provided, you can create the logistics documents from the stock transfer order (*e.g. goods issue, goods receipt*).

### Process of external production with provision and automatic posting

In order to be able to use the automatic booking of consumption, the facilities and prerequisites described below are necessary. Alternatively, the consumption can also be booked manually via the consumption book sheet, see section ["Manual booking of consumption"](#).

### Establishment

Posting method in the production BOM and therefore also the FA component is set to "Backward".

### Prerequisite

If the item has item tracking, it must be stored in the FA components.

### Process

When the goods are delivered, the consumption is automatically booked.

### Manual booking of the consumption

In the production book sheet, all consumption lines are displayed and can be posted manually. The actual message line of the external labor is not displayed here, since this must be posted via the purchase order.

## Service

### Purchase codes in service orders

In the standard of Microsoft Dynamics 365 Business Central you already have the possibility to define a purchase code for an article in the article master, e.g. if the article is always ordered as direct delivery from the supplier.

Direct deliveries of spare parts to the customer are not provided in the standard of Microsoft Dynamics 365 Business Central, but are available through KUMAVISION trade365 (see ["Special and direct delivery orders in service"](#)). You can also use the defined purchase codes of an item in the service if, for example, special spare parts are to be delivered directly from the supplier to the customer in order to reduce the logistics effort and save unnecessary transport times.

To activate this function, call up the "Service facility" via the user search. On the "KUMAVISION trade" info tab, activate the "Transfer purchase code from article" button. The specifications from the article card will now also be transferred to the service order lines.

### Automatic creation of service articles already at the time of purchase

In the standard Microsoft Dynamics 365 Business Central, service items can be created automatically when an item is sold. For this purpose, you make the setting in the service item group.

In KUMAVISION trade365 service items can already be created automatically during purchasing. This function supports you in the fact that e.g. arising rebuilding works or other achievements can already be assigned concretely to the service article.

To create service articles automatically in purchasing, call up the service article groups via the user search. For the service item group whose item is to be created as a service item during purchasing, select the "Create service item (purchasing)" button.

After activating the switch, the service articles will be created automatically for all articles assigned to the service article group when a goods receipt is posted. The information regarding the vendor from which these articles are purchased will be transferred to the service article and will be preserved even in case of a later sale.

### Other fields in delivery addresses

In order to override various fields in the service document depending on the delivery address, the delivery address card of the customers has been extended.

The following fields are transferred to service documents if they are maintained:

- VAT Business posting group
- Business posting group
- VAT No.

If nothing is specified in these fields on the delivery address, the corresponding fields of the customer will be used in the service document.

By specifying the VAT. Business Posting Group, VAT ID and Business Posting Group at shipping address level, it is possible to pre-populate the appropriate VAT for deliveries abroad for otherwise domestic customers without having to do this manually each time in the order.

This increases the data quality in the order entry.

#### **Document texts in service**

Basically, a standard service invoice text can be stored in service invoices created for service contracts. However, this is not sufficient if a company basically works with the functionality "Document texts" of KUMAVISION.

Text modules for customers have been extended with regard to printing on service documents. If a text module for a customer is also to be printed in the service, the corresponding checkboxes must be set.

This means that the text module for this customer can also be called up in the service.

#### **Note**

The retrieval of article text modules in the service offer / order is not provided.

#### **Display service item number and serial number in booked service invoices**

To simplify research in booked service invoices, the service item number used in the service order and its serial number are displayed in booked service invoices.

The Service Items table can be accessed via a DrillDown.

#### **Infobox service item receipts at the service item**

For easy research on the service item for documents in which the service item is currently used, an info box "Service item documents" has been implemented. This can be viewed both in the service article list and on the -card.

The DrillDown branches to the service item lines, each filtered by service orders or quotations. The drilldown of the delivery branches to the booked service delivery lines.

#### **Zero position in service lines**

The zero position functionality described in section "Zero position" is also available in the service area.

If lines without a line amount are entered in service documents, the "Zero position" field must be set to an option that is not blank or No. The "Zero position" field must be set to an option that is not empty. Otherwise, the posting of the document will abort with a corresponding message.

#### **Archived documents in the service**

In the Service area, the documents Quotation and Order are not archived in Microsoft Dynamics 365 Business Central Standard. However, since archived documents are available as standard in the sales area and are always helpful for users in their daily work, an archive was also created in the industry solution for the service documents.

Analogous to the function in the Sales area, it is basically possible to specify in the Service setup whether quotations and orders are always to be archived or only manually.

If always archived, then offer / order is always archived when the respective document is printed, deleted or posted.

In addition to automatic archiving, a document can also be archived manually using the "Archive document" function.

The service document itself shows how many archived versions of the document exist. On the one hand, the number of archived versions can be found on the "General" info tab via the "No. of archived versions" field and, on the other hand, in the "Debtor service history" info box.

The archived documents can be displayed via DrillDown.

In addition to the actual service document, the comments on the document as well as the document pre- and post-texts are also archived.

If an archived service order exists for a still existing open service order, this archived version can be restored with the "Restore" function, analogous to the same function in the Sales area.

#### **Copy function in service**

If transactions are repeated in the service, the "Copy document" function known from sales or purchasing is advantageous. This is not available in Microsoft Dynamics 365 Business Central Standard in Service. The industry solution has been extended so that both documents and service items can be copied in the same way as the "Copy item" function. The function Copy document can be called up in the respective cards of the documents.

#### **Can be copied:**

- Service offers
- Service orders
- Service invoices
- Service credits
- Booked service deliveries
- Booked service invoice
- Booked service credit

Archived documents are not currently included.

As in sales, the document can be copied including the selected document header or alternatively the lines can be recalculated with current prices.

Copying a service item can be done in the service item master data. For this purpose, the service item card is opened and the "Copy service item" function is called up in the menu ribbon.

**The following options can be copied:**

- General service item information
- Component
- Features
- Resource qualifications
- Comments
- Warranty start / end

**Create service orders from a sales complaint**

If a customer returns an item based on a complaint, and upon closer inspection it is determined that the item can be repaired, a service order can be created directly from the sales complaint.

To do this, select one or more lines of the article type and choose the "Create service order" function on the "Lines" info tab.

After the function has been executed, the user is asked whether the document should be opened directly.

When confirmed with "Yes", the service order is displayed for further processing.

It should be noted that the service order does not post a delivery of the service item as such. If the claimed item is actually to be booked in and later shipped back to the customer, it must be booked in without stock valuation and likewise booked out again via an order. This is a Microsoft Dynamics 365 Business Central standard functionality.

**Create service orders with service items assigned to a different customer**

In the standard Microsoft Dynamics 365 Business Central, you can only use service items in a service order that are assigned to the customer in the service item.

However, if you want to create a service order where another debtor pays for the costs, this is not easily possible.

KUMAVISION trade365 provides you with the possibility to create and process service orders also for customers without having to change the owner of the service item in the master data. In addition, you can also replace the owner in the service item directly when creating a service order if, for example, a new owner of the service item is determined here.

In order to be able to use this possibility, you must activate the switch "Deactivate check for customer during service item entry" in the service setup.

To do this, call up the "Service setup" via the user search.

On the info tab "KUMAVISION trade" activate the checkbox "Deactivate check for customer during service item entry". Now you can use any service item in a service order.

If the customer in the service order does not match the customer in the service item, you will be prompted whether the customer of the service order should also be transferred to the service item.

Select "NO" if you only want to process this service order with a calculation to the customer of the service order. If you select "YES", the customer in the service item will be changed to the customer of the service order. Thus, you also change the owner of the service item.

Further processing of the service order is done according to the standard.

#### **Create EK complaint from service order**

If during the repair in the service it is determined that the service item should be sent back to the supplier as such, a purchase complaint can be created via the service order per function.

To do this, select the desired row and execute the "Create purchase complaint for selected row" function via the "Rows" > "Functions" info tab.

It should be noted that the function with the matching articles must be called up once for each vendor. First, a window opens to select the matching vendor, then the EK reclamation on query can be opened directly.

#### **Note**

In order to send an article to the supplier via a purchase complaint, it must be in stock. In the process, the customer item must therefore already be posted via the sales complaint in order to complain to the supplier.

The function Create purchase complaint for selected lines can also be called in the service work ticket for components to be installed.

Here, too, it should be noted that only goods in stock can be claimed.

#### **Create service items from purchase and sales documents**

With KUMAVISION trade365 you have the possibility to create service items directly from purchase and sales documents. To do this, enter a line in a purchase/sales document with the quantity "1" and use the function "Create service item" from the menu ribbon of the lines. The service item will be created automatically and the information from the purchase/sales document will be copied to the service item card.

Use the "Show service item" function to open the service item of the row and the "Delete service item" function to delete the associated service item. If no service item is assigned to the selected row, the "Show service item" and "Delete service item" functions are disabled.



## Rent

The rental module represents an extension of the standard for handling rental transactions for equipment and machinery. Rentable equipment and machinery are fully integrated into the service area and asset accounting. In addition to the commercial processing of rentals, this area also offers a graphical representation of planning in the rental area. A separate pricing function is available for the rental area. Accessories for machines and equipment can be defined and be rented out as well, if necessary. The mapping of obligatory surcharges, such as insurance, are also included.

### Note

The rental module is an activation module, the use of which is only possible with additional licensing and activation.

## Setup and master data

### Rolecenter

In the industry solution KUMAVISION trade365 there is a specially designed role center for rental processing. You can find the role center in the settings under the name "Rental Manager". It contains all relevant information and activities for the rental. All important figures are visible in the various tiles and the graphical rental planner can also be called up from this location.

If the role center is not yet listed in the settings, you must activate and add it once. For more information, see the Microsoft Dynamics 365 Business Central online help [Manage users and roles](#).

### Rent facility

In the "Rent setup" the basic settings for the module are made. In the role center, you will find the setup under the "Actions>Setup" or you call up the "Rent setup" via the user search.

Inforegister General

<b>Feld</b>	<b>Beschreibung</b>
Betriebsstunden pro Tag	<p>Wenn bei der Fakturierung "Betriebsstunden ausgewählt wurde, tragen Sie in diesem Feld ein, wie viele Betriebsstunden im Mietpreis enthalten sind. Dieser Wert wird in den Auftrag übergeben. Werden die Betriebsstunden im jeweiligen Auftrag überschritten, werden sie zur Nachberechnung vorgeschlagen.</p>
Fakturierung	<p>Sie können zwischen Mietstunden und Betriebsstunden wählen.</p>
	<p><b>Mietstunden</b> Bei der Option nach Mietstunden werden an jedem vollen Werktag (<i>nach Mietkalender</i>) 24 Stunden berechnet. Der Anfangs- und Endtag des Mietzeitraums kann je nach Start- und Endzeit auch weniger Stunden umfassen.</p>
	<p><b>Betriebsstunden</b> Bei der Option Betriebsstunden können Sie im Auftrag die genauen Betriebsstunden erfassen. Der von Ihnen eingetragene Wert im Feld "Betriebsstunden pro Tag" wird dabei in den Auftrag übernommen, kann aber überschrieben werden.</p>
	<p>Die Einstellung kann im jeweiligen Mietartikel auch gewählt werden, in der Einrichtung wird lediglich der Standard-Wert festgelegt.</p>
Lieferschein b. VK-Rechnung	<p>Hier bestimmen Sie, ob bei der Erstellung der Rechnung ein Lieferschein erzeugt werden soll.</p>
Pos.-Nr. in Verkaufszeilen prüfen	<p>Hier bestimmen Sie, ob bei der Freigabe des Auftrags die Positionsnummern geprüft werden.</p>
Miet-Basiskalender	<p>Sie können hier einen vom Basiskalender abweichenden Kalender für die Abrechnung von Maschinen definieren. Beispielsweise wenn zusätzlich samstags vermietet wird (<i>und dies auch abgerechnet werden soll</i>).</p>

Feld	Beschreibung
Datumsfilter für anstehende Ereignisse	<p>Das Feld steuert die Anzeige in den Kacheln des Rollencenters, zum Beispiel die anstehenden Vermietungen oder Verträge, die auslaufen. Je nach Datumsformel sehen Sie mehr oder weniger Ereignisse der Zukunft. Die Eingabe erfolgt analog zu anderen Datumsformelfeldern. Weiterführende Informationen finden Sie in der Microsoft Dynamics 365 Business Central Onlinehilfe <a href="#">Mit Datumsangaben und Uhrzeiten in Kalendern arbeiten</a>.</p> <p><b>Tipp</b> Klicken Sie im Rollencenter auf die Kachel "Anstehende Abholungen". Sie sehen die Listenansicht der anstehenden Abholungen, gefiltert auf den Datumsbereich, den Sie im Datumsfilter für anstehende Ereignisse eingegeben haben. Möchten Sie über die Kachel mehr oder weniger Einträge sehen, erhöhen oder verringern Sie die Datumsformel.</p>
Versicherungssatz %	<p>Hier können Sie einen Prozentsatz für die Versicherungsgebühr eintragen. Diese Versicherungsgebühr gilt für alle Artikel, bei denen die Versicherung berechnet werden soll und für die im Debitor, in der Artikelkategorie oder im Mietartikel nichts anderes definiert ist.</p> <p>Die Einrichtung der Versicherungsgebühr wird detaillierter in den Abschnitten "Zusätzliche Mietzeilen Einrichtung", "Artikelkategorien" und "Ressourcen" erläutert.</p>
Einheit Stunde	<p>Hier wird eingestellt, in welcher Einheit die Mietgeräte geplant werden. Hier wird die Einheit hinterlegt, die für die Berechnung von Stunden in der Miete verwendet werden soll.</p>
Einheit Tag	<p>Hier wird eingestellt, in welcher Einheit die Mietgeräte geplant werden. Hier wird die Einheit hinterlegt, die für die Berechnung von Tagen in der Miete verwendet werden soll.</p>
Einheit Monat	<p>Hier wird eingestellt, in welcher Einheit die Mietgeräte geplant werden. Hier wird die Einheit hinterlegt, die für die Berechnung von Monaten jeweils in der Miete verwendet werden soll.</p>
Betriebsstunden in Auftrag kopieren	<p>Schalten Sie diese Funktion ein, wenn im Mietauftrag der Wert des Betriebsstundenzählers mit dem letzten Stand des Betriebsstundenzählers aus der Artikelkarte der Maschine vorbelegt werden soll. Andernfalls müssen Sie bei der Berechnung nach Betriebsstunden den Stand des Zählers bei Mietbeginn manuell eingeben.</p>
Startdatum Verf. Toleranz End Datum Verfüg. Toleranz	<p>Mit diesen beiden Felder stellen Sie ein, wieviel Toleranz den Verfügbarkeitsdaten eines Geräts hinzugerechnet wird. Start und Ende können getrennt definiert werden.</p>

<b>Feld</b>	<b>Beschreibung</b>
Dimensionen aus Mietartikel verwenden	Hier können Sie einstellen, ob die Dimensionen aus der Ressource oder dem Mietartikel geholt werden sollen.
Prüfprotokolle beim Buchen prüfen	Schalten Sie diese Funktion ein, wenn Sie sicherstellen wollen, dass beim Buchen geprüft wird, ob die entsprechenden Prüfprotokolle ausgefüllt wurden.

#### Inforegister Numbering

On the information tab, you set up the number ranges of the respective documents. For more information, see the Microsoft Dynamics 365 Business Central online help [Creating number ranges](#).

#### Inforegister Archiving

At this point you determine the archiving rules for renting.

#### Inforegister Rent Planner

At this point you determine the color setting of the graphical rental planner. You are completely free in the color selection for the respective order types.

#### Item categories

Item categories are used here to group and categorize rental equipment. The planning and creation of rental offers takes place on the basis of article categories. Rental pricing is also based on the article categories.

Fields in the article categories that are used for the rental:

<b>Field</b>	<b>Description</b>
Rental resource no.	The rental income of the respective category is posted to this resource.  Different resources can be used to address different accounts in accounting.
Use for rent	This is a filter which determines whether the categories can be displayed and used in the rent ( <i>also in the planner</i> ).
Check-in questionnaire code	Indicates which questionnaire will be used for check-out and check-back ( <i>check-in and check-out</i> ).
Maintenance Questionnaire Code	Indicates which questionnaire is used to perform and document maintenance.
Insurance Percentage	A specific value for each category can be stored here, which overrides the value from the setup

#### Additional rental lines facility

The additional rental lines are an entry aid and thus a suggestion that you can still change during the entry into an offer or order.

In the additional rental lines, you set which articles and resources are to be displayed additionally when entering a rental offer or order. In this way, you ensure that, for example, an insurance policy, a sales item required for the machine or a fitter for assembly are also entered.

The additional rental lines are set up depending on article categories of the respective rental articles. Articles, G/L accounts or resources can be taken into account.

Additional rental lines always generate their own order line and usually also a calculation value. In contrast to rental article components.

#### Tip

If there are components that must be rented (*and recorded*) with the article in any case, and, for example, must be issued with the handover to the customer, map this best via the rental article components. Then the appropriate components are represented, but not separately computed. (*For example, operating instructions, manuals, tools for setup, etc.*).

#### Rental prices

You can call up the rental prices via the role center in the action area under the "Setup" menu item. You can create rental prices depending on the article category and rental price group. The rental price group is used to be able to map different prices for e.g. companies and private customers.

Analogous to pricing in the sales area, you can:

- assign scale prices with minimum quantities for item categories.
- create prices according to rental price groups (e.g. private customers and corporate customers)
- display prices including or excluding VAT
- differentiate by sales type, i.e. by customer price group or campaign and even assign individual prices for individual customers
- control validity by start and end date and track price history

#### Resources

##### Resource for billing

You have to create at least one resource for the settlement of the rent. You set this up in the standard resources and turn on the "Billing resource" identifier.

It is important that the resource is created in the base unit for hours and that the unit for a day is also added in the resource units, so that the conversions between days and hours can be performed correctly by the system.

In case you want to post your item categories to different accounts in financial accounting, you can create several accounting resources.

## Note

No prices are stored at the resource itself. The prices are kept exclusively in the table "Rental prices".

You define which resources are used for billing in the item categories.

### Process: Assigning the resources

1. call up the item categories
2. enter the corresponding resource in the column "Rental resource no.".

This makes it possible to address different G/L accounts for different machines and equipment.

### Resource for insurance

For the calculation of additional insurance coverage (*e.g. machine breakage, theft, etc.*) a resource "Insurance" is needed. You set this up in the standard resources and turn on the "Insurance resource" identifier.

If the insurance is billed once as a lump sum, set the unit to Pieces. If the insurance is billed by days, set the base unit to the billing unit you defined for days.

### Rentitems

To create rentitems, call up the rental item overview and select "New".

## Note

Be sure to select the "New" call to create a new rental item. You will also see the "New Article" button, but there you would create a new master data article and not a rental article.

### Inforegister General

Since machines and equipment to be rented must always be purchased in advance, an article master record is usually already available. This can be used as a template for the new rental article and inherits the article categories, as well as designation and search term.

A rental article always automatically receives the identifier "Rental article" when it is newly created.

## Note

Rental items are based on the standard table Service items. Therefore, created rental items can always be seen in the overview of service items.

## Note

Once booked rental items can not be deleted analog to articles.



Field	Description
Enabled Facility no.	The fields "Activated" and "Asset no." refer to rental items activated in Asset Accounting, i.e. machines and equipment that have been transferred to fixed assets. The fields are automatically set by the system when a rental item is capitalized. For more information, see <a href="#">Fixed Asset Capitalization</a> .
Fixed Insurance	If you do not want to calculate the insurance on a percentage basis when using the rental item, but instead use a fixed daily rate for the insurance fee, you need to turn that on here.
Fixed insurance price	<p>Here you enter the amount for the fixed insurance. The amount always refers to a calendar day.</p> <p><b>Note</b></p> <p>If the rental is scheduled from Monday to Tuesday of the following week, the days due for insurance (<i>Calendar days - 9 days including weekends with Saturday and Sunday</i>) may differ from the rental duration (<i>Def. working days - 7 days without weekends</i>). This depends on the settings in the rental calendar. It is automatically taken into account in the order.</p>
Billing type	<p>You can choose between 3 billing types:</p> <p><b>Daily:</b></p> <p>Billing is done by rental days, converted to 24 hours per day. Weekends and holidays are deducted from the calculation of the rental period according to the stored rental calendar.</p> <p><b>Operating hours:</b></p> <p>Billing is based on the operating hours recorded in the order. The current number of operating hours is entered in the "Operating Hours" field and updated each time via the rental orders.</p> <p><b>Wear:</b></p> <p>You need this billing type if, for example, you want to bill rented tools according to wear and tear.</p> <p><b>Best Practice Tip:</b></p> <p>For example, if you want to rent out a cut-off machine, create the cut-off machine and the associated discs each as individual rental items. You can then use the additional rental lines to link the disks to the cut-off grinder and enter them as separate lines in the order. The cut-off machine can then be invoiced by days and the discs by wear (<i>in the same order</i>). This way you get a clean and transparent billing for you and your customers.</p>
Unit of Responsibility	Definition of the rental item location: In this field you specify the location of the rental item and thus define who can access it. This requires that a corresponding code has been created for the location and the respective users have been assigned.

Field	Description
	You can use the "Show all" function to look into other locations.
Basic calendar code	Here you can assign a different calendar to the rental item - for example, if a machine should also be rented and charged on weekends. This is only necessary if OTHER rental days than usual should be calculated. <i>*(Example construction dryer, runs 7 days a week, other equipment only on weekdays).</i>

#### Inforegister customer

At this point you see the customer for whom e.g. service orders are created after rental return. This is usually the owner of the machine or the customer for whom the follow-up service is created.

#### Inforegister Vendor

Here you can enter information about the creditor.

#### Inforegister Detail

The fields under this tab are information fields that you can maintain for your overview.

#### Overview of the menu functions

In the menu functions you will find all information about your rental item, for example the related items or protocols and availabilities. In addition, images can also be stored here.

#### Display operating hours

The menu item "Display operating hours" allows you to view the current number of operating hours. The field is updated when the rental reset is posted in the rental order. In addition, it is possible to track historically at this point if the meter was exchanged.

#### Rental item components

This call takes you to a list where you can enter the components that belong to this article.

##### Note

In contrast to the *(optional)* additional rental lines, you store in the rental item components parts that belong in any case to the rental item and are rented *(for example, warning vests or other protective devices)*.

#### Rental item capacity

In order to work with the rental items, you must enter capacities to plan against, just as you would for resources. You must enter these capacities for each rental item.

This also controls the general availability. If you are commissioning a new machine and you want it to be displayed in availability already, you can control that with the start date in availability. The same applies if you plan to discontinue a machine: In this case, you set an end date in capacity planning.

## Process: Assign Rental Item Capacity

1. Click on "Planning" in the role center and then on "Rental item capacity" or call up "Rental item capacity" via the user search. You will see a matrix with the rental items and the associated time columns. You can select the time display in the matrix options as you wish by *day, week, month, quarter, year, and accounting period*.
2. Now select the row of the rental item for which you want to enter the capacity. Via the line function "Planning > Define capacity" you reach the capacity card of the rental item.
3. Set the start and end date.
4. If you have created working time templates, you can use them here.
5. You can enter the corresponding hours for each day of the week.
6. Then click on "Create capacity" and Microsoft Dynamics 365 Business Central will now fill the matrix with the corresponding capacities.
7. Now you can see the rental items in the "Available rental items" view.

### Set up issue and inspection logs

For rental processing, you can create issue and inspection logs in Microsoft Dynamics 365 Business Central that you can then use for documentation when you issue and return a rental item.

For more information, see also Rental Order.

**Process: Creation of check protocol.** 1. in the role center you will find under "Actions > Setup > the rent check protocol setup". A list overview appears. 2. with "New" you create a new protocol. 3. first you set the code and description. 4. Then stay on the line and click "Edit Questions" in the ribbon to create the questions and answers.

#### Type:

Question or Answer. There must be a question first and then an answer. Each question can have multiple answer lines. This is also where you define whether one or more answers are allowed.

*(Example tank: full/half full/empty, only one answer possible)*

#### Description:

Enter the text of the question or the text of the answer here.

### Rent Follow Up Service facility

The "Rental Follow Up Service Setup" helps you to better plan equipment availability and ensure the quality of your rental equipment. In addition, you can set up that consumption or damage can be included in the final invoice, e.g. if the equipment was not filled up.

In the Follow Up Service area, you can also set up the service time that will be added after the rental equipment is returned, for example, for cleaning or maintenance of the equipment.

A service order is created automatically. Parts and times can be booked on this order.

#### Note

The setup can also be found in the role center in the action area under the category "Setup".

## Rent processing

### Rental offer

You can create rental offers for debtors. A rental offer to a contact is not possible.

Offers are basically created at the item category level, an assignment of a specific device is not yet necessary at this point.

If the rental offers are to be included in the capacity planning, you must select a specific rental item.

The check mark for long-term rental must not be set. This is only effective in the order. You can hide the field in the offer with the personalization function.

Document texts and alternative addresses are possible as in the sales area.

### Process: Create rental offer

1. click on "+Rental offer" under Actions and create a new rental offer.  
Select a customer.
2. if you are working with rental price groups, you must select them in the offer.
3. now enter in the lines the respective article category that is to be offered. Because a billing resource is assigned to the article category, it will be dragged into the line as well. 4. Next, enter the rental start date and the rental end date. Because billing is done by the day, the rental start time is always set to 00:00 and the rental end time is set to 23:59. If you plan with other times, the time fields can be changed accordingly. Optionally, the window with the corresponding rental lines will open if any have been created for this article category. Select the appropriate lines, check the "Apply" box and exit the window by clicking OK. 6. Add more rows if necessary. These can be additional rental items, but also sales items or resources. When you have entered all rental items and associated rows, you can release the quote and print and/or send it like any other document.

#### Best Practise Tip

Sort yourself the columns with the personalization function in the rental quote so that the date and time fields are arranged after the "Item Category" field.

You can convert a rental offer into an order directly from the offer in the case of an order. To do this, execute the "Create order" function in the offer.

#### Note

This page is under construction. More content will follow soon.

## Rental order

### Create rental order

You can create a rental order from various places:

- In an existing rental quote, use the "Create Order" function to generate an order from the data in the quote. Everything that was entered in the offer will be transferred to the order and you can then add to it.
- Start directly on the start page of your rental role center via the quick access and enter a new empty rental agreement.
- Go to the rental order overview and click on the "New" button, thus creating a new empty rental order.

Generally, there are the same fields and functions in the rental order as there are in the sales order. In addition, there are some additional fields specific to the rental.

### Process: Create rental order

1. enter customer name or number as in the sales order and fill the remaining fields in the order header accordingly. As in the sales order, the fields will also be filled according to the settings on the customer, if any.
2. then you can enter in the lines.
3. in order to be able to rent out a specific rental item, it must be entered via the "Rental item no." field of the line. Only rental items with availability and capacity for the entered rental period will be displayed in the lookup. Once you have entered all rental items, release the order.

### Long-term rental

With long-term rental, rental orders can be billed easily and periodically on dates and billing periods defined by you.

To do this, you must activate the fields for long-term rental in the header of the rental order. If the check mark is set, the respective date fields are also editable. There you can enter the desired billing periods using the date formula.

### Post rental delivery

When the rental item is issued to the customer, you must post a rental delivery. You post the rental delivery directly in the rental order using the "Post rental delivery" line function.

If you have assigned components to the rental item, the posting opens a window with the rental item components in which you can document the condition and issue of the components.

In the remarks, you enter information or, if necessary, the condition of the issued items in order to reconcile this for the return.

After the rental delivery has been posted for the rental item line, the "Rental delivery posted" checkbox is automatically set in the line.

The handover / return protocol is used as the customer document for the output of the rented machine. The print call is located in the Actions tab of the ribbon.

The other items that you issue to the customer with the rental order are supplied via the goods issue or warehouse picking function. Also, the traffic light function of the rental orders refers only to purchase items included in the rental order.

#### Rental interruptions

Rental interruptions are interruptions that make it impossible to use the rented item, for example, if tenants were prevented from using the rented item due to special circumstances or if the rented item was defective through no fault of their own and repair became necessary on site. In order to be able to document this in the order and thus in the final invoice, there is the function "Rental interruption".

The criteria that can be claimed for a settlement-free interruption are defined by you as the landlord.

The rent interruption function only affects the rental fees, not the calculation of insurance days. To register the rent interruption, select the "Rent interruption" line function.

It does not change the rental period, therefore the date remains the same, it is registered separately (example excavator, rental from March to November, winter weather in April).

#### **Process: Enter rental interruption.**

1. in the rental order, select the "rental interruption" line function.
2. in the Rent Interruptions window, enter the interruption period with exact time, if applicable. The interruption quantity must be entered manually after entering the interruption period. In the Comment field, you can include the reason for the interruption.
4. Click OK to open the query whether the lines of the rental order should be corrected accordingly.
5. the interruption quantity must be calculated in the respective unit of the rental charge line. I.a. these are hours.

When the query is confirmed, the "Quantity" field of the rental charge line is reduced by the interruption quantity.

#### Rent extensions and rent reductions

If there is a rental extension or reduction of the rental period, the end date must be changed. The additional rental lines must be reconfirmed with respect to insurance with the changed rental period.

#### Asset capitalization

Asset capitalization is used to automatically transfer items from current assets to fixed assets and to transfer them to the asset as rental items. The prerequisite for this is that the corresponding machines/devices were first purchased in Microsoft Dynamics 365 Business Central. If this is not the case, you must create and activate the equipment in Asset Accounting and then assign it to the rental item.

#### Note

Please always consult with your financial accounting department for this or do the setups together.

## Setup for automatic asset activation

In the asset setup, in the info tab "KUMAVISION trade", there is an area called "Activation Rental Items".

Field	Description
At this point, select the template that will be used to write off the item from the current assets. It is advisable to create your own book.sheet template for this purpose. Only book.-sheet templates assigned to the type "Article" are available for selection, you must take this into account when creating a new book.-sheet template.	
Here you select the appropriate book sheet from the template that you selected in the previous field. It is best to create a separate Book.Sheet for asset capitalization of rental items.	
<b>Note</b> The book sheet must have been created previously, alternatively you can create a new book sheet at this point using the +New button.	
Activation number	The activation numbers are also used for posting the article.
Asset ledger sheet numbers	This number range is used to post the asset via the asset ledger sheet.
This number range is used to post the asset via the asset ledger sheet.	

## Asset posting groups

An offsetting account for the acquisition must be entered in the asset posting groups.

The contra account is required if the depreciation ledger with FiBu integration is posted for the asset, thus filling the assets FiBu ledger.sheet.

## Item categories

For the rental item, the following fields must be filled in the item category:

- Depreciation book code
- Asset posting group
- Depreciation method
- useful life
- asset class code
- asset class code
- 2<sup>nd</sup> depreciation ledger (*if two depreciation ledgers are used, otherwise leave blank*).

These fields are required for the creation of the asset and the asset depreciation ledger.

## Origin code setup

In the origin code setup, an origin code can be entered on the "KUMAVISION trade" info tab in the rental item activation.

### Procedure activation of rental items

To activate rental articles, select the "Activate rental article" function on the corresponding rental article card in the menu ribbon.

## Derecognition of the item from current assets

In the first step, the system checks whether the article is in current assets. For this purpose, the system checks whether there is an article item with the type "Purchase" for the specified serial number.

If the system does not find a corresponding item, the operation is cancelled.

If an article item is found, the article ledger sheet that has been set up is filled and a retirement of the article is posted.

## Create asset card and post asset

After the item is retired, an asset card and the associated depreciation ledger(s) are created.

Depending on the settings in the depreciation ledger, a ledger.sheet is filled and posted:

- WITH FiBu integration: assets Fibu.-book.-sheet.
- WITHOUT financial accounting integration: assets ledger sheet

If 2 depreciation ledgers are defined, only the standard depreciation ledger is automatically posted. For additional depreciation books, an attachments (FiBu) book.-sheet line is created. Here a message appears that a book. sheet line is created, which has to be posted manually. (In the standard system, only the book. sheet is ever filled for additional depreciation books and not posted directly).

## Write data to rental item card

After successful activation of the asset, the asset data is transferred to the rental item card: The rental item is marked as "Activated" and the corresponding asset number is entered. The Service item book value info box shows the asset number and its current book value.



## 1.2.8 medtec365

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### Overview

## General Setup

## Basics

## Purchasing

## **Sales and Marketing**

## **Warehouse and Inventory**

## Manufacturing

## Finance



## **Batch Clean Production**

## External Production With Provision

## **Collective External Production**

## Device Management

## Device Assignment SN in SN

## Compliance

## **Warranty Claims, Complaints, and FMEA**

## **Workflow and Notification Manager (WNM)**



**KUMAconnect**

## Medical Device Regulation Documentcontrol

## Service

### Einrichtung

#### Rollencenter

Für den Servicebereich in KUMAVISION medtec365 wurde ein entsprechendes Rollencenter konzipiert. Hierdurch haben AnwenderInnen einen direkten Überblick auf deren Arbeitsvorrat und können bequem in die entsprechenden Übersichten navigieren.

Über „Meine Einstellungen“ kann die Rolle „medtec Service“ zugewiesen werden. Das Rollencenter steht nach bestätigen mit „Ok“ zur Verfügung.

#### Technik Einrichtung

Um den Service Wareneingang nutzen zu können, müssen vorab in der Technik Einrichtung folgende Parameter festgelegt werden:

Feld	Beschreibung
Service Call Nummern	Muss hinterlegt werden, damit bei Anlage eines Serviceauftrag automatisch ein Call angelegt werden kann.
Servicewareneingangs Nummernserie	Nummernserie für erstellte Service Wareneingänge.
geb. Servicewareneingangs Nummernserie	Nummernserie für gebuchte Service Wareneingänge.
Standard Buchungscode	Standard Buchungscode für die Artikel in den Servicezeilen.
Vorgabe Auftragsart Rücksendung	Bei Buchung eines Service Wareneingangs wird die Auftragsart automatisch in die gebuchte Verkaufsreklamation hinterlegt.  Bei Erstellung einer Verkaufsreklamation aus dem Serviceauftrag, wird die Auftragsart automatisch gezogen.
Service In-Haus Lager	Gibt den Lagerort für den Service Wareneingang an.
Service In-Haus Lagerplatz	Gibt den Lagerplatz für den Service Wareneingang an.
Rücknahme Buchungscode	Gibt den Buchungscode für den Service Wareneingang an.
Prozessart Rücknahme	Gibt die Prozessart für den Call der zur VK-Reklamation erstellt wird ( <i>gilt nur für seriennummernpflichtige Geräte</i> ) an.

## Service Einrichtung

## Inforegister Allgemein

<b>Feld</b>	<b>Beschreibung</b>
Service Auftragsart Reparatur	Gibt die Auftragsart an, die bei Erstellung eines Serviceauftrags aus der Debitorenkarte, dem Marketing Cockpit und der Seriennummerinformationskarte über die Funktion "Neuer Call und Serviceauftrag Reparatur" automatisch im Serviceauftrag eingefügt wird.
Service Auftragsart Wartung	Gibt die Auftragsart an, die bei Erstellung eines Serviceauftrags aus der Debitorenkarte, dem Marketing Cockpit und der Seriennummerinformationskarte über die Funktion "Neuer Call und Serviceauftrag Wartung" automatisch im Serviceauftrag eingefügt wird.
Service Auftragsart Wareneingang	Gibt die Auftragsart an, die bei Erstellung eines Serviceauftrags durch Buchung eines Service Wareneingangs automatisch im Serviceauftrag eingefügt wird.
Arch. Aufträge	Aktivierung bzw. Deaktivierung der Archivierung der Servicebelege.
Angebote archivieren	Bei Aktivierung der Archivierung kann festgelegt werden, wann der Beleg archiviert werden soll.  Zur Auswahl stehen folgende Einrichtungen: <ul style="list-style-type: none"> <li>• Niemals</li> <li>• Auf Anfrage</li> <li>• Immer</li> </ul>

## Inforegister Vorgabe

<b>Feld</b>	<b>Beschreibung</b>
Service Lagerortcode Service Lagerplatzcode	Gibt den Lagerort und -platz an, der bei Neuanlage eines Serviceauftrags automatisch in den Servicekopf hinterlegt wird.  Dieser Lagerort und -platz wird auch bei Anlage eines Service Wareneingangs automatisch im Service Wareneingangskopf hinterlegt.
Leihe Lagerortcode Leihe Lagerplatzcode	Gibt den Lagerort und -platz für die Leihversorgungen, die über einen Serviceauftrag erstellt werden, an.
Ersatz Lagerortcode Ersatz Lagerplatzcode	Gibt den Lagerort und -platz für Ersatzartikel, die über einen Serviceauftrag versendet werden, an.
Service Verbrauch Lagerortcode Service Verbrauch Lagerplatzcode	Gibt den Lagerort und -platz für die Artikel an, die in den Servicezeilen mit der Tätigkeitsart = „Service Verbrauch“ vorbelegt werden.
Debitor Lagerortcode	Gibt den Lagerort an, der für Umlagerungen von Artikel zum Debitor vorbelegt wird.  Als Lagerplatz wird immer die Debitorennummer verwendet.
Kreditor Lagerortcode	Gibt den Lagerort an, der für Umlagerungen von Artikel zum Kreditor vorbelegt wird.  Als Lagerplatz wird immer die Kreditorennummer verwendet.
Gratis Rabattgrundcode	Bei rein logistischen Zu- und Abbuchungen, z.B. von Fremdeigentum, gibt es keine finanziellen Bewegungen, die im Standard von Microsoft Dynamics 365 Business Central in Einkauf-, Verkauf- und Servicebelegen jedoch immer aktiv sind.  Um dies zu verhindern, muss mit 100% Rabatt und einem Rabattgrund gebucht werden, der hier vorgegeben werden kann und obligatorisch ist.
Buchungscodes Fremdeigentum	Gibt den Buchungscodes für die Artikel an, die zur Reparatur zugebucht werden.  Um Wertbuchungen zu verhindern, sollte die Ware, die im Service zugebucht wird, als Fremdeigentum behandelt werden.
Buchungscodes Umlaufvermögen	Gibt den Buchungscodes für die Artikel an, die in den Servicezeilen eingefügt werden.  Verkäufe und Verbräuche im Rahmen des Service werden in der Regel als

Feld	Beschreibung
	Umlaufvermögen gebucht. Ist kein Buchungscode vorgegeben, wird Umlaufvermögen angenommen.
Vorgabe Aktueller Ort	<p>Gibt den aktuellen Ort an, der bei Anlage eines Serviceauftrags vorbelegt werden soll.</p> <p>Zur Auswahl stehen:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Vor Ort</li> <li>• Im Haus</li> <li>• Beim Kreditor</li> </ul> <p>Der aktuelle Ort wird aus der Service Einrichtung in die Serviceartikelzeilen übernommen und kann manuell geändert werden.</p>
Vorgabe Tätigkeitsort	<p>Gibt den Tätigkeitsort an, der bei Anlage eines Serviceauftrags vorbelegt werden soll.</p> <p>Zur Auswahl stehen:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Vor Ort</li> <li>• Im Haus</li> <li>• Beim Kreditor</li> </ul> <p>Der Tätigkeitsort wird aus der Service Einrichtung in den Serviceauftragskopf und Serviceartikelzeilen übernommen und kann manuell geändert werden.</p> <p>Mit Buchung einiger Belege, wie z.B. Einkaufsrücksendung, wird das Feld automatisch geändert.</p>
Inforegister Tätigkeit	

Auf dem Inforegister „Tätigkeit“ werden die entsprechenden Tätigkeiten vorbelegt, die in den Serviceartikelzeilen und in den Servicezeilen über das Menüband im schnellen Zugriff gestartet werden können.

<b>Feld</b>	<b>Beschreibung</b>
Tätigkeitsgruppe Rep. Stückliste	Hinterlegung der Tätigkeitsgruppe für die Reparatur Stückliste.
Tätigkeitsgruppe Service	Hinterlegung der Tätigkeitsgruppe für die Reparatur.
Tätigkeitsgruppe Kostenvoranschlag	Hinterlegung der Tätigkeitsgruppe für den Kostenvoranschlag.
Tätigkeitsgruppe VK-Rücknahme	Hinterlegung der Tätigkeitsgruppe für die Verkaufsrücknahme.
Tätigkeitsgruppe VK-Lieferung	Hinterlegung der Tätigkeitsgruppe für die Verkaufslieferung.
Tätigkeitsgruppe EK-Rücksendung	Hinterlegung der Tätigkeitsgruppe für die Einkaufsrücksendung.
Tätigkeitsgruppe Verschrottung	Hinterlegung der Tätigkeitsgruppe für die Verschrottung.

#### Inforegister Verschrottung

<b>Feld</b>	<b>Beschreibung</b>
Verschrottung Lagerortcode Verschrottung Lagerplatzcode	Hier können Lagerdaten vorbelegt werden, die verwendet werden, wenn die Verschrottung zweistufig erfolgt. D.h. zunächst erfolgt eine Umlagerung auf einen speziellen „Schrottlagerort“ und im zweiten Schritt eine manuelle Abbuchung von diesem Schrottlagerort.
Verschrottung Seriennr. Status	Ist hier ein Wert eingetragen, so wird dieser Wert beim Verschrotten in der Seriennr.-Informationskarte im Feld „Status“ übernommen.
Verschrottung Herkunftscod	Ist hier ein Wert eingetragen, so wird dieser Wert beim Verschrotten in der Artikelbuchung im Feld „Herkunftscod“ übernommen.

#### Inforegister Rollcenter Filter

Auf dem Inforegister sind pro Kachel die entsprechenden Filter auf den Reparaturstatus definiert. Bei Bedarf können die Filter entfernt oder ergänzt werden.

#### Inforegister Kostenlose Nutzung Stapel Filter

Auf diesem Inforegister können vier Kacheln nach Bedarf beschrieben und anhand vom Reparaturstatus gefiltert werden.

#### Menüband Funktion: "Start Test"

Mit der Funktion „Start Test“ werden bei einem neuen Mandanten (*in dem noch keine Einrichtungen hinterlegt wurden*) die Felder der Inforegister „Vorgabe, Tätigkeit, Verschrottung, Rollcenter Filter“ und die dazugehörigen Tabellen automatisch hinterlegt.



## Serviceauftragsarten

Im Bereich Service können Sie mit den Serviceauftragsarten arbeiten, um zum einen die Serviceaufträge in unterschiedliche Arten zu unterteilen und zum anderen können Sie pro Serviceauftragsart unterschiedliche Einrichtungen hinterlegen.

Um eine Serviceauftragsart zu definieren, rufen Sie sich diese über die Anwendersuche auf. Über „Neu“ im Menüband können Sie eine neue Serviceauftragsart mit Hilfe der u.a. Tabelle erstellen:

Feld	Beschreibung
Code	In diesem Feld wird ein eindeutiger Code für die Serviceauftragsart hinterlegt.
Beschreibung	In diesem Feld wird eine Beschreibung der Serviceauftragsart hinterlegt.
Verkaufsauftragsart Preisfindung	Wenn für eine Serviceauftragsart andere Preise vereinbart wurden, kann hier die entsprechende Verkaufsauftragsart hinterlegt werden.
Standard	<p>Bei manueller Anlage eines Serviceauftrags, wird die Standard-Serviceauftragsart vorbelegt.</p> <p><b>Hinweis:</b> Bitte beachten Sie, dass nur eine Serviceauftragsart als „Standard“ gekennzeichnet werden kann.</p>
Serviceauftragstyp	<p>Jeder Serviceauftragsart kann eine Klassifizierung hinterlegt werden. Folgende Optionen stehen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Reparatur</li> <li>• Wartung</li> </ul> <p>Die Klassifizierung wird automatisch in den Service Call im Feld „Call Klassifizierung“ hinterlegt.</p>

Über die Funktion „Aktionen – Service Tätigkeitsvorlagen Einrichtung“ im Menüband können pro Serviceauftragsart verschiedene Serviceartikelgruppencodes mit Tätigkeit Vorlagencodes verknüpft werden.

Der Tätigkeit Vorlagencode wird automatisch im Serviceauftrag in der Serviceartikelzeile hinterlegt. Zusätzlich werden die Tätigkeiten aus der Tätigkeitvorlage automatisch in der Infobox „Service Tätigkeitsgruppen“ hinterlegt.

Bei manueller Anlage eines Serviceauftrags wird die Serviceauftragsart mit dem Haken „Standard“ hinterlegt.

Bei Anlage eines Serviceauftrags aus der Debitorenkarte, dem Marketing Cockpit oder aus der Seriennummerinformationskarte über die Funktion „neuer Call“ und „Serviceauftrag Wartung“ oder „Serviceauftrag Reparatur“, wird die Serviceauftragsart aus der Service Einrichtung gezogen. In der Service Einrichtung kann eine Serviceauftragsart für die Reparatur und Wartung in den Feldern „Service Auftragsart Reparatur“ und „Service Auftragsart Wartung“ hinterlegt werden. Sind die Felder in der Service Einrichtung leer, wird keine Serviceauftragsart im Serviceauftrag hinterlegt.

Bei Anlage eines Serviceauftrags aus dem Service Wareneingang wird die Serviceauftragsart aus der Service Einrichtung gezogen. In der Service Einrichtung kann eine Serviceauftragsart im Feld „Service Auftragsart Service Wareneingang“ hinterlegt werden. Ist das Feld in der Service Einrichtung leer, wird auch keine Serviceauftragsart im Serviceauftrag hinterlegt.

Bei Anlage eines Serviceauftrags aus einer Verkaufsreklamation heraus, wird die Serviceauftragsart mit dem Haken „Standard“ gezogen.

Bei Anlage eines Serviceauftrags aus dem Wartungscockpit, wird die Serviceauftragsart aus dem Servicevertrag gezogen.

#### **Service Tätigkeitsgruppe**

In der Service Tätigkeitsgruppe werden einzelne Tätigkeiten (z.B. Kostenvoranschlag, Leihversorgung, Verschrottung) angelegt, die im Laufe einer Reparatur vorkommen können.

Jeder Tätigkeit können unterschiedliche Einstellungen mitgegeben werden, womit es zu mehreren möglichen Tätigkeiten in der Tätigkeitsgruppe kommen kann. Als Beispiel ist der Service selbst zu sehen. Dieser kann abhängig vom Ort der Ausführung unterschiedlich sein.

Die Anwendung reduziert beim Ausführen einer Tätigkeitsgruppe abhängig von den Parametern des aktuellen Servicefalls die möglichen Tätigkeiten.

Spezielle Service Tätigkeitsgruppen können in der Service Einrichtung im Register „Tätigkeit“ hinterlegt werden, damit diese in den Serviceartikelzeilen und Servicezeilen aus dem Menüband heraus gestartet werden können.

„Standard Servicecodes“ (=Tätigkeiten) können jeweils einer Service Tätigkeitsgruppe zugeordnet werden. Durch unterschiedliche Parameter ermittelt das System aus dem Kontext die richtige Tätigkeit oder lässt den Benutzer die manuelle Auswahl aus mehreren passenden Tätigkeiten.

Die Service Tätigkeitsgruppen können in den Service Tätigkeitsvorlagen, im Sinne eines Arbeitsplanes, zusammengestellt werden.

<b>Feld</b>	<b>Beschreibung</b>
Code	Eindeutiger Code wird vergeben.
Beschreibung	Eindeutige Beschreibung wird vergeben.
Service Tätigkeitsart	Jedem Code wird die entsprechende Tätigkeit hinterlegt.
	Folgende Auswahlmöglichkeiten stehen Ihnen zur Verfügung: <ul style="list-style-type: none"> <li>• Reparatur</li> <li>• Wartung</li> <li>• Ersatz</li> <li>• Leihe</li> <li>• Dienstleistung</li> <li>• Verschrottung</li> <li>• Kostenvoranschlag</li> <li>• Logistik</li> </ul>
Artikelnr. benötigt	Hier wird festgelegt, ob für diese Tätigkeit eine Artikelnummer benötigt wird.
	Folgende Auswahlmöglichkeiten stehen Ihnen zur Verfügung: <ul style="list-style-type: none"> <li>• Nein</li> <li>• Optional</li> <li>• Immer</li> </ul>
Text benötigt	Hier wird festgelegt, ob für diese Tätigkeit ein Text benötigt wird, z.B. bei einer Beschriftung.
	Folgende Auswahlmöglichkeiten stehen Ihnen zur Verfügung: <ul style="list-style-type: none"> <li>• Nein</li> <li>• Optional</li> <li>• Immer</li> </ul>

#### Service Tätigkeitsvorlagen

Mithilfe von Service Tätigkeitvorlagen können beliebig viele Vorlagen mit einzelnen Tätigkeitsschritten definiert werden, die im Rahmen von Reparaturen und Wartungen zum Einsatz kommen.

Durch die Verknüpfung mit der Serviceauftragsart und der Serviceartikelgruppe wird die entsprechende Tätigkeitsvorlage automatisch bei Anlage eines Serviceauftrags in die Serviceartikelzeile hinterlegt. Zusätzlich werden die einzelnen Prozessschritte in die Infobox „Service Tätigkeitsgruppen“ aufgelistet.

In den Service Tätigkeitsvorlagen wird ein Code und eine Beschreibung eingegeben.

In der Service Tätigkeitsvorlagenkarte können die einzelnen Service Tätigkeitsgruppen in den Tätigkeitsvorlagenzeilen hinterlegt werden.

#### Service Tätigkeitsvorlage Einrichtung

In der Service Tätigkeitsvorlage Einrichtung können pro Serviceauftragsart verschiedene Serviceartikelgruppencodes mit „Tätigkeit Vorlagencodes“ verknüpft werden.

Wird ein Artikel im Serviceauftrag hinterlegt, wird anhand der Serviceauftragsart und Serviceartikelgruppencode geprüft, ob eine Verknüpfung mit einem „Tätigkeit Vorlagencode“ besteht.

Falls eine Verknüpfung vorhanden ist, wird der Tätigkeit Vorlagencode automatisch in das gleichnamige Feld in der Serviceartikelzeile hinterlegt. Zusätzlich werden die einzelnen Tätigkeitsschritte in der Infobox „Service Tätigkeitsgruppen“ aufgeführt.

#### Standard Servicecodes

In den „Standard Servicecodes“ erhält man eine Übersicht über alle vorh. Standard Service Codes (*Tätigkeiten*) und der entsprechenden Einrichtung im Standard-Servicecodekopf.

Die Einrichtung erfolgt in der Standardservicecodekarte.

Die „Standard Servicecodes“ werden genutzt, um einzelne Tätigkeiten (z.B. *Stücklistenanlage, KV, Leihversorgungen, Rücknahmen, Verschrottung, usw.*) mit gewissen Parametern zu verknüpfen.

„Standard Servicecodes“ (=Tätigkeiten) können jeweils einer Service Tätigkeitsgruppe zugeordnet werden. Durch unterschiedliche Parameter ermittelt das System aus dem Kontext die richtige Tätigkeit oder lässt den Benutzer die manuelle Auswahl aus mehreren passenden Tätigkeiten.

Sobald eine Tätigkeit im Serviceauftrag oder in den Servicezeilen gestartet wird, werden die Felder aus der Einrichtung automatisch vorbelegt.

## Standardservicecodekarte Inforegister Allgemein

Feld	Beschreibung
Serviceauftragsart	<p>In diesem Feld kann eine Serviceauftragsart hinterlegt werden.</p> <p>Wenn an dieser Stelle eine Serviceauftragsart hinterlegt wird, ist dieser Standardservicecode nur bei Serviceaufträgen mit derselben Serviceauftragsart sichtbar.</p>
Service Tätigkeitsgruppe	<p>In diesem Feld wird die entsprechende Service Tätigkeitsgruppe hinterlegt.</p>
Vor Ort Im Haus Beim Kreditor	<p>Die Tätigkeitsorte „Vor Ort, Im Haus, Beim Kreditor“ sind mit dem Serviceauftrag verknüpft und somit für den Prozess relevant.</p> <p>Im Serviceauftrag können nur die Tätigkeiten gestartet werden, die im Standardservicecode den entsprechenden Tätigkeitsort aktiviert haben.</p> <p><b>Beispiel</b></p> <p>Im Standard Servicecode „ERSATZ“ sind die Tätigkeitsorte „Im Haus“ und „Beim Kreditor“ aktiviert. Wird im Serviceauftrag der Tätigkeitsort „Vor Ort“ hinterlegt, kann die Tätigkeit „ERSATZ“ nicht gestartet werden.</p>

Inforegister Zeilen

Feld	Beschreibung
	Das Feld wird genutzt, wenn die „Service Tätigkeitsgruppe = Stückliste“ ist.
Ausgewählt	Wird der Haken in der Stückliste bei Artikeln und/ oder Ressourcen gesetzt, werden die Zeilen mit den Haken in der Stückliste im Serviceangebot und Serviceauftrag automatisch vorbelegt.
Zeile drucken	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.
Bezug	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.  Die Auswahl „Leer“ bedeutet, dass kein Bezug vorhanden ist, z.B. bei Stücklisten.
	Auswahlmöglichkeiten: <ul style="list-style-type: none"> <li>• Leer</li> <li>• Serviceartikel</li> <li>• Ersatzartikel</li> <li>• Leihartikel</li> </ul>
Art	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.
	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.
Nr.	Wenn das Feld „Bezug“ gefüllt ist ( <i>Serviceartikel, Leihartikel oder Ersatzartikel</i> ), wird die Artikelnummer aus der Serviceartikelzeile verwendet. Das Feld „Nr.“ sollte in diesem Fall leer bleiben.
Nullposition	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.
	Wenn ein Wert berechnet werden soll, dann sollte „Nein“ eingetragen werden, ansonsten „Gratis“.
	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.
Ziel Belegart	Beim Ausführen der Servicezeile wird der angegebene Beleg mit den Daten aus der Servicezeile erzeugt.
	Folgende Auswahlmöglichkeiten stehen zur Verfügung: <ul style="list-style-type: none"> <li>• Service Verbrauch</li> <li>• Service Verkauf</li> <li>• Service Angebot</li> <li>• Verkaufsangebot</li> <li>• Verkaufsauftrag</li> <li>• Verkaufsrechnung</li> <li>• Verkaufsgutschrift</li> <li>• Verkaufsrücknahme</li> <li>• Verkaufsauftrag Umlagerung</li> </ul>

Feld	Beschreibung
	<ul style="list-style-type: none"> <li>• Verkaufsrücknahme Umlagerung</li> <li>• Einkaufsanfrage</li> <li>• Einkaufsbestellung</li> <li>• Einkaufsrechnung</li> <li>• Einkaufsgutschrift</li> <li>• Einkaufsrücksendung</li> <li>• Umlagerungsauftrag</li> <li>• Zubuchung Artikelbuchblatt</li> <li>• Abbuchung Artikelbuchblatt</li> <li>• Umlagerung Artikelbuchblatt</li> </ul>
	Das Feld steuert die Richtung des Warenflusses.
	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen. Bei Buchungen, die das Servicegerät selbst ansprechen, sollte die Richtung angegeben werden, damit diese beim Buchen den aktuellen Ort in der Serviceartikelzeile aktualisieren kann.
Richtung	<p>Folgende Auswahlmöglichkeiten stehen Ihnen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Deb -&gt; Serv</li> <li>• Serv -&gt; Deb</li> <li>• Kred -&gt; Serv</li> <li>• Serv -&gt; Kred</li> <li>• Deb -&gt; Kred</li> <li>• Kred -&gt; Deb</li> </ul>
	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen. Es ist nur bei speziellen Fällen notwendig, hier einen abweichenden Wert einzutragen, da zunächst die Werte aus der Einrichtung verwendet werden und durch dieses Feld individuell überschrieben werden können.
Lagerortcode Lagerplatzcode	Für Zeilen mit Bezug „Serviceartikel“ wird generell der Lagerort aus der Serviceartikelzeile verwendet. Bei Bezug „Ersatzartikel oder „Leihartikel“ sind die Werte aus der Einrichtung relevant. Für Zeilen mit Verbrauch ist der entsprechende Lagerort aus der Service Einrichtung maßgeblich. Ebenso bei Zeilen mit Umlagerung von/zum Debitor oder Kreditor.
	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen. Es ist nur bei speziellen Fällen notwendig, hier einen abweichenden Wert einzutragen, da zunächst die Werte aus der Einrichtung verwendet werden und durch dieses Feld individuell überschrieben werden können.
Buchungscode	Für Zeilen mit Bezug „Serviceartikel“ wird generell der Buchungscode aus der Serviceartikelzeile verwendet, für Zeilen mit Verbrauch der Buchungscode für Eigentum aus der Service Einrichtung.



<b>Feld</b>	<b>Beschreibung</b>
	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.
Beleg autom. erstellen	Nachdem eine Tätigkeit eingefügt wurde, wird die erste Servicezeile, in der dieses Feld gesetzt ist, ausgeführt, d.h. der Beleg erzeugt und ggfs. die Artikelverfolgung gesetzt.
Beleg autom. anzeigen	Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.  Wurde zur Servicezeile ein neuer Beleg erzeugt, wird dieser angezeigt, wenn das Feld gesetzt ist.
Reparaturstatus	Wenn hier ein Wert hinterlegt ist, kann durch die Buchung eines in den Zeilen definierten Beleges auch der Reparaturstatuscode aktualisiert werden.
Auftragsart	Die Auftragsart wird für die Einkaufs- und Verkaufsbelege verwendet, die aus dem Serviceauftrag heraus angelegt werden, z.B. VK-Rücknahme.  In den Servicebelegen hat die Auftragsart keine Verwendung.  Der Wert wird in das gleichnamige Feld in der Servicezeile übernommen.  Je nachdem ob die Ziel Belegart den Einkauf, Verkauf, Lager oder Service anspricht, gilt der Bezug zur jeweiligen Auftragsart.

#### Standard-Serviceartikelgruppen-Codes

Mithilfe von den Standard-Serviceartikelgruppen-Codes können eine oder mehrere Stücklisten für die Reparaturen und Wartungen angelegt werden. Artikel und Ressourcen, die für Reparaturen oder Wartungen wichtig sind, werden in die Standard-servicecodekarte hinterlegt. Bei Bedarf, kann bereits die Menge definiert werden.

Die Standard-Serviceartikelgruppen-Codes können Sie über das Menüband der jeweiligen Serviceartikelgruppen aufrufen.

Pro Standard-Serviceartikelgruppen-Code kann ein Servicetyp (Reparatur/Wartung) ausgewählt werden.

Nach der Einrichtung der Serviceartikelgruppe mit entsprechenden Standard-Serviceartikelgruppen-Codes wird die Serviceartikelgruppe im gleichnamigen Feld auf der Artikelkarte hinterlegt.

## Hinweis

Die Serviceauftragsart hat keine Funktion und ist rein informativ.

<b>Feld</b>	<b>Beschreibung</b>
Code	In diesem Feld wird ein Standard Servicecode ausgewählt.
Beschreibung	Nach Auswahl des Standard Servicecodes wird die Beschreibung automatisch befüllt.
	Jedem Standard-Serviceartikelgruppen-Code kann ein Servicetyp mitgegeben werden.
Service Typ	<p>Folgende Optionen stehen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Reparatur</li> <li>• Wartung</li> </ul>
autom. Übergabe an Servicezeile	Das Feld hat aktuell keine Funktion.
Serviceauftragsart	<p>Eine Serviceauftragsart kann hinterlegt werden.</p> <p>Die Serviceauftragsart hat keine Auswirkung und ist rein informativ.</p>

### Standard Serv. Item Gr. Setup

Auf der Seite "Standard Serv. Item Gr. Setup" können Serviceartikelgruppencodes mit Standard Service Codes verknüpft werden.

Wenn keine Verknüpfung hinterlegt ist, gilt die Tätigkeit für alle Serviceartikelgruppencodes.

## Tipp

Es empfiehlt sich, die Stücklisten mit den entsprechenden Serviceartikelgruppencodes zu verknüpfen, da sonst im Serviceauftrag und im Serviceangebot alle vorhandenen Stücklisten angezeigt werden.

### Reparaturstatus Einrichtung

In den Serviceartikelzeilen kann pro Zeile ein Reparaturstatus gesetzt werden. Je nach Einrichtung werden einige Reparaturstatus mit Buchung eines Beleges automatisch umgesetzt. Es besteht jederzeit die Möglichkeit, einen Reparaturstatus manuell zu setzen bzw. zu ändern.

Anhand vom Reparaturstatus ist jederzeit ersichtlich, auf welchem Stand sich die Serviceartikelzeile befindet. Zusätzlich werden die Kacheln auf dem Rollencenter anhand vom Reparaturstatus gefiltert.

Über den Menüpunkt „Status“ in den Serviceartikelzeilen und Servicezeilen sind weitere Status vorhanden, die manuell gesetzt werden können und zum Teil auch eine Funktion haben.

Alle benötigten Reparaturstatus werden in der „Reparaturstatus Einrichtung“ angelegt, indem ein Code und eine Beschreibung hinterlegt wird.

Feld	Beschreibung
	In den Serviceartikelzeilen und in den Servicezeilen unter dem Menüpunkt „Status“ kann der Reparaturstatus manuell geändert werden.
	Damit der richtige Reparaturstatus gesetzt wird, muss pro Reparaturstatuscode der entsprechende Tätigkeitsstatus hinzugefügt werden.
	Zur Auswahl stehen Ihnen folgende Funktionen:
Tätigkeitsstatus	<ul style="list-style-type: none"> <li>• Leer</li> <li>• Auftrag erstellt</li> <li>• WE ungeprüft</li> <li>• WE geprüft</li> <li>• Ware kontrolliert</li> <li>• Befundung ausstehend</li> <li>• Befundung erstellt</li> <li>• Bestellung erstellt</li> <li>• KV gesendet</li> <li>• KV senden</li> <li>• KV nicht notwendig</li> <li>• KV akzeptiert</li> <li>• KV abgelehnt</li> <li>• Service freigegeben</li> <li>• Service begonnen</li> <li>• Service OK</li> <li>• Service nicht OK</li> <li>• WA geprüft</li> <li>• Verschrottet</li> <li>• Beendet</li> </ul>

Weiterführende Informationen finden Sie unter ["Einrichten von Status für Serviceaufträge und Reparaturen"](#).

#### Technik Befundungsgruppen

In der Serviceartikelzeile und Servicezeile kann der Artikel über eine zweistufige Hierarchie befundet werden.

Zur obersten Ebene, der Befundungsgruppe, können jeweils beliebig viele Befundungen hinterlegt werden.

Im Fenster „Technik Befundungsgruppen“ werden alle vorhandenen Befundungsgruppen angelegt, indem ein Code und eine Beschreibung eingegeben wird.

Über den Menüpunkt „Befundungen“ hinterlegen Sie jeweils alle möglichen Ausprägungen, die später zur Verfügung stehen sollen.

#### Technik Befundungen Einrichtung

In der „Technik Befundungen Einrichtung“ werden alle möglichen Defekte pro Befundungsgruppe hinterlegt.

Pro Befundungsgruppe können mehrere Befundungen hinterlegt werden.

#### Hinweis

Aktuell kann eine Befundungsgruppe nicht mit einer Artikelkarte verknüpft werden.

#### Service Vertrag Einrichtung

In der „Service Vertrag Einrichtung“ werden Vereinbarungen, die mit Kunden getroffen wurden, hinterlegt.

Durch die Einrichtungen werden entsprechende Felder im Serviceauftrag automatisch vorbelegt. Somit erhalten Sie alle wichtigen Informationen zu diesem Serviceauftrag auf einem Blick.

Feld	Beschreibung
Vertragsart	<p>In dem Feld wird hinterlegt, um was für eine Vertragsart es sich handelt.</p>
	<p>Zur Auswahl stehen:</p>
	<p><b>Kostenvoranschlag</b> Mit der Auswahl wird der KV-Grenzbetrag im Feld „Grenzbetrag Kostenvoranschlag“ hinterlegt.</p>
	<p><b>Lösungscode</b> Mit der Auswahl kann im Feld „Lösungscode“ ein Wert ausgewählt werden. Der Lösungscode ist frei definierbar und kann z.B. genutzt werden, um zu hinterlegen, dass ein Artikel verschrottet werden kann, wenn eine Reparatur nicht mehr möglich ist.</p> <p>Beide Felder sind in der Serviceartikelzeile ersichtlich.</p>
Debitorennr.	<p>In dem Feld kann eine Debitorennummer hinterlegt werden, für den die Vertragsart zutrifft.</p> <p>Bleibt das Feld leer, trifft die Vertragsart für alle Debitoren zu.</p>
Lief. an Code	<p>Bei Auswahl einer Debitorennummer kann zusätzlich ein "Lief an Code" ausgewählt werden.</p>
Serviceartikelgruppencode	<p>In dem Feld kann ein Serviceartikelgruppencode hinterlegt werden, für den diese Vertragsart zutrifft.</p> <p>Bleibt das Feld leer, trifft die Vertragsart für alle Serviceartikelgruppencode zu.</p>
Serviceauftragsart	<p>In dem Feld kann eine Serviceauftragsart hinterlegt werden, für den diese Vertragsart zutrifft.</p> <p>Bleibt das Feld leer, trifft die Vertragsart für alle Serviceauftragsarten zu.</p>
Grenzbetrag Kostenvoranschlag	<p>In dem Feld kann ein Grenzbetrag hinterlegt werden, wenn die Vertragsart = Kostenvoranschlag ist.</p>
Lösungscode	<p>In dem Feld kann ein Lösungscode hinterlegt werden, wenn die Vertragsart = Lösungscode ist.</p>

**Lösungscodes**

Mithilfe von Lösungen können Absprachen mit Kunden, hinterlegt werden.

Die Lösungscodes werden auf der Seite „Service Vertrag Einrichtung“ hinterlegt. Durch die entsprechende Einrichtung wird der Lösungscodes in den Serviceartikelzeilen automatisch angezeigt.

Im Fenster Lösungen kann bei Bedarf das Feld „Tätigkeit Vorlagencode“ eingeblendet werden. Dies stellt eine zweite Möglichkeit dar, das Feld „Tätigkeit Vorlagencode“ in der Serviceartikelzeile vorzubelegen.

**Service Wareneingang**

Über den Service Wareneingang werden alle Wareneingänge gebucht, die im Rahmen eines technischen Service stattfinden.

Der Service Wareneingang ist in der Lage, jeden Artikel, unabhängig seiner Artikelverfolgung und ob dieser bereits dem System bekannt oder unbekannt ist, einzubuchen. Sendet ein Kunde diverse Artikel zur Reparatur zurück, können alle Artikel über einen Service Wareneingang erfasst werden.

Hierzu rufen Sie sich die Service Wareneingangsliste über die Anwendersuche auf. Über „Neu“ im Menüband können Sie einen neuen Service Wareneingang erstellen.

Im Service Wareneingang und im Serviceauftrag wird die Menge autom. mit dem Wert 1 vorbelegt und kann auch nicht geändert werden. Soll z.B. die gleiche Chargennummer mehrfach repariert werden, so muss pro Menge eine Zeile erfasst werden. Wenn in der Verkaufsreklamation eine Zeile mit z.B. Menge "5" eingebucht wird und aus der Zeile ein Serviceauftrag erstellt wird, werden im Serviceauftrag automatisch fünf Zeilen mit Menge "1" eingefügt.

Sobald ein neuer Service Wareneingang erstellt wird, wird der Lagerort und -platz automatisch aus der Service Einrichtung vorbelegt. Bei Bedarf können die Felder manuell geändert werden. Das Feld „Ext. Belegnr.“ ist ein Pflichtfeld und muss vor Buchung manuell gepflegt werden. Das Feld „Ihre Referenz“ ist kein Pflichtfeld und kann bei Bedarf gepflegt werden.

Die Debitorennummer kann manuell eingegeben oder über den Assist Button ausgewählt werden. Zusätzlich kann ein Lief. an Codes des Debtors ausgewählt werden.

Die Seriennummer, Chargennummer und/oder Artikelnummer können manuell eingegeben oder über den Assist Button ausgewählt werden.

Sobald die Seriennummer, Chargennummer und/oder Artikelnummer erfasst werden, öffnet sich eine Erfassungsmaske. Bereits bei der Eingabe wird geprüft, ob die Nummer im System vorhanden ist. Ist dies der Fall, werden die Felder in der Erfassungsmaske automatisch entsprechend vorbelegt.

Sollte eine Seriennummer bzw. Chargennummer im System unbekannt sein, kann in der Erfassungsmaske die Artikelnummer mit ggf. zugehörigen Variantencode, Ablaufdatum, Herstelldatum und Debitor für die Einbuchung hinterlegt werden.

Sollte der Artikel laut der hinterlegten Artikelverfolgung Varianten-, Ablauf- und/oder Herstelldatum pflichtig sein, wird dies systemseitig erkannt und die entsprechenden Felder in der Erfassungsmaske sind editierbar. Andernfalls sind diese Felder grau hinterlegt und somit nicht editierbar.

Sobald die Eingabe mit „OK“ bestätigt werden, wird die Zeile automatisch in das Inforegister „Geräteeingangszeilen“ geschrieben.

Mit Buchung des Service Wareneingangs wird automatisch eine Verkaufsreklamation gebucht und ein neuer Serviceauftrag erstellt.

Zudem wird in der Call-Nr. die gebuchte Verkaufsreklamation automatisch hinterlegt und ist somit jederzeit ersichtlich.

#### Hinweis

Der Service Wareneingang erkennt aktuell noch nicht, ob ein Artikel betriebsstundenpflichtig ist. Zusätzlich erfolgt aktuell noch keine Prüfung auf bereits vorhandene Verkaufsreklamationen und/ oder Serviceaufträge.

#### Verkaufsreklamation aus einem Serviceauftrag erstellen

Im Serviceauftrag kann über die Funktion „VK-Rücknahme erstellen“ automatisch eine Verkaufsrücksendung auf Basis der Serviceauftragsartikelzeilen erstellt werden.

#### Infobox VK-Zeilendetails in Verkaufsreklamation

In der Verkaufsreklamation ist pro Verkaufszeile in der Infobox „VK-Zeilendetails“ durch das Feld „Anzahl Serviceartikelzeilen“ ersichtlich, wie viele offene Serviceaufträge für den Debitor mit diesem Artikel bestehen.

Auf die Anzahl im Feld „Anzahl Serviceartikelzeilen“ kann jederzeit abgetaucht werden. Bei Bedarf kann auch der Serviceauftrag geöffnet werden.

#### Hinweis

Im Feld „Anzahl Serviceartikelzeilen“ wird auf der Debitorennummer und Artikelnummer gefiltert. Es findet keine Filterung auf der Artikelverfolgung statt.

#### Artikelverfolgung in Serviceauftragszeilen

Der Serviceartikel wurde um die Chargennummer erweitert. Wenn aufgrund der Serviceartikelgruppe automatisch beim Verkauf ein Serviceartikel erstellt wird (*Serviceartikel erstellen= Ja*), dann wird die Chargennummer ebenfalls mitberücksichtigt.

Auf der Serviceartikelkarte kann über den Assit Button [...] am Feld „Chargennummer“ die Chargennr.-Informationsliste geöffnet werden.

#### Hinweis

Zurzeit kann einem Serviceartikel nur eine existierende Seriennummer oder eine existierende Chargennummer zugewiesen werden.

In der Serviceartikelzeile wird nicht zwischen Seriennummer und Chargennummer unterschieden.

Die Artikelverfolgung wird in das Feld „Artikelverfolgungsnr.“ in der Serviceartikelzeile hinterlegt.

Das System erkennt automatisch, ob es sich um einen Artikel mit einer Serien- oder Chargennummer handelt.

In der Serviceartikelzeile kann über die Funktion „Zeile“ die Serieninformationskarte bzw. Chargeninformationskarte geöffnet werden.

**Serviceauftrag****Inforegister Allgemein**

Auf dem Inforegister Allgemein (*Serviceauftragskopf*) wurde das Feld „Tätigkeitsort“ hinzugefügt. Das Feld füllt sich automatisch bei Anlage eines Serviceauftrags aus der Service Einrichtung und kann im Serviceauftrag manuell umgestellt werden.

Der Tätigkeitsort dient zur Vorbelegung des gleichnamigen Feldes in der Serviceartikelzeile.

**Hinweis**

Wird der Tätigkeitsort im Kopf geändert, werden die Zeilen nicht aktualisiert.



**Inforegister Zeilen**

In den Serviceartikelzeilen wurden folgende Felder ergänzt:

Feld	Beschreibung
Tätigkeit Vorlagencode	<p>Über die Serviceauftragsart und den Serviceartikelgruppencode lassen sich die Tätigkeitsvorlagen automatisch in die Serviceartikelzeile einsteuern.</p> <p>Der Tätigkeit Vorlagencode kann jederzeit manuell hinzugefügt oder geändert werden.</p> <p>Durch das Einfügen einer Tätigkeitsvorlage werden die einzelnen Tätigkeiten in die Infobox „Service Tätigkeitsgruppen“ hinzugefügt.</p>
Zustand	<p>Bei Anlage eines Serviceauftrags wird das Feld automatisch auf „Service ausstehend“ gesetzt.</p> <p>Das Feld wird durch einige Tätigkeiten und Status automatisch umgestellt und kann zusätzlich manuell geändert werden.</p> <p>Es dient als Information und zur Steuerung von Abläufen.</p> <p>Folgende Auswahlmöglichkeiten stehen Ihnen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Service ausstehend</li> <li>• Service durchgeführt</li> <li>• Service nicht möglich</li> <li>• Verschrottet</li> </ul>
Tätigkeitsort	<p>Das Feld wird durch das gleichnamige Feld im Servicekopf vorbelegt.</p> <p>Der Tätigkeitsort sagt aus, wo die Reparatur durchgeführt werden soll.</p> <p>Folgende Auswahlmöglichkeiten stehen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Vor Ort</li> <li>• Im Haus</li> <li>• Beim Kreditor</li> </ul>
Aktueller Ort	<p>Beim Hinzufügen eines Artikels wird das Feld autom. mit dem Wert aus der Service Einrichtung vorbelegt und kann bei Bedarf manuell geändert werden.</p> <p>Der aktuelle Ort sagt aus, wo sich der Artikel aktuell befindet. Das Feld wird automatisch aktualisiert, wenn z.B. der Artikel an einen Kreditor zur Reparatur versendet wird.</p> <p>Folgende Auswahlmöglichkeiten stehen zur Ihnen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Vor Ort</li> </ul>

Feld	Beschreibung
	<ul style="list-style-type: none"> <li>• Im Haus</li> <li>• Beim Kreditor</li> </ul>
Reparaturstatuscode Reparaturstatus Geändert am/um	<p>Das Feld „Reparaturstatuscode“ ist ein Standardfeld. Dieses wurde um eine Historientabelle erweitert, die bei jedem Statuswechsel automatisch gefüllt wird.</p> <p>Im Feld „Reparaturstatus geändert am/um“ ist immer der letzte Änderungszeitpunkt zu sehen. Beim Klick auf das Feld wird die Historie angezeigt.</p>
Artikelverfolgungsnr. Ersatz Artikelverfolgungsnr. Leihe Artikelverfolgungsnr.	<p>Der Begriff „Artikelverfolgung“ steht für die Seriennummer oder die Chargennummer, je nach Konfiguration des aktuellen Artikels.</p> <p>Das Feld „Artikelverfolgungsnr.“ enthält den Wert der jeweiligen Artikelverfolgungsnummer des Artikels.</p> <p>Das Feld „Ersatz Artikelverfolgungsnr.“ enthält den Wert eines Ersatzartikels.</p> <p>Das Feld „Leihe Artikelverfolgungsnr.“ enthält den Wert einer Leihversorgung.</p> <p>Die Felder sind in beiden Richtungen aktiv. Ist eine der Artikelverfolgung bereits im Vorfeld bekannt, so kann diese entsprechend eingetragen werden. Die weiteren Prozesse verwenden immer deren Inhalt.</p> <p>Wird eine Artikelverfolgung erst im Laufe des Prozesses in der Logistik erfasst, so wird diese beim Buchen eines über die Call Nummer verknüpften Beleges automatisch an dieser Stelle eingetragen und entsprechend wieder in den Folgeprozessen verwendet.</p> <p>Handelt es sich bei der Artikelverfolgung um eine Seriennummer, so wird beim Setzen des Feldes geprüft, ob in der Seriennr.-Informationskarte ein Garantiedatum für die Reparatur angegeben ist. Wenn das "Garantiedatum Reparatur" nicht nach dem Auftragsdatum liegt, wird das Feld "Garantie" gesetzt.</p>
Grenzbetrag Kostenvoranschlag	<p>Der Grenzbetrag kommt aus der „Service Vertrag Einrichtung“ und kann manuell geändert werden.</p>
Lösungscode	<p>Der Lösungscode kommt aus der „Service Vertrag Einrichtung“ und kann manuell geändert werden.</p>
Kreditorennr. Kred.-Artikelnr.	<p>Beim Hinzufügen eines Artikels werden die Felder „Kreditorennr.“ und „Kred.-Artikelnr.“ automatisch mit dem Wert aus der Artikelkarte vorbelegt und können bei Bedarf manuell geändert werden.</p>

**Feld****Beschreibung**

Die Felder werden benötigt, wenn ein Artikel an einen Kreditor versendet wird.

**Menüband Serviceartikelzeilen****Zubehör**

Über das Menüband „Zeilen > Zeile“ der Serviceartikelzeile kann über den Menüpunkt „Zubehör“ das erfasste Zubehör aus dem Service Wareneingang einsehen werden.

**Seriennr./Chargennr. Infokarte**

Mit den Menüpunkten „Seriennr. Infokarte“ und „Chargennr. Infokarte“ kann jederzeit in die entsprechende Serien- bzw. Chargeninformationskarte abgetaucht werden.

**Status setzen**

Die Aktionen im Bereich "Status" setzen den zugehörigen Reparaturstatus in den ausgewählten Zeilen.

Folgende Status stehen Ihnen zur Auswahl:

- Geprüft
- Befundung erstellt
- KV gesendet
- KV senden
- KV akzeptiert
- KV abgelehnt
- Service freigegeben
- Service begonnen
- Service OK

Mit dem Reparaturstatus „Service OK“ ändert sich zusätzlich das Feld „Service Zustand“ auf „Durchgeführt“.

Mit dem Reparaturstatus „Service nicht OK“ ändert sich zusätzlich das Feld „Service Zustand“ auf „Nicht möglich“.

Wenn der Reparaturstatus auf „KV gesendet“ geändert wird, erfolgt eine Prüfung des Kostenvoranschlagsbetrags und der Kostenvoranschlagsgrenze. Liegt der Betrag unterhalb der Grenze, wird automatisch der Status auf „KV nicht notwendig“ gesetzt. Zusätzlich wird die Angebotszeile in der Servicezeile auf „Erledigt = Ja“ gesetzt.

**Tätigkeit**

Die Aktionen im Bereich "Tätigkeit" sind als Schnellzugriff auf die wichtigsten Servicetätigkeiten zu verstehen. Es werden jeweils die in der Service Einrichtung definierten Tätigkeitsgruppen ausgeführt.

Die Aktion „Service erstellen“ kann möglicherweise vom Ort der Reparatur abhängig sein. Wenn es sich um eine Reparatur beim Kreditor handelt, sollte zuvor eine EK-Rücksendung ausgelöst worden sein.

Folgende Tätigkeiten stehen zur Auswahl:

- VK-Rücknahme erstellen
- EK-Rücksendung erstellen
- KV erstellen
- Service erstellen
- VK-Lieferung erstellen
- Bearbeitung erstellen

Auf dieser Ebene ist es möglich, Tätigkeiten für mehrere Serviceartikelzeilen gleichzeitig auszuführen. Dazu müssen zuvor die gewünschten Zeilen ausgewählt werden.

#### Befundungscodes

Über das Menüband „Zeilen – Service“ der Serviceartikelzeile können über den Menüpunkt „Befundungscodes“ die Befundungen der Serviceartikelzeile eingesehen und ausgewählt werden.

#### Servicezeilen

Öffnet die Servicezeilen-Karte.

#### Zeilen

Folgende Felder wurden in den Zeilen hinzugefügt:

<b>Feld</b>	<b>Beschreibung</b>
Zeile drucken	Gibt an, ob die Zeile in gedruckten Belegen ausgegeben wird.
Service Tätigkeitsschritt	Der Service Tätigkeitsschritt wird zum einen dazu genutzt, die Tätigkeiten zu sortieren und zum anderen, um innerhalb einer Serviceartikelzeile eindeutige Tätigkeitsnummern zu vergeben.
Bezug	<p>Das Feld steuert bei Buchungen, welche Daten auf der Serviceartikelzeile aktualisiert werden.</p> <p><b>Werte:</b></p> <ul style="list-style-type: none"> <li>• Leer</li> <li>• Serviceartikel</li> <li>• Ersatzartikel</li> <li>• Leihartikel</li> </ul>
Ziel Belegart	<p>Beim Ausführen der Servicezeile wird der angegebene Beleg mit den Daten aus der Servicezeile erzeugt.</p> <p><b>Werte:</b></p> <ul style="list-style-type: none"> <li>• Service Verbrauch</li> <li>• Service Verkauf</li> <li>• Service Angebot</li> <li>• Verkaufsangebot</li> <li>• Verkaufsauftrag</li> <li>• Verkaufsrechnung</li> <li>• Verkaufsgutschrift</li> <li>• Verkaufsrücknahme</li> <li>• Verkaufsauftrag Umlagerung</li> <li>• Verkaufsrücknahme Umlagerung</li> <li>• Einkaufsanfrage</li> <li>• Einkaufsbestellung</li> <li>• Einkaufsrechnung</li> <li>• Einkaufsgutschrift</li> <li>• Einkaufsrücksendung</li> <li>• Umlagerungsauftrag</li> <li>• Zubuchung Artikelbuchblatt</li> <li>• Abbuchung Artikelbuchblatt</li> <li>• Umlagerung Artikelbuchblatt</li> </ul>
Richtung	<p>Bei Buchungen, die den Serviceartikel selbst ansprechen, sollte die Richtung angegeben werden, damit diese beim Buchen den aktuellen Ort in der Serviceartikelzeile aktualisieren kann.</p> <p>Die Richtung kann bereits in den Standard Servicecodes vorbelegt werden.</p>
Ziel Belegnr.	<p>Wird ein Zielbeleg erzeugt, wird dessen Belegnummer hier eingetragen. Beim Löschen des Beleges wird die Nummer automatisch entfernt.</p>

<b>Feld</b>	<b>Beschreibung</b>
	Das Feld sollte nur in Ausnahmefällen und gezielt manuell geändert werden.
Ziel geb. Belegnr.	<p>Wird ein Zielbeleg gebucht, wird dessen gebuchte Belegnummer hier eingetragen.</p> <p>Das Feld sollte nur in Ausnahmefällen und gezielt manuell geändert werden.</p>
Artikelverfolgungsnr.	Das Feld wird aus der Serviceartikelzeile vorbelegt und bei der Erzeugung von Zielbelegen verwendet.
Service Kreditorennr.	Der Wert wird mit der Kreditorennummer aus der Artikelkarte vorbelegt und muss beim Erzeugen von Einkaufsbelegen gefüllt sein.
Erledigt	Sobald eine Zeile gebucht wird, wird automatisch ein Haken im Feld gesetzt.
Auftragsart	Der Wert wird als Vorgabe für zu erzeugende Belege verwendet. Je nachdem ob die Ziel Belegart den Einkauf, Verkauf, Lager oder Service anspricht, gilt der Bezug zur jeweiligen Auftragsart.
Beleg autom. erstellen	Nachdem eine Tätigkeit eingefügt wurde, wird die erste Servicezeile, in der dieses Feld gesetzt ist, ausgeführt. D.h. der wird Beleg erzeugt und ggfs. die Artikelverfolgung gesetzt.
Beleg autom. anzeigen	Wurde zur Servicezeile ein neuer Beleg erzeugt, wird dieser angezeigt, wenn das Feld gesetzt ist.
	Dieses Optionsfeld klassifiziert die Tätigkeit.
Service Tätigkeitsart	<p><b>Werte:</b></p> <ul style="list-style-type: none"> <li>• Reparatur</li> <li>• Wartung</li> <li>• Ersatz</li> <li>• Leihe</li> <li>• Dienstleistung</li> <li>• Verschrottung</li> <li>• Kostenvoranschlag</li> <li>• Logistik</li> </ul>

#### Hinweis

Eine Servicezeile ohne Bezug kann gelöscht werden, auch wenn eine Belegnummer enthalten ist.

Funktionen im Menüband Status



Diese Aktionen setzen den zugehörigen Reparaturstatus in den ausgewählten Zeilen.

Folgende Status stehen Ihnen zur Auswahl:

- Geprüft
- KV akzeptiert
- KV abgelehnt
- Service freigegeben
- Service begonnen
- Service OK
- Service nicht OK

Mit dem Reparaturstatus „Service OK“ ändert sich zusätzlich das Feld „Service Zustand“ auf „Durchgeführt“.

Mit dem Reparaturstatus „Service nicht OK“ ändert sich zusätzlich das Feld „Service Zustand“ auf „Nicht möglich“.

### Tätigkeit

Diese Aktionen sind als Schnellzugriff auf die wichtigsten Servicetätigkeiten zu verstehen. Es werden jeweils die in der Service Einrichtung definierten Tätigkeitsgruppen ausgeführt.

Die Aktion „Service erstellen“ kann möglicherweise vom Ort der Reparatur abhängig sein. Wenn es sich um eine Reparatur beim Kreditor handelt, sollte zuvor eine EK-Rücksendung ausgelöst worden sein.

Die Aktion „Zeile starten“ erzeugt den „Ziel Beleg“ in der aktuellen Zeile, wenn noch nicht vorhanden. Ist der Ziel Beleg ein Service Verkauf oder Service Verbrauch, ist der Beleg bereits vorhanden und es wird ggfs. die Artikelverfolgung aus der Serviceartikelzeile an die Servicezeile übertragen. Final wird in jedem Fall die (erzeugte) Belegnummer eingetragen.

Die Aktion „Zeile beenden“ beendet die Zeile, egal, ob der Beleg gebucht wurde oder nicht.

Diese Aktion darf nur in besonderen Fällen ausgeführt werden.

### Service

Über das Menüband „Zeilen > Service“ der Serviceartikelzeile können über den Menüpunkt „Befundungscodes“ die Befundungen der Serviceartikelzeile eingesehen und ausgewählt werden.

### Buchung

Über die Funktion „Verbrauch buchen“ werden generell alle Zeilen ohne Bezug zum Service-/Leih-/Ersatzartikel gebucht, egal ob die Ziel Belegart „Service Verkauf“ oder „Service Verbrauch“ ist.

Über „Verkauf buchen“ werden alle Zeilen gebucht, die einen Wert zu fakturieren aufweisen und die Zeilen Belegart „Service Verkauf“ ist.

### Infoboxen

Die Infoboxen sind identisch wie die im Serviceauftrag.

#### Infoboxen Serviceauftrag

### Serviceartikelzeile Status

Die Infobox „Serviceartikelzeile Status“ dient als Informationssammler, um sich über die markierte Zeile einen schnellen Überblick zu verschaffen.

In der Infobox werden folgende Informationen angezeigt:

- Call Nr. und Call Zeile
- Tätigkeitsort
- Aktueller Ort
- Reparaturstatus
- Grenzbetrag KV

### Service Tätigkeitsgruppen

Die Infobox „Service Tätigkeitsgruppen“ ist mit der aktuellen Serviceartikelzeile verknüpft. Die zur Serviceartikelzeile gehörigen „Service Tätigkeitsgruppen“ können automatisch über das Feld „Tätigkeit Vorlagencode“ oder manuell eingesteuert werden.

Aus der Infobox heraus können Tätigkeiten neu hinzugefügt, gelöscht und gestartet werden.

Um eine Tätigkeit hinzuzufügen, zu löschen oder zu starten, markieren Sie die entsprechende Tätigkeit und klicken auf „Service Tätigkeitsgruppen“. Es öffnet sich ein kleines Fenster, in dem Sie auswählen können, welche Funktion (*Neu, Löschen, Ausführen*) durchgeführt werden soll.

Sobald eine Tätigkeit ausgeführt wurde, wird diese Tätigkeit automatisch grün markiert.

<b>Funktion</b>	<b>Beschreibung</b>
Neu	Diese Aktion zeigt die Liste aller Tätigkeitsgruppen an, aus welcher eine Gruppe ausgewählt werden kann. Neue Gruppen werden nie automatisch ausgeführt.
Löschen	Löscht die angewählte Tätigkeitsgruppe.
Ausführen	Wählt die konkrete Tätigkeit, abhängig von der aktuellen Konstellation, aus, fügt diese in die Liste der Servicetätigkeiten ein und führt diese sofort aus.

### Service Tätigkeiten

Die Infobox „Service Tätigkeiten“ ist immer mit der aktuellen Serviceartikelzeile verknüpft und zeigt alle Tätigkeiten an, die für die markierte Zeile erstellt, gebucht und hinzugefügt wurden. Anhand der Farben ist der Stand der Tätigkeit erkennbar.

<b>Farbe</b>	<b>Beschreibung</b>
Grün	Beleg wurde bereits gebucht.
Rot	Beleg wurde erstellt, aber noch nicht gebucht.
Schwarz	Beleg wurde in die Infobox hinzugefügt, aber noch nicht erstellt.

Aus der Infobox heraus können Tätigkeiten neu hinzugefügt, gelöscht und gestartet werden.

Um eine Tätigkeit hinzuzufügen, zu löschen oder zu starten, markieren Sie die entsprechende Tätigkeit und klicken auf „Service Tätigkeiten“. Es öffnet sich ein kleines Fenster, in dem Sie auswählen können, welche Funktion (*Neu, Löschen, Ausführen*) durchgeführt werden soll.

Sobald eine Tätigkeit ausgeführt wurde, wird diese Tätigkeit automatisch grün markiert.

#### Call Belege

Jeder Beleg, der aus dem Serviceauftrag heraus gestartet und gebucht wurde, wird automatisch in den Call abgelegt. Mit Klick auf die Zahl unter dem Punkt „Anzahl Datensätze“ kann der gewünschte Beleg geöffnet werden.

#### Hinweis

Die Belege sind nicht Zeilen, sondern auf dem gesamten Serviceauftrag bezogen.

#### Serviceangebot

##### Inforegister Allgemein

Bei Erstellung eines Serviceangebots aus einem Serviceauftrag, wird die Serviceauftragsart (*Feld: "Serviceauftragsart"*) und die Call Nummer (*Feld: "Call Nr."*) aus dem Serviceauftrag in das Serviceangebot mitgegeben.

##### Inforegister Zeilen

Bei Erstellung eines Serviceangebots aus einem Serviceauftrag, werden die Zeilen mit den entsprechenden Werten in das Serviceangebot übernommen.

#### Serviceangebotszeilen

Folgende Felder wurden in den Serviceangebotszeilen ergänzt:

<b>Feld</b>	<b>Beschreibung</b>
Service Tätigkeitsschritt	Der Service Tätigkeitsschritt wird zum einen dazu genutzt, die Tätigkeiten zu sortieren und zum anderen, um innerhalb einer Serviceartikelzeile eindeutige Tätigkeitsnummern zu vergeben.
Ziel Belegart	<p>Die Zielbelegart wird automatisch aus der Stückliste eingefügt. Die erste Zeile ist die Reparaturzeile. Die Zeile hat die Ziel Belegart „Service Angebot“. Die weiteren Zeilen können die Ziel Belegart „Service Verkauf“ und/oder „Service Verbrauch“ haben.</p> <p>Die Ziel Belegart kann manuell geändert werden.</p>
Ziel Belegnr.	<p>In dem Feld wird automatisch die Ziel Belegnummer eingetragen, wenn die Artikel und Ressourcen aus der Stückliste eingefügt werden.</p> <p>Werden die Artikel und Ressourcen manuell eingegeben/ ausgewählt, muss die Ziel Belegnummer manuell eingefügt werden. Hierzu kann die Funktion „Alle Zeilen in KV“ genutzt werden.</p> <p>Die Ziel Belegnummer ist die Serviceauftragsnummer.</p>
Artikelverfolgung	In dem Feld wird die Artikelverfolgung des zu reparierenden Artikels automatisch aus dem Serviceauftrag in die Serviceangebotszeilen hinterlegt.

#### Funktionen im Menüband Status

Diese Aktionen setzen den zugehörigen Reparaturstatus in den ausgewählten Zeilen.

Folgende Status stehen Ihnen zur Auswahl:

- Befundung erstellt
- KV gesendet
- KV senden
- KV akzeptiert
- KV abgelehnt

Wenn der Reparaturstatus auf „KV gesendet“ geändert wird, erfolgt eine Prüfung des Kostenvoranschlagsbetrags und der Kostenvoranschlagsgrenze. Liegt der Betrag unterhalb der Grenze, wird automatisch der Status auf „KV nicht notwendig“ gesetzt. Zusätzlich wird die Angebotszeile in der Servicezeile auf „Erledigt = Ja“ gesetzt.

Zusätzlich sind weitere Funktionen vorhanden:

<b>Funktion</b>	<b>Beschreibung</b>
	Sobald Artikel und Ressourcen über eine Stückliste in die Serviceangebotszeilen hinzugefügt werden, wird automatisch das Feld „Ziel Belegnr.“ befüllt.
Alle Zeilen in KV	Über die Funktion „Keine Zeilen in KV“ können alle Ziel Belegnummern gelöscht werden ( <i>außer vom zu reparierenden Artikel</i> ).  Mit der Funktion „Alle Zeilen in KV“ wird in allen Positionen die Ziel Belegnummer eingetragen.
Keine Zeilen in KV	In allen Serviceangebotszeilen, außer vom zu reparierenden Artikel, wird die Ziel Belegnummer gelöscht.  Durch das Löschen der Ziel Belegnummer können die Zeilen nicht in den Serviceauftrag übernommen werden.
Verbrauch summieren	Alle Artikel in der Serviceangebotszeile, die die Ziel Belegart = „Service Verbrauch“ gesetzt haben, können mit der Funktion „Verbrauch summieren“ auf die erste Zeile mit der Tätigkeitsart „Service Angebot“ raufgerechnet werden, sodass eine Gesamtposition für die Reparatur entsteht.  In den einzelnen Positionen wird automatisch ein Rabatt von 100% und die Nullposition „Gratis“ gesetzt.

#### Tätigkeit

Über das Menüband „Aktionen - Tätigkeit“ der Serviceangebotszeile kann die Stückliste geöffnet werden.

#### Stückliste

In der Stückliste können die benötigten Artikel und Ressourcen ausgewählt werden, indem ein Haken im Feld „Ausgewählt“ gesetzt wird. Zusätzlich muss die benötigte Menge eingegeben werden. Ist der Artikel variantenpflichtig, kann die entsprechende Variante ausgewählt werden.

Bei Bedarf kann die Menge bereits in der Stückliste vorbelegt werden. Durch die Vorbelegung der Menge wird automatisch der Haken „Ausgewählt“ gesetzt.

Über den Menüpunkt „Select All“ werden alle Zeilen markiert. Über den Menüpunkt „Deselect All“ wird die Markierung in allen Zeilen entfernt.

#### Befundungscodes

Über das Menüband „Zeilen > Service“ der Serviceartikelzeile können über den Menüpunkt „Befundungscodes“ die Befundungen der Serviceartikelzeile eingesehen und ausgewählt werden.

## Haupttätigkeiten

### Logistische Bewegungen

Die logistischen Bewegungen betreffen im Normalfall die, für den Service bestimmte Artikel.

Dazu wird in den „Standard Servicecodezeilen“ die Art = „Artikel“ und als Bezug = „Serviceartikel“ eingetragen.

Es wird automatisch der Buchungscode der Serviceartikelzeile verwendet. Abweichende Werte erfordern eine Vorgabe im Feld „Buchungscode“ in der „Standard Servicecodezeile“.

Logistische Umbuchungen beinhalten keinen Wertefluss. Deshalb sollte das Feld „Nullposition“ den Wert „Gratis“ enthalten.

Ist das Feld „Richtung“ eingetragen, kann durch die Buchung der logistischen Bewegung der aktuelle Ort des Serviceartikels aktualisiert werden.

Wenn gewollt, kann durch die Buchung auch der Reparaturstatuscode aktualisiert werden.

### Typische Belegarten wären:

- die Verkaufsrücknahme für die Einbuchung des Artikels des Debitors und
- der Serviceauftrag selbst für die Lieferung zurück an den Debitor möglich. Alternativ wäre auch ein Verkaufsauftrag möglich.

### Bei Fremdreparatur wären

- die Einkaufsrücksendung für den Versand des Artikels zum Kreditor und
- die Einkaufsbestellung für den Rückweg des Artikels vom Kreditor zurück ins Haus möglich. Die Einkaufsbestellung kann jedoch auch als Servicetätigkeit angesehen werden und unter dieser Tätigkeitsgruppe aufgenommen werden.

### Leihversorgungen

Bei der Leihe handelt es sich ebenfalls um eine logistische Bewegung, aber es wird nicht der Serviceartikel, sondern ein zusätzlicher Artikel bewegt, der sich im Regelfall im Eigentum befindet.

Der Bezug in der Standardservicezeile muss deswegen „Leihartikel“ sein.

Eine Leihe besteht im Regelfall mehr als einer Warenbewegung, weswegen eine Vorlage auch beide Richtungen des Leihartikels enthalten kann. Alternativ wäre es jedoch auch möglich, für beide Wege getrennte Vorlagen zu erzeugen.

Der Lagerortcode in den „Standard Servicecodezeilen“ hat höchste Priorität, womit es hier möglich ist einen abweichenden Lagerort für die Leihgeräte zu hinterlegen.

Soll eine Leihe lt. Aufwand abgerechnet werden, kann dafür bereits ein Platzhalter, z.B. in Form einer Ressourcenzeile konfiguriert werden.

### Serviceangebot/ Kostenvoranschlag

Der Kostenvoranschlag (*d.h. die Befundung ergänzt um Preisangaben*) wird in Form eines Serviceangebots aus dem Serviceauftrag heraus, erstellt.

Im Serviceangebot können die Befundungscodes hinterlegt werden. Zudem können die geplanten Verbräuche und Verkäufe eingetragen werden. Dazu ist es möglich, die Servicestückliste abzurufen.

Der Bezug in der Standardservicezeile muss „Serviceartikel“ sein. Die „Ziel Belegart“ muss „Service Angebot“ sein. Da der Kostenvoranschlag Preise liefert, sollte das Feld "Nullposition" auf „Nein“ stehen.

#### Service

Bei der Servicetätigkeit gibt es die meisten Abhängigkeiten. Deshalb wird es sicher mehrere Vorlagen zur Tätigkeitsart Reparatur bzw. Wartung geben.

Grundsätzlich wird der Service für jeden Tätigkeitsort (*Vor Ort, Im Haus, Beim Kreditor*) unterschiedlich ablaufen. Zudem kann auch die Serviceauftragsart eine Rolle spielen.

Typische Fälle wären:

- Auswahl der Stückliste
- Auswahl der Stückliste aus Befundung bzw. akzeptiertem Kostenvoranschlag
- Erstellen einer Bestellung beim Kreditor

#### Verschrottung

Eine zweistufige Verschrottung erfordert in der „Ziel Belegart“ eine „Artikeljournal Umlagerung“. D.h. es erfolgt zunächst eine Umlagerung auf einen speziellen „Schrottlagerort“ laut Service Einrichtung und im zweiten Schritt eine manuelle Abbuchung von diesem.

Der Bezug in der Standardservicezeile muss „Serviceartikel“ sein.

Eine einstufige Verschrottung erfordert in der „Ziel Belegart“ eine „Artikeljournal Abbuchung“.

#### Ersatzartikel

Ersatz ist in der Regel eine Lieferung von Neuware und somit als Umlaufvermögen auszuweisen.

Über die Vorlage kann entschieden werden, ob der Ersatz den üblichen Beschaffungsweg geht, also wenn vorhanden vom Lager, ansonsten über die interne Wiederbeschaffungslogik, oder direkt beim Kreditor bestellt wird.

Der Bezug in der Standardservicezeile muss „Ersatzartikel“ sein.

#### Dienstleistungen

Es ist möglich, im Prozess Dienstleistungen wie z.B. Qualitätssicherung, Beschriftung, Sterilisation usw. zu integrieren. Dies erfolgt mit Hilfe von Ressourcen.

#### Service Call (Informationssammler)

Beim Erstellen eines Serviceauftrags wird automatisch ein Service Call angelegt und entsprechend klassifiziert. Die Call Klassifizierung wird aus der Serviceauftragsart entnommen und zeigt an, ob es sich um eine Reparatur oder Wartung handelt. Pro Serviceauftragsart kann im Feld „Serviceauftragstyp“ eine Call Klassifizierung (Reparatur oder Wartung) hinterlegt werden. Bleibt das Feld „leer“, wird bei Anlage eines

Serviceauftrags automatisch die Call Klassifizierung „Reparatur“ hinterlegt. Bei Änderung einer Serviceauftragsart, z.B. von Reparatur auf Wartung, wird die Call Klassifizierung entsprechend geändert.

Die Call-Nummer wird im Serviceauftragskopf und in den Serviceauftragszeilen automatisch hinterlegt. Über die Debitorenkarte, das Marketing Cockpit und auch die Serieninformationsliste kann über die Funktion „Calls“ der Call geöffnet werden.

Jede Servicezeile aus einem Serviceauftrag wird mit allen Informationen (*wie z.B. Artikelnummer, Beschreibung, Seriennummer, Chargennummer, Variantencode, Menge*) automatisch in den Service Call hinterlegt. Zusätzlich wird jeder erstellte und gebuchte Beleg in den Service Call zurückgeschrieben.

Mithilfe des Service Calls können Sie sich jederzeit einen schnellen Überblick über den Serviceauftrag verschaffen und bei Bedarf, direkt aus dem Service Call heraus eine Wiedervorlage erstellen, die Debitorenkarte oder einen erstellten bzw. gebuchten Beleg öffnen.

Damit ein Service Call automatisch angelegt werden kann, muss in der Service Einrichtung die Nummernserie des Calls im Feld „Service Call Nummern“ hinterlegt werden.

Wird aus einem Serviceauftrag ein weiterer Beleg erstellt, z.B. Serviceangebot, Verkaufsauftrag oder Einkaufsreklamation, wird die Call Nr. automatisch in den erstellten Belegen mitgegeben. Somit ist zum einen erkennbar, ob ein Einkaufs- oder Verkaufsbeleg zu einem Serviceauftrag gehört und welche Belege miteinander verknüpft sind.

#### Hinweis

Der Call dient als „Informationssammler“ und kann nicht bearbeitet werden.

#### **SN/CN-Informationskarte mit Serviceartikel verbinden**

Pro Serviceartikelgruppe kann ein Haken im Feld „Serviceartikel erstellen“ gesetzt werden. Damit eine Verknüpfung zwischen Artikel und Serviceartikelgruppe entsteht, muss die Serviceartikelgruppe auf der jeweiligen Artikelkarte im gleichnamigen Feld hinterlegt werden.

Beim Verkauf eines Artikels wird geprüft, ob auf der Artikelkarte eine Serviceartikelgruppe mit dem Kenner „Serviceartikel erstellen“ vorhanden ist. Falls ja, wird mit Buchung eines Lieferscheins automatisch für den betroffenen Artikel ein Serviceartikel erstellt.

Ist der verkaufte Artikel Serien- oder Chargennummer geführt, wird die Nummer automatisch in den Serviceartikel geschrieben.

Hierdurch entsteht eine Verknüpfung zwischen dem Serviceartikel und der Serien- bzw. Chargeninformationskarte. Über den Drill Down im Serviceartikel kann die Serien- bzw. Chargeninformationskarte geöffnet werden.

Befindet sich der Serviceartikel in einem Serviceauftrag, wird automatisch auch die Serien- bzw. Chargennummer hinterlegt. Auch aus dem Serviceauftrag ist es jederzeit möglich, die entsprechende Serien- bzw. Chargeninformationskarte zu öffnen.

Wird im Serviceauftrag ein Serviceartikel ausgewählt, werden die Felder „Artikelnummer, Seriennummer, Chargennummer“ automatisch befüllt.



Wird im Serviceauftrag eine Artikelnummer und eine Serien- bzw. Chargennummer hinterlegt, prüft das System automatisch, ob für die Kombination „Artikelnummer und Serien- bzw. Chargennummer“ bereits ein Serviceartikel angelegt ist. Falls ja, wird die Serviceartikelnummer automatisch eingefügt. Falls nicht, kann jederzeit aus einem Serviceauftrag ein Serviceartikel erstellt werden.

#### Hinweis

Einem Serviceartikel kann nur eine existierende Seriennummer und Chargennummer zugewiesen werden.

#### Preisgestaltung bei Serviceverträgen

Die Preisfindung wurde für Servicearbeiten (*Dienstleistungen und Teile*) um die Serviceauftragsart und Vertragsnummer erweitert.

Durch die Erweiterung können kundenspezifische Preise für:

- Service/Reparaturen die über einen Servicevertrag erbracht werden (Vertragsnummer)
- Serviceaufträge die direkt angelegt werden ohne Bezug zu einem Servicevertrag

ermittelt werden.

#### Einrichtung

##### Verkaufsauftragsart

Richten Sie zunächst eine Verkaufsauftragsart für die Preisfindung ein. Hierbei müssen lediglich die Felder „Code“ und „Beschreibung“ gefüllt werden. Alle anderen Felder haben keine Auswirkung.

##### Serviceauftragsart

In der jeweiligen Serviceauftragsart wird die Verkaufsauftragsart, welche für die Preisfindung definiert wurde, im Feld „Verkaufsauftragsart Preisfindung“ hinterlegt.

##### Debitorenrabattgruppe

Sofern Sie mit Debitorenrabattgruppen arbeiten möchten, sind diese in der Preisliste zu definieren. Hierzu wird die entsprechende Debitorenrabattgruppe im Kopf (*Feld „Zuweisung zu Typ“*) hinterlegt. In den Zeilen wird die „Auftragsart“ und der „Zeilenrabatt %“ festgelegt.

##### Debitorenpreisgruppe

Sofern Sie mit Debitorenpreisgruppen arbeiten möchten, sind diese in der Preisliste zu definieren. In der Preisliste wird die entsprechende Debitorenpreisgruppe im Kopf (*Feld „Zuweisung zu Typ“*) hinterlegt. In den Zeilen wird die „Auftragsart“ und der „VK-Preis“ hinterlegt.

##### Servicevertrag

Im Servicevertrag wird die Serviceauftragsart und die Debitorenpreisgruppe bzw. Debitorenrabattgruppe in den gleichnamigen Feldern hinterlegt.

**Ablauf**

Sobald ein Serviceauftrag erzeugt wurde, wird in die Servicezeile, sofern vorhanden, die spezielle Debitorenpreisgruppe und/oder Debitorenrabattgruppe berücksichtigt. Im Feld „Verkaufsauftragsart Preisfindung“ wird die ermittelte Verkaufsauftragsart, welche der Serviceauftragsart aus dem Servicevertrag zugewiesen ist, eingetragen.

**Hinweis**

Wenn über die Debitorenrabattgruppe ein 100% Rabatt ermittelt wird, dann wird das Feld Nullposition automatisch auf „Gratis“ gesetzt.

**Wartungsplan und Wartungscockpit**

Um die Serviceeinsätze besser planen zu können, wurde zwischen den Serviceverträgen und den Serviceaufträgen ein Zwischenschritt, das Wartungscockpit, implementiert.

Mithilfe des Wartungscockpits können alle fälligen Wartungen angezeigt, geplant und die benötigten Serviceaufträge erstellt werden.

**Einrichtung****Prüfarten**

Richten Sie zunächst die von Ihnen benötigten Prüfarten (*Form eines Services z.B. Instandhaltung*) ein. Hierzu rufen Sie sich über die Anwendersuche die „Prüfarten“ auf. Es können beliebig viele Prüfarten angelegt werden.

<b>Feld</b>	<b>Beschreibung</b>
Code	In diesem Feld wird ein eindeutiger Code (Kürzel) für die Prüfart hinterlegt.
Beschreibung	In diesem Feld wird eine Beschreibung der Prüfart hinterlegt.
Zeitintervall	Das Zeitintervall dient zur Vorbelegung des Serviceintervalls in der Servicevertragszeile.
	Bei der Berechnung des nächsten Servicetermins nach einem Service ist die Intervallart entscheidend.
Intervall-Typ	<p>Folgende Optionen stehen zur Verfügung:</p> <ul style="list-style-type: none"> <li>• Geplantes Servicedatum</li> <li>• Tatsächliches Servicedatum</li> </ul>
	Die Serviceauftragsart wird als Filter auf das gleichnamige Feld im Servicevertrag verwendet, um den entsprechenden Servicevertrag zum Debitor zu ermitteln.
Serviceauftragsart	<p>Stimmt die Serviceauftragsart der Prüfart mit der Serviceauftragsart des Servicevertrags nicht überein, wird die Prüfart nicht in den Servicevertrag hinterlegt.</p> <p>Bleibt das Feld leer, wird die Prüfart, unabhängig der Serviceauftragsart im Servicevertrag, im Servicevertrag hinterlegt.</p>

#### Wartungsplan Vorlagenliste

Die Wartungsplan Vorlagen bilden den Wartungsplan eines Geräts. So können diesem alle notwendigen Wartungen bzw. Kontrollen in Form der vorab definierten Prüfarten zugeordnet werden.

Um eine Wartungsplan Vorlage zu definieren, rufen Sie sich zunächst die „Wartungsplan Vorlagenliste“ über die Anwendersuche auf. Über „Neu“ im Menüband können Sie eine neue Wartungsplan Vorlage definieren.

In der Wartungsplan Vorlagenkarte werden die benötigten Prüfarten hinterlegt. Die Felder „Zeitintervall“ und „Intervallart“ sind berechnete Felder und stammen aus der Prüfart.

#### Artikelkarte

Um eine Verknüpfung zwischen einem Artikel und der Wartungsplan Vorlage herzustellen, muss die entsprechende Wartungsplan Vorlage auf der Artikelkarte im Feld „Wartungsplan Vorlage“ hinterlegt werden.

#### Fahrzeuge, Fahrer, Techniker

Über die „Fahrzeuge, Fahrer, Techniker-Liste“ können Sie beliebig viele TechnikerInnen anlegen. Für zukünftige Zwecke können diese mit einer Ressource, einer Anlage und einem Lagerort verknüpft werden. Zudem kann eine Zuordnung von Zuständigkeitseinheiten erfolgen.

Sind die Felder „Lagerortcode“ und/oder „Benutzer-ID“ gefüllt, so werden diese beim Eintragen der TechnikerInnen in den Serviceauftrag übernommen.

Feld	Beschreibung
Art	Gibt die Art des Datensatzes an. Zur Auswahl stehen:
	<ul style="list-style-type: none"> <li>• Fahrzeuge</li> <li>• Fahrer</li> <li>• Techniker</li> </ul>
	<p><b>Hinweis:</b> Aktuell hat nur die „Art = Techniker“ eine Funktion und kann im Wartungscockpit und im Serviceauftrag hinterlegt werden. Die Arten „Fahrzeuge und Fahrer“ haben aktuell keine Auswirkung auf den Prozess.</p>
Code	In diesem Feld wird ein eindeutiger Code (Kürzel) für das Fahrzeug, den Fahrer oder Techniker hinterlegt.
Beschreibung	In diesem Feld wird eine Beschreibung für das Fahrzeug, den Fahrer oder Techniker hinterlegt.
Mitarbeiternr.	Über das Feld können Sie eine/n MitarbeiterIn dem Datensatz zuordnen.
Ressourcennr.	Über das Feld können Sie eine Ressource dem Datensatz zuordnen.
Inventarnr.	In dem kann ein Wert eingegeben werden. Das Feld hat aktuell keine Auswirkungen.
Anlagenr.	Über das Feld können Sie eine Anlage dem Datensatz zuordnen.
Zuständigkeitseinheit	Über das Feld können Sie festlegen, für welchen Standort / welche Filiale der angelegte Datensatz zuständig ist.
Lagerortcode	Über das Feld können Sie einen Lagerort dem Datensatz zuordnen.
Benutzer ID	Über das Feld können Sie ein/e BenutzerIn dem Datensatz zuordnen.
Gesperrt	Durch das Setzen der Checkbox können Sie den Datensatz sperren. Dieser steht Ihnen anschließend innerhalb der Prozesse nicht mehr zur Verfügung.
Sperrgrund	Sollten Sie einen Datensatz für die Benutzung gesperrt haben, so können Sie in diesem Feld einen Grund für die Sperrung hinterlegen.

**Wartungsplan im Servicevertrag**

Mit Buchung einer Verkaufslieferung wird systemseitig geprüft, ob der Artikel einer Serviceartikelgruppe zugehörig ist, für die bei der Lieferung automatisch ein Serviceartikel erstellt wird.

Sollte dies zutreffen, wird im Vorgang ein gültiger Servicevertrag ermittelt und pro Prüfarm eine Zeile mit dem Zeilenwert 0,01 Euro hinzugefügt. Somit ist es möglich, dass ein Serviceartikel mehrfach in einem Servicevertrag vorkommen kann.

**Hinweis**

Bitte beachten Sie, dass der Zeilenwert manuell angepasst werden.

**Hinweis**

Serviceverträge mit dem Status „Storniert“ werden nicht berücksichtigt.

In den Servicevertragszeilen ist ersichtlich, wann das Startdatum der Zeile ist, um welche Prüfarm es sich handelt, in welchem Zeitraum der Serviceintervall stattfindet, wann der letzte Service war, wann der letzte geplante Service ist und wann der nächste geplante Service stattfinden soll.

Das „Startdatum“ in der Servicevertragszeile ist das Datum der gebuchten Verkaufslieferung und kann bei Bedarf manuell geändert werden.

**Hinweis**

Im Servicevertrag können aktuell keine Zeilen mit einem späteren Zeitraum als dem Fakturierungsintervall hinterlegt werden.

Es ist jederzeit möglich, manuell eine Zeile im Servicevertrag hinzuzufügen. Eine Zeile im Servicevertrag kann gelöscht werden, solange der Status sich auf „Offen“ befindet und der Haken in der Vertragszeile im Feld „Neue Zeile“ gesetzt ist. Sobald der Vertrag auf „Vertrag sperren“ gesetzt wird, kann die Zeile im Servicevertrag nicht gelöscht werden. Um die Zeile zu beenden, muss im Feld „Vertragsablaufdatum“ ein Datum hinterlegt werden.

**Hinweis**

Das Feld „Zu fakturieren (Jahr)“ auf dem Inforegister „Rechnungsdetails“ muss aktuell manuell auf den Wert im Feld „Berech. Zu fakturieren (Jahr)“ geändert werden.

**Hinweis**

Der Status im Feld „Status ändern“ wird automatisch auf „Offen“ gesetzt und muss manuell auf „Gesperrt“ gesetzt werden.

**Wartungscockpit**

Über das Wartungscockpit können die bevorstehenden Serviceeinsätze besser geplant werden. Hierzu rufen Sie sich zunächst das Wartungscockpit über den gleichnamigen Suchbegriff über die Anwendersuche auf.

Über die Aktion „Wartungscockpitposten erzeugen“ können bis zu einem beliebigen Datum alle fälligen Servicezeilen abgerufen werden. Des Weiteren können diese mit Hilfe der Filter für die Felder des Servicevertragskopfs weiter eingegrenzt werden.

#### Hinweis

Die Artikel, die in den Serviceverträgen keine Prüffart enthalten, werden bei der Funktion „Wartungscockpitposten erzeugen“ nicht mit abgerufen.

Pro Wartungscockpitposten sind die wichtigsten Informationen aus den zugehörigen Servicevertrag einsehbar.

Hierunter wird angegeben, um welches Gerät es sich handelt, bei welchem Debitor das Gerät steht, um was für eine Prüffart es sich handelt, wann das letzte Servicedatum war und wann der nächste geplante Service stattfinden soll.

In den Spalten „Geplantes Datum“ und „Geplanter Techniker“ werden die Servicedaten eingetragen und eine Zeile final mit dem Setzen eines Häkchens im Feld „Geplant“ abgeschlossen.

Über die Aktion „Servicebelege erzeugen“ ist es anschließend möglich, aus den geplanten Zeilen die Serviceaufträge zu erzeugen. Über die Option „Zeilen zusammenfassen“ können mehrere Vertragszeilen in einen Serviceauftrag abgerufen werden. Dies ist nach Serviceartikel und Debitor möglich.

Bei der Erstellung eines Serviceauftrags wird die Belegnummer der jeweils erzeugten Belegzeile im Wartungscockpitposten eingetragen. Über die Belegnummer kann der Serviceauftrag geöffnet werden.

Die Vertragsnummer wird automatisch in den Serviceauftragskopf und in der Serviceauftragszeile hinterlegt. Die Serviceauftragsart, die im Servicevertrag hinterlegt ist, wird in den Serviceauftrag übernommen.

Sind die Felder „Lagerortcode“ und/oder „Benutzer“ bei den TechnikerInnen gefüllt, so werden diese beim Eintragen des Technikers in den Serviceauftrag übernommen. Zusätzlich wird die Prüffart in die Zeile geschrieben.

Werden Serviceaufträge gelöscht, so werden die Belegdaten im Wartungscockpitposten wieder entfernt.

Werden Serviceaufträge gebucht, so werden die Wartungscockpitposten gelöscht.

#### Hinweis

Das Datum im Wartungscockpit im Feld „Nächster geplanter Service am“ wird im Serviceauftrag in das Feld „Reagieren bis (Datum)“ auf dem Inforegister „Allgemein“ und in das Feld „Auftragsdatum“ auf dem Inforegister „Details“ geschrieben. Bitte beachten Sie, sollte in der Serviceeinrichtung oder im Serviceartikel eine Reaktionszeit hinterlegt sein, wird die Reaktionszeit mit berechnet.

Das Datum im Wartungscockpit im Feld „Geplantes Datum“ wird im Serviceauftrag in das Feld „Startdatum“ auf dem Inforegister „Details“ geschrieben. Das Arbeitsdatum wird in den Feldern „Buchungsdatum und Belegdatum“ auf dem Inforegister „Fakturierung“ geschrieben.

Die Felder „Buchungsdatum“ und „Belegdatum“ im Serviceauftrag können manuell überschrieben werden. Alle Felder, außer das Feld „Reagieren bis (Datum)“ können manuell geändert werden.

Mit Buchung der Servicelieferung werden die Felder „Letzter geplanter Service am“ und „Nächster geplanter Service am“ im Servicevertrag neu berechnet.

Zusätzlich wird im Serviceartikel das Feld „Letzter Service am“ auf dem Inforegister „Allgemein“ aktualisiert.

#### **Artikel-/Gerätezuordnungsposten**

Beim Buchen eines Serviceauftrags über die Funktion „Buchen: Liefern“ oder „Buchen: Liefern und verbrauchen“ wird ein gebuchter Servicelieferschein mit entsprechenden Posten erstellt.

Zusätzlich wird geprüft, ob es sich um einen Artikel handelt, der seriennummerngeführt ist. Trifft dies zu, werden die gebuchten Verbräuche in die „Artikel-/Gerätezuordnungsposten“ der Serieninformationskarte geschrieben. Zusätzlich werden die Verbräuche in die Serviceposten geschrieben.

#### **Hinweis**

In der Version 22.3 werden nur die Verbräuche, die mit der Funktion „Buchen: Liefern und verbrauchen“ gebucht werden, in die „Artikel-/Gerätezuordnungsposten“ der Serieninformationskarte geschrieben. Ab der nächsten Version werden auch die Verbräuche, die mit der Funktion „Buchen: Liefern“ gebucht werden, in die „Artikel-/Gerätezuordnungsposten“ der Serieninformationskarte geschrieben.

In den Artikel-/Gerätezuordnungsposten ist die Funktion „Menge storniert ändern“ vorhanden. Dies ist eine manuelle Funktionserweiterung ohne Buchungsfunktion und dient dazu, die zugeordneten Posten über die Stornomenge zu kennzeichnen, da diese Zeile/ dieser Artikel sich nicht mehr im Gerät befindet.

#### **Rechnungsstellung eines Servicevertrags**

Bei der Rechnungsstellung eines Servicevertrags werden die Vertragszeilen in die ungebuchte Servicerechnung geschrieben, wenn das Enddatum des Fakturierungsintervalls größer als das Startdatum in der Vertragszeile ist.

Eine Vertragszeile, dessen Startdatum größer als das Enddatum des Fakturierungsintervalls ist, wird nicht mit an die ungebuchte Servicerechnung übergeben.

#### **Beispiel:**

Die nächste Rechnung ist im September fällig. Zwei Zeilen haben das Startdatum 01.10.2023. Die Zeilen werden nicht in der Rechnung erscheinen, sondern erst mit der Rechnung im Oktober.

#### **Zubehörverwaltung**

Wenn ein Kunde Zubehör mitsendet, kann dieses ebenfalls erfasst werden, auch wenn die Produkte nicht dem System bekannt sind.

#### **Zubehör im Service Wareneingang**

Im Service Wareneingang kann pro Servicewareneingangszeile über die Funktion „Zubehör“ die Maske zur Erfassung des Zubehörs geöffnet werden. In der Maske kann auf bestehende Artikel-, Ressourcen- oder Sachkonten zugegriffen werden. Genauso kann auch eine Textzeile erfasst werden, falls der Artikel im System nicht vorhanden ist. Die Beschreibungen können ebenfalls überschrieben werden. Falls vorhanden, können auch eine Seriennummer, Chargennummer und Ablaufdatum zugeschrieben werden.

Mit Buchung des Service Wareneingangs wird das Zubehör der jeweiligen erstellten Serviceartikelzeile zugeordnet. Dort kann das Zubehör aufgerufen und wenn gewünscht, geändert oder ergänzt werden.

#### Zubehör im Serviceauftrag

Wenn eine Serviceartikelzeile manuell im Serviceauftrag erfasst wird, kann das Zubehör über die Funktion „Zubehör“ pro Serviceartikelzeile erfasst werden.

Ein Aufruf und eine Erfassung des Zubehörs sind auch im Service Artikel Arbeitsblatt möglich. Wenn eine Serviceartikelzeile gelöscht wird, dann wird auch das Zubehör mit gelöscht.

Nach Buchung einer Servicelieferung kann das Zubehör in der gebuchten Servicelieferung in der jeweiligen Gerätezeile über den Aufruf „Zubehör“ aufgerufen werden. Eine Bearbeitung des Zubehörs ist an dieser Stelle nicht mehr möglich.

#### Versand der Artikel nach Reparatur

Mit dieser Funktionserweiterung können Sie die aus einem Serviceauftrag „reparierten“ und vereinnahmten Geräte ebenso wieder versenden.

Im Serviceauftrag werden bereits die vereinnahmten Mengen der Artikel / Geräte dargestellt.

Mit der Eingabe der "Menge zu liefern", erstellt sich eine Servicezeile mit dem Lagerort / Lagerplatz und der "Menge zu liefern" aus der Serviceartikelzeile. Sollte eine Seriennummer eingetragen sein, dann wird eine Artikelverfolgung zur Seriennummer erstellt. Sollte eine Chargennummer eingetragen sein, dann wird ebenfalls eine Artikelverfolgung hierzu erstellt.

Sollte Sie erneut die "Menge zu liefern" eingeben, erfolgt eine Meldung, dass bereits eine Servicezeile erstellt wurde und diese manuell geändert werden muss. Eine Automatik zur Änderung der Servicezeile ist zurzeit nicht abgebildet.

Sie können nur eine Menge zu liefern eingeben, die, die Restmenge nicht überschreitet. Die Restmenge errechnet sich aus der Menge abzüglich der gelieferten Menge.

Die Darstellung der Mengen beziehen sich auf die Basis Einheit deshalb wird im Serviceauftrag auf die Darstellung und Abwicklung in unterschiedlichen Einheiten verzichtet.

Sie können anschließend über „Für Warenausgang freigeben“ und „Warenausgang erstellen“ einen Warenausgang erzeugen, der entweder direkt aus dem Warenausgang gebucht werden kann oder aber so wie die Versandabwicklung es vorsieht – nur die Kommissionierung registrieren und dann mit dem Warenausgang einen Versandauftrag erstellen.

Beide Wege erzeugen eine Lieferung der Servicezeile und aktualisieren das Feld „Menge geliefert (Restmenge)". Es kann auch je nach Einrichtung direkt aus dem Versandauftrag oder aber Warenausgang geliefert und fakturiert werden.

Eine Verfügbarkeitsprüfung vor dem Erstellen einer Kommissionierung erfolgt für die zu liefernden Geräte nicht. Das heißt sollte der Lagerort/Lagerplatz für das eingebuchte Gerät durch eine interne Umlagerung geändert worden sein, dann wird trotzdem eine Kommissionierung erstellt. Diese kann allerdings erst registriert werden, wenn die zu kommissionierende Menge auch verfügbar ist.



## Hinweis

Um im Feld "Menge zu liefern" einen Wert eintragen zu können, darf der Schalter „Zuord. Zu Serv.-Artikel notw.“ nicht gesetzt sein. Den Schalter können Sie in der Serviceeinrichtung oder direkt im Serviceauftrag auf dem Inforegister "Details" aktivieren bzw. deaktivieren.

## 1.3 Apps

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### 1.3.1 KUMAVISION Applications

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KUMAVISION provides numerous applications that can be implemented in addition to the individual industry solutions via the [Microsoft App Source](#).

Note

The use of the following applications is only possible with corresponding purchased licenses and their activation.

- [Additional Items](#)
- [Advance Payment](#)
- [Change Log Quick Access](#)
- [Core](#)
- [Sanction Check](#)
- [Core](#)
- [Credit-Check App powered by Creditsafe](#)
- [Electronic Data eXchange \(EDX\)](#)
- [Electronic Data eXchange \(EDX\) AddOn Warehouse Management System \(WMS\)](#)
- [GAEB Interface & Calculation](#)
- [Item Costing](#)
- [KUMAconnect](#)
- [Power BI Sales Activator](#)
- [Quality Management \(QM\)](#)
- [Replenishment Kanban Bin](#)
- [Sales Order Status](#)
- [Split by Picking Area](#)
- [Vendor Rating Management](#)

## 1.3.2 Additional Items

### Overview

The app "Additional Items" (*cross-selling*) allows you to easily assign additional items, spare parts and services in your item master. Various parameters are considered and defined during the assignment:

- When creating documents, the additional item or service can be displayed, for example, as a mandatory addition or as an option
- Define the quantity calculation as a fixed quantity or store an automatic quantity output as a factor on the selection of the "main article" (incl. setting of the quantity rounding)
- Automatic generation of cross-selling references incl. deposit of a minimum number of items

### Introduction Additional Items



[Additional Items | KUMAVISION App](#) from [KUMAVISION](#) on [Vimeo](#).

[Link to Microsoft App Source "KUMAVISION Additional Items"](#)

### Setup

#### Additional Items Setup

First, some basic setup must be done for the additional items. The setup for this is done in the "Additional Items Setup". The individual fields of the setup card are explained in more detail below:

#### Additional Items

Field	Description
Max. Number of Cross-References	Specifies the maximum number of related items to be created by the automatic generation.
Min. Number of Cross-Reference Hits	Specifies the minimum number of connections required for automatic generation.
Open Page for Additional Item Automatically	Specifies whether the list of related items should be opened automatically.
Insert Mandatory Additional Items Automatically	Specifies whether related items that have been marked as necessary will be inserted automatically.

#### Deposit of Additional Items

The Additional Items are stored in the item card of the base item. If desired, this configuration can also be made per variant.

To do this, first call up the Item List via the user search and then the required basic item.

Using the "Related > Item > Additional Items" ribbon, you can add the related articles to the base item using the table below.

Field	Description
Type	<p>You can use the "Type" field to specify the type of additional line. You can choose from the following:</p> <ul style="list-style-type: none"> <li>• General Ledger Account,</li> <li>• Item,</li> <li>• Resource,</li> <li>• Fixed Asset</li> <li>• Charge (Item)</li> </ul>
No.	Depending on the "Type" field, the number of the corresponding line can be selected here (item number, resource number, ...).
Variant code	Represents the variant of the corresponding line, depending on the "Type" and "No." field.
Description	The description is automatically filled by the system after selecting a number and is not editable.
Sales	This field allows you to specify that the corresponding row is used in the sales documents. If a line is only used on the purchase page, this field must be deactivated. When the overview map is displayed later within the document entry, the lines will be filtered accordingly.
Sales Sequence No.	You can define a sequence for the related item in the sale.
Purchase	With this field you can specify that the corresponding row will be used in the purchasing documents. If a line is to be used only for the sales page, then this field must be deactivated. When the overview map is displayed later within the document entry, the lines are filtered accordingly.
Purchase Sequence No.	You can define a sequence for the related item in Purchasing.
Required (sale)	This field allows you to control whether the cross-selling item is selectable or automatically used in the sales documents.
Mandatory (Purchase)	This field allows you to control whether the cross-selling item is selectable or automatically used in the purchasing documents.
Quantity calculation	This field defines whether the quantity is a factor of the quantity from the document or a constant quantity.
Quantity / Factor	Depending on the field quantity calculation, you can enter a factor or a constant quantity.
Quantity Rounding Precision	Specifies whether the quantity should be rounded.

Field	Description
Quantity Rounding Type	Specifies how the quantity is to be rounded.
Sales Unit of Measure	Differing from the sales unit and the unit of the item, you can define other sales units.
Purch. Unit of Measure	Differing from the purchasing unit and the unit of the item, you can define other purchasing units.
Automatically created	This field allows you to control whether the Additional Items is created manually by the user or automatically.

If the base item is inserted into a document (e.g. quotation or order), an overview card with the configured extras is displayed. Depending on the configuration, these can still be adjusted and then transferred to the document.

### Use in process

You can now use the configured base item in your processes. To do this, you must create a new sales/purchase document.

In the following example, a sales order is used:

First, a new sales order is created with the necessary information in the "General" info tab. Then an item line with the configured base item is entered. After checking the desired quantity, the overview card opens with the configured additional items.

#### Note

If you change the quantity of the base item, the overview card with the configured additional items will be displayed again, updated.

If you decide to remove the base item from the document, there will be a prompt asking if you want to delete the linked rows as well.

Additional Items can also be retrieved subsequently by selecting "Line > Functions > Select Additional Items".

### Automatic generation of Additional Items

With the help of the report "Generate Item Cross Reference" the assignment of the corresponding additional items to an item is done automatically.

The prerequisite for this is that the fields "Max. number of cross-reference hits" and "Min. number of cross-reference hits" are maintained in the "Additional Items Setup".

To use the functionality, first call up the report "Generate Item Cross Reference" via the user search.

The filtering mask opens, where you can make the following filtering options:

Field	Description
From date / To date	Set a consideration period for considering combination purchases/sales.
Direction	Specify the direction for which the system should check the combinations. You can choose from the following: <ul style="list-style-type: none"> <li>• Sales</li> <li>• Purchasing</li> <li>• Purchase and sale</li> </ul>
Item no.	Specify a (base) item number for which, the system should check further combination purchases / sales.

When the report is run, all additional item entries with "Automatically created = yes" are deleted and are recreated as follows:

The system evaluates the sales/purchase history by the number of common item sales/purchases. If the number of hits exceeds the value stored in the "Related items setup", an entry is created in the "Related items" table. The number of created entries can be limited by another setting value ("Max. number of cross-reference hits").

#### What happens after the free trial



[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).

### 1.3.3 Advance Payment

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#### General

The "Advance Payment" application is a special ISV solution based on Microsoft Dynamics 365 Business Central. This is a special function extension of the standard solution Microsoft Dynamics 365 Business Central. It enables you to manage down payments in sales and purchasing correctly and reliably in accordance with legal requirements.

[Link to Microsoft App Source "KUMAVISION Advance Payment"](#)

#### Application areas

The Advance Payment application enables the planning, creation and management of down payment invoices in the sales and purchasing area. Based on orders or purchase orders, all relevant documents and postings can be created and tracked via so-called down payment strings. Down payment accounting is completely integrated into standard processes, e.g. down payment invoices can flow into the dunning process and payment transactions. Data is entered and managed using the standard interfaces and documents. Down payment strings can be managed and analyzed centrally via new menu items.

#### Overview

The Advance Payment application can be used in both sales and purchasing.

The down payment string forms the basis for the down payments. It specifies the business transaction for which down payments are to be made and posted. In sales, the basis for a down payment string is either the order, an individual order line or even a project; in purchasing, it is the purchase order or an individual order line.

A down payment plan can be stored for each down payment strand, in which it is defined at which time and in which amount down payments and final invoices are to be made.

Requested down payments are posted as down payment invoices. As no sales tax / input tax may be reported at this point in time, down payment invoices are posted with unrealized tax. Only when the payment is received is the tax realized and the requested down payments transferred to down payments received / made.

Receivables or payables from advance payments made are also shown in separate accounts so that they can be presented separately from actual receivables and payables.

Corrections to requested down payments can be posted using down payment credit memos.

With the invoice of the order / purchase order requested and made / received down payments can be cleared. A final invoice deduction can be created and posted automatically.

The current status of the transactions can be viewed at any time via the down payment strings. Detailed down payment statistics provide information on all related postings. Special views on the customer / vendor items allow to view the open or not final invoiced amounts for each down payment.



## Establishment

To use the application, some setups must be made. In this section you will learn what they are and how to configure them.

### Down payment facility

If the Advance Payment application is to be used, it must first be activated for the sales and purchasing areas. Only then will all relevant fields and buttons be displayed in the existing interfaces, and new menu items will be offered for selection. Activation is made in the down payment facility.

In addition, it shows which installations have already been completed or are still to be carried out.

#### Inforegister General

Field Description Sale active Indicates whether the down payment functionalities are enabled for the sales documents. Purchasing active Indicates whether the down payment functionalities are enabled for the purchasing documents.

#### Inforegister settings

Field	Description
Allow directly realized tax	Specifies whether down payment invoices can be posted with directly realized VAT, depending on the setting in the VAT posting matrix setup. Without this setting, all down payment invoices must be posted with unrealized VAT.

#### Inforegister facilities completed

This info tab gives you an overview of which relevant areas have already been set up or have not yet been set up.

#### Support information

On this info tab you will be presented with information about the app.

#### Menu call "Manual setup"

The Manual setup button can be used to branch to the relevant setup tables. These are described in more detail in the following sections.

## G/L accounts and posting groups

### Financial accounting facility

Down payment invoice must be posted with unrealized tax. This means that the tax is not due until the payment is received.

In order for this situation to be taken into account, the fields "Unrealized VAT" and "Unrealized VAT Prepayment" must be activated in the financial accounting setup. Prepayment" fields must be activated on the "General" information tab.

## Accounts Receivable / Accounts Payable Groups

The collective accounts for down payments and the accounts for unrealized down payments must be defined in the customer / vendor posting groups:

## Customer posting groups

Field	Description
Deb. Collective account down payments	<p>Specifies the G/L account to be used when posting receivables from customer down payment documents in this posting group.</p> <p>Corresponds to the customer collective account for receivables from standard documents.</p>
Deb. Unrealized prepayments	<p>Specifies the G/L account to be used for postings in down payment documents for requested down payments from customers in this posting group. This account is automatically proposed when creating down payment documents.</p> <p>Since the account is used in the down payment documents in the line items, the account must be directly postable (Direct to G/L account field). In addition, the G/L account must show a VAT product posting group with unrealized VAT.</p> <p>When posting the payment clearing for a down payment document, unrealized down payments and tax are transferred to the accounts for realized down payments and tax. The account for Real. Down payments is stored in the VAT posting matrix.</p> <p>For more information on how to set up the VAT posting matrix and the real. Accounts can be found in the section "VAT product posting groups and <a href="#">VAT posting matrix</a>".</p>

## Vendor posting groups

Field	Description
Kred. Collective account down payments	Specifies the G/L account to be used when posting payables from down payment documents from vendors in this posting group. Corresponds to the vendor general ledger account for payables from standard documents.
	Specifies the G/L account to be used when posting to down payment documents for requested down payments from vendors in this posting group. This account is automatically proposed when creating down payment documents.
Credit. Unrealized prepayments	<p>Since the account is used in the down payment documents in the line items, the account must be directly postable (Direct to G/L account field). In addition, the G/L account must show a VAT product posting group with unrealized VAT.</p> <p>When posting the payment clearing for a down payment document, unrealized down payments and tax are transferred to the accounts for realized down payments and tax. The account for Real. Down payments is stored in the VAT posting matrix.</p> <p>For more information on how to set up the VAT posting matrix and the real. Accounts can be found in the section "VAT product posting groups and <a href="#">VAT posting matrix</a>".</p>

## VAT product posting groups and VAT posting matrix

For the correct tax treatment of down payment documents, new VAT product posting groups must be created, with which new rows for unrealized VAT treatment will be added to the VAT posting matrix.

A separate VAT product posting group should also be created for the transfer of unrealized down payments to down payments received / paid.

Example of new VAT product posting groups:

Code	Description
AZ19	Unr. down payments 19%
REAL_AZ19	Real. Down payments 19%

The VAT product posting group AZ19 is used for postings with the Unreal. Down payment account (see [Accounts Receivable/Vendor Posting Group](#)). The REAL\_AZ19 posting group is used for down payment transfer postings.

Example of VAT posting matrix setup:

VAT Business booking group	VAT Product booking group	VAT Indicator	VAT Calculation VAT type	Unreal. VAT Art	Corre Sales t	Unre: Input	Unrea Acqui	Unrea
THIRD COUN	AZ19	MWST.19	0 Normal VAT	Percentage	Yes	1792	1792	1589
EU	AZ19	MWST.19	19 Acquisition t	Percentage	Yes	1792	AZ17.	1573
INLAND	AZ19	MWST.19	19 Normal VAT	Percentage	Yes	1776	AZ17.	1576
THIRD COUN	REAL_AZ19	MWST.19	0 Normal VAT		Yes	1792		1589
EU	REAL_AZ19	MWST.19	19 Acquisition taxation		Yes	1792		1573
INLAND	REAL_AZ19	MWST.19	19 Normal VAT		Yes	1776		1576

Field	Description
Deb. Real. Down payment account	Specifies the G/L account that is addressed when posting the payment of a down payment invoice in sales. When clearing a down payment invoice, the unrealized down payment amount is transferred to the realized down payment account. In the case of partial payments, this is done accordingly on a pro rata basis. The account is found via the VAT combination of the down payment invoice line. This account is also needed to create the final invoice deduction lines.
Kred. Real. Down payment account	Specifies the G/L account that is addressed when posting the payment of a down payment invoice in Purchasing. When clearing a down payment invoice, the unrealized down payment amount is transferred to the realized down payment account. In the case of partial payments, this is done proportionally. The account is found via the VAT combination of the down payment invoice line. This account is also needed to create the final invoice deduction lines.
VAT product posting group down payment realizations	Specifies the VAT product posting group that will be used for the realized down payment account when the payment is received and when the final invoice is deducted. If this field is empty, the VAT product posting group of the Real. Down payment account is entered.

#### Note

In the VAT statement, the New Combinations for unrealized tax from the VAT posting matrix must be included.

#### Non-deductible VAT

For the processing of "Non-deductible VAT" the following settings in the VAT. Posting matrix to be taken into account.

In the rows for the calculation "Unreal. VAT." (*Field: "Unreal. VAT Type" = percentage*) the following settings must be made:

- The "Non-deductible VAT %" field must be filled with the value "0" (*also not allowed in Microsoft Dynamics 365 Business Central Standard*).
- In the field "Non-deductible VAT. Purchase account" no account must be set up.
- In the "Allow non-deductible VAT" field, the "Allow" option must be set.

#### Note

From the rows with the "VAT. Business entry groups" and the "VAT. Product posting groups" that are transferred to the purchase orders, the "Non-deductible VAT %" is transferred to the down payment plan line via the purchase order lines and from there to the down payment invoice.

#### Advance Plan Template

To simplify the management of down advance plan, down advance plan templates can be set up.

Based on the fields from the customer or vendor master and the documents, criteria can be defined when a down advance plan template should be used.

Any number of down advance plan lines can be defined per down advance plan template.

The lines of a down advance plan template can be inserted in the down advance plan by a function call. A list of available templates is displayed.

The call for editing the advance plan templates is made via the call with the same name via the user search. A new down advance plan template can be created via "New" in the menu ribbon.

## Inforegister General

Field	Description
Code	Indicates the unique code of the down advance plan template.
Description	Indicates a freely definable description for the down advance plan template.
Active	Indicates whether this down advance plan template is currently enabled for use.
Source Account Type	Indicates whether this template is intended for use with accounts payable or accounts receivable down payments.
Source Account Filter	Specifies a filter to narrow down for which customers/vendors this down advance plan template should be used.
For Table ID	Specifies the ID of the table for which this down advance plan template is to be used.
For Table Caption	Specifies the caption of the table for which this down advance plan template should be used.
Table Filters	Specifies a filter to narrow down for which records this down advance plan template should be used.

## Inforegister Lines

Field	Description
Planning type	Indicates what type of down payment plan line it is. It can be a planned down payment or a final invoice
Invoice Date Formula	Indicates the scheduled date for creating and posting an invoice using a date formula. The date formula is added to the start date/document date of the down payment string to determine the respective invoice date.
Part Amount %	Indicates the percentage of the base amount to be settled with this down payment plan line.
Payment Amount	Indicates the amount to be invoiced with this down payment plan line.
Cum. Percentage Amount	Indicates the cumulative percentage of the base amount to be invoiced with the down payment plan lines. This amount includes all previous down payment plan lines.  This field is only displayed if the "Cumulative down payment planning" parameter is enabled in the "Accounts Receivable & Sales Setup" or "Accounts Payable & Purchasing Setup"
Automatic cancellation of previous AZ invoices in case of cumulative down payment. Down Payment	Indicates the cumulative amount to be settled with the down payment plan lines. This amount includes all previous down payment plan lines.  This field is only displayed if the "Cumulative Down Payment Planning" parameter is enabled in the "Accounts Receivable and Sales Setup" or "Accounts Payable & Purchasing Setup"
Down payment condition code	Indicates the payment condition on which this down payment plan line is based.
Description	Indicates an optional, freely definable description for this down payment plan line. This will be used in the documents generated from it.

## Retention Setup

To map withholdings in the down payment accounting, the types of withholdings are to be set up. You can call up the "Retentions" by means of the search term of the same name via the user search.

The fields of the withholdings are explained in detail below:

field	description
Code	Indicates a unique code for the withholding.
Description	Indicates a description for the withholding, which will be shown in the documents.
Description 2	Indicates an additional description for the retention, which will be shown in the documents.
	This is an option field. It specifies whether the retention can be used in the purchase and/or sales documents.
Supported account types	<p>The following selection options are available:</p> <ul style="list-style-type: none"> <li>- Customer</li> <li>- Vendor</li> <li>- Both</li> </ul>
	This is an option field. It specifies whether to use retention for down payment invoices and/or regular invoices ( <i>no down payment invoices</i> ).
Supported Document Types	<p>The following selection options are available:</p> <ul style="list-style-type: none"> <li>- Down payment invoices,</li> <li>- Regular invoices,</li> <li>- Both</li> </ul>
Suffix for Withholding Invoice Numbers	Specifies a suffix to be added to the invoice number to generate the invoice number for withholding documents.
Withholding Payment Condition	Specifies a payment condition that will be used for the generated withholding documents.
Wait for Withholding Invoice	Specifies whether a wait flag should be automatically attached to the generated withholding document to exclude it from the payment processes.
Unrealized Account	Specifies a G/L account to which the retention amounts of down payment invoices should be posted. For regular invoices, the specification is made in the "Realized Account" field.
Realized Account	<p>Specifies a G/L account to which retentions from regular invoices will be posted.</p> <p><b>Note:</b> For down payment invoice payments, this account will also be used.</p>

About the menu item "Dimensions" can be stored per retention, default dimensions.



Via the menu item "Translations", translations for the fields "Description" and "Description 2" can be managed for the illustration of multilingual vouchers.

**Debit facilities****Accounts Receivable & Sales Facility**

In the Accounts Receivable & Sales setup the basic settings for down payments in sales are made. All necessary parameters and defaults are set on the "Down payment" info tab. These are explained in more detail in the table below:

Field	Description
Geb. Down Payment Invoice Numbers	Specifies the number series used when posting down payment invoices for the posted documents.
Geb. Down payment credit memo numbers	Specifies the number series used when posting down payment credits for the posted documents.
Geb. final invoice deduction numbers	Specifies the number series used when posting final invoice deductions for the posted documents.
Document No. Allocation Final Invoice Deduction Reversal	Specifies whether either the document number of the posted final invoice deduction supplemented by a suffix (Suffix option) or a separate document number series (Number series option) should be used as the document number when reversing final invoice deductions.
Reversal of final invoice deduction Document no. supplement	Specifies the suffix to be added to the document no. of the posted final invoice deduction during reversal.
Reversal final invoice deduction number series	Specifies the number series of the unposted invoice document for the cancellation of the final invoice deduction.
Geb. final invoice deduction cancellation numbers	Specifies the number series for the posted invoice document for the cancellation of the final invoice deduction.
Down payment document description	Specifies the name that will be displayed on printed down payment invoices and credit memos.
Automatic creation of AZ strings for orders	Specifies whether to automatically create down payment strings for the documents when creating orders.
Message No. amount greater than base amount	Specifies whether a message should be issued when creating down payment invoices if the sum of the down payments made exceeds the order total.
Compare Invoice Amount with Adv. Plan	<p>Specifies, when posting the down payment invoice, whether to compare the amount of a down payment invoice with the respective down payment plan.</p> <p>The following selection options are available:</p> <p><b>blank</b> no changes.</p> <p><b>Update Advance Plan</b> When posting an invoice, all down payment plan lines contained in it will be updated with the respective amounts from the invoice.</p>

Field	Description
	<p><b>Error on deviation between Plan and Invoice</b></p> <p>When posting an invoice, the system checks if it is for the same amount as the down payment plan. If this is not the case, an error message appears and the posting is stopped.</p> <p>If the parameter "Plan down payment amounts cumulatively" is set, the setting "Match invoice amount with down payment plan when posting" is automatically set to "Update AZ plan" and cannot be changed.</p>
Release required for down payment plan rows	<p>Indicates whether down payment plan rows in the down payment plan must be marked as released before they can be transferred to an invoice.</p> <p>If the parameter is activated, the columns "Technical release" and "Release by" are displayed in the down payment plan rows and down payment invoices can only be created if the release in the column "Technical release" has been made by activation.</p> <p>When the parameter is activated, in the "Accountant" role center, in addition to the "Planned down payments" tiles, released down payments are also displayed in the "Released down payments" tile.</p>
Cumulative down payment planning	<p>Specifies whether amounts in the down payment plan should be specified in cumulative form (<i>including all previous down payments</i>) or in non-cumulative form (<i>only the respective invoice amount</i>).</p> <p>If the parameter is activated, the columns "Cum. Proportion Amount %" and "Cum. Anz. Amount" are displayed.</p> <p>The column "Cum. Anz. Amount" can be filled manually. In this case, the system calculates the "Down payment amount" column. Alternatively, the "Down payment amount" column can be filled in the other way round, so that the system calculates the "Cum. The system calculates the "Cumulative down payment amount". Basis for the reciprocal calculations are all other down payment plan lines with a date smaller than that of the current line.</p> <p>If a down payment invoice is created from the down payment plan, the "Down payment amount" is automatically updated. For this, the system subtracts from the "Cum. Anz.- Amount" the invoice amounts posted so far, which have not been cancelled.</p>
Automatic Reversal of Previous Down Payment Invoices for	<p>Specifies whether posting a cumulative down payment invoice automatically reverses all previous unpaid down payment invoices. Down payment</p>

Field	Description
Cumulative Down Payment	
Final invoice for down payment invoices	<p>Use this parameter to specify whether only the down payment invoices already paid by the customer (Paid option) or all down payment invoices (All option) should be taken into account for clearing during a final invoice deduction.</p> <p>If the option "All" is set, then not only the down payment invoices already paid by the customer, but all down payment invoices will be taken into account in the final invoice deduction. In this case, the down payment invoices that have not been paid yet will not be cleared via a credit note, but with a later incoming payment that clears open down payment invoices and final invoice.</p> <p>If the "Paid" option is selected, only down payment invoices that have already been paid will be included in the final invoice deduction.</p>
Automated posting of final invoices	<p>This parameter sets the automatic posting of the final invoice deduction. When a final invoice with order reference is posted, the system checks if there are any down payment invoices that have not been settled yet. Depending on the parameter setting, the system can create a final invoice deduction (Create option) or create and post it directly (Create+Post option).</p> <p>If no automatic creation (and posting) of a final invoice deduction is to take place, this field remains empty.</p>
Final invoice for several AZ strands	<p>This parameter is used to control how to proceed if the parameter Autom. posting of final invoices is set to Create or Create+Post and several down payment strings are included in the final invoice.</p> <p>If no final invoice deduction is to be created, the "No final invoice" option must be selected.</p> <p>The "Error message" option means that the normal invoice posting will stop with a corresponding error message.</p> <p>The "Post final invoice" option specifies that the final invoice deduction will be handled as defined via the Autom. posting of final invoices parameter.</p>
Automatic posting of remaining amount credits	<p>This parameter defines how to proceed with the down payment invoices that have not been paid.</p> <p>The prerequisite for this parameter is that Autom. posting of final invoices has been set to Create or Create+Post.</p> <p>The Create or Create+Post options define whether down payment credit memos will be created for the unpaid or only partially paid down payment invoices and eventually posted automatically.</p>

Field	Description
	If it has been defined in Final Invoice for Down Payment Invoices that all down payment invoices will be retrieved to the final invoice deduction, the creation of realized invoices may still be triggered when posting the down payment credit memo (see Autom. Posting of Realization Invoices).
Final invoice deduction max. in the amount of the invoice	Specifies whether the final invoice deduction should be limited to the amount of the final invoice. If the received down payments exceed the final invoice amount, this setting makes it possible to create credit notes later for overpayments.
Voucher No. Allocation Realization Invoices	Specifies whether to use either the document number of the posted down payment invoice supplemented by a suffix (Suffix option) or a separate document number series (Number series option) as the document number when posting realization invoices.
Real. Invoice document no. suffix	Specifies the suffix to be added to the document no. of the posted down payment invoice during the realization posting.
Real. Invoice numbers	Specifies the number series of the unposted invoice document for the realization posting.
Geb. realization invoice numbers	Specifies the number series for the posted invoice document for the realization posting.
Max. Credit amount of overpayments	Specifies the maximum amount for which credit memos can be automatically created for overpayments.
Document No. Allocation of Overpayment Credits	Specifies whether to use either the document no. of the posted down payment invoice supplemented by a suffix (Suffix option) or a separate document no. series (Number series option) when posting credit memos for overpayments.
Overpayment credit memo document no.	suffix Specifies the suffix to be added to the document no. of the posted down payment invoice during the realization posting.
Overpayment credit memo numbers	Specifies the number series of the unposted credit memo for the overpayment.
Geb. Overpayment credit memo numbers	Specifies the number series for the posted credit voucher for the overpayment.

**Debtor**

Further additional settings can be made on the customer card on the "Invoicing" info tab. These then apply specifically to this one customer.

<b>Field</b>	<b>Description</b>
Cumulative prepayments	Specifies whether to create down payments as cumulative invoices for this customer. In case of cumulative down payment invoices, down payments already made will be included in new invoices.
Down payments at document line level	Specifies whether down payments are to be created for this customer on the basis of the entire order or individual order items. If this parameter is set, down payments and final invoices with final invoice deduction can be created for individual document lines.

**Credit facilities****Accounts Payable & Purchasing Setup**

In the Accounts Payable & Purchasing setup the basic settings for down payments in purchasing are made. All necessary parameters and defaults are set on the "Down payment" info tab. These are explained in more detail in the table below:



Field	Description
Geb. Down Payment Invoice Numbers	Specifies the number series used when posting down payment invoices for the posted documents.
Geb. Down payment credit memo numbers	Specifies the number series used when posting down payment credits for the posted documents.
Geb. final invoice deduction numbers	Specifies the number series used when posting final invoice deductions for the posted documents.
Document No. Allocation Final Invoice Deduction Reversal	Specifies whether either the document number of the posted final invoice deduction supplemented by a suffix (Suffix option) or a separate document number series (Number series option) should be used as the document number when reversing final invoice deductions.
Reversal of final invoice deduction Document no. supplement	Specifies the suffix to be added to the document no. of the posted final invoice deduction during reversal.
Reversal final invoice deduction number series	Specifies the number series of the unposted invoice document for the cancellation of the final invoice deduction.
Geb. final invoice deduction cancellation numbers	Specifies the number series for the posted invoice document for the cancellation of the final invoice deduction.
Down payment document description	Specifies the name that will be displayed on printed down payment invoices and credit memos.
Automatic creation of AZ strings for orders	Specifies whether to automatically create down payment strings for the documents when creating purchase orders.
Message No. amount greater than base amount	Specifies whether a message should be issued when creating down payment invoices if the sum of the down payments made exceeds the order total.
Compare Invoice Amount with Adv. Plan	<p>Specifies, when posting the down payment invoice, whether to compare the amount of a down payment invoice with the respective down payment plan.</p> <p>The following selection options are available:</p> <p><b>blank</b> no changes.</p> <p><b>Update advance plan</b> When posting an invoice, all down payment plan lines contained in it will be updated with the respective amounts from the invoice.</p>

Field	Description
	<p><b>Error on deviation between Plan an Invoice</b></p> <p>When posting an invoice, the system checks if it is for the same amount as the down payment plan. If this is not the case, an error message appears and the posting is stopped.</p> <p>If the parameter "Plan down payment amounts cumulatively" is set, the setting "Match invoice amount with down payment plan when posting" is automatically set to "Update AZ plan" and cannot be changed.</p>
Release required for down payment plan rows	<p>Indicates whether down payment plan rows in the down payment plan must be marked as released before they can be transferred to an invoice.</p> <p>If the parameter is activated, the columns "Technical release" and "Release by" are displayed in the down payment plan rows and down payment invoices can only be created if the release in the column "Technical release" has been made by activation.</p> <p>When the parameter is activated, in the "Accountant" role center, in addition to the "Planned down payments" tiles, released down payments are also displayed in the "Released down payments" tile.</p>
Cumulative down payment planning	<p>Specifies whether amounts in the down payment plan should be specified in cumulative form (<i>including all previous down payments</i>) or in non-cumulative form (<i>only the respective invoice amount</i>).</p> <p>If the parameter is activated, the columns "Cum. Proportion Amount %" and "Cum. Anz. Amount" are displayed.</p> <p>The column "Cum. Anz. Amount" can be filled manually. In this case, the system calculates the "Down payment amount" column. Alternatively, the "Down payment amount" column can be filled in the other way round, so that the system calculates the "Cum. The system calculates the "Cumulative down payment amount". Basis for the reciprocal calculations are all other down payment plan lines with a date smaller than that of the current line.</p> <p>If a down payment invoice is created from the down payment plan, the "Down payment amount" is automatically updated. For this, the system subtracts from the "Cum. Anz.- Amount" the invoice amounts posted so far, which have not been cancelled.</p>
Automatic Reversal of Previous Down Payment Invoices for	<p>Specifies whether posting a cumulative down payment invoice automatically reverses all previous unpaid down payment invoices. Down payment</p>

Field	Description
Cumulative Down Payment	
	Use this parameter to specify whether only the down payment invoices already paid to the vendor (Paid option) or all down payment invoices (All option) should be taken into account for clearing during a final invoice deduction.
Final invoice for down payment invoices	<p>If the option "All" is set, then not only the down payment invoices already paid to the vendor, but all down payment invoices will be taken into account in the final invoice deduction. In this case, the down payment invoices that have not been paid yet will not be cleared via a credit note, but with a later incoming payment that clears open down payment invoices and final invoice.</p> <p>If the "Paid" option is selected, only down payment invoices that have already been paid will be included in the final invoice deduction.</p>
Automated posting of final invoices	<p>This parameter sets the automatic posting of the final invoice deduction. When a final invoice with order reference is posted, the system checks if there are any down payment invoices that have not been settled yet. Depending on the parameter setting, the system can create a final invoice deduction (Create option) or create and post it directly (Create+Post option).</p> <p>If no automatic creation (and posting) of a final invoice deduction is to take place, this field remains empty.</p>
Final invoice for several AZ strands	<p>This parameter is used to control how to proceed if the parameter Autom. posting of final invoices is set to Create or Create+Post and several down payment strings are included in the final invoice.</p> <p>If no final invoice deduction is to be created, the No final invoice option must be selected.</p> <p>The Error message option means that the normal invoice posting will stop with a corresponding error message.</p> <p>The Post final invoice option specifies that the final invoice deduction will be handled as defined via the Autom. posting of final invoices parameter.</p>
Automatic posting of remaining amount credits	<p>This parameter defines how to proceed with the down payment invoices that have not been paid.</p> <p>The prerequisite for this parameter is that Autom. posting of final invoices has been set to Create or Create+Post.</p> <p>The Create or Create+Post options define whether down payment credit memos will be created for the unpaid or only partially paid down payment invoices and eventually posted automatically.</p>

Field	Description
	If it has been defined in Final Invoice for Down Payment Invoices that all down payment invoices will be retrieved to the final invoice deduction, the creation of realized invoices may still be triggered when posting the down payment credit memo (see Autom. Posting of Realization Invoices).
Final invoice deduction max. in the amount of the invoice	<p>Specifies whether the final invoice deduction should be limited to the amount of the final invoice.</p> <p>If the down payments made exceed the final invoice amount, this setting makes it possible to create credit notes later for overpayments.</p>
Voucher No. Allocation Realization Invoices	Specifies whether to use either the document number of the posted down payment invoice supplemented by a suffix (Suffix option) or a separate document number series (Number series option) as the document number when posting realization invoices.
Real. Invoice document no. suffix	Specifies the suffix to be added to the document no. of the posted down payment invoice during the realization posting.
Real. Invoice numbers	Specifies the number series of the unposted invoice document for the realization posting.
Geb. realization invoice numbers	Specifies the number series for the posted invoice document for the realization posting.
Max. Credit amount of overpayments	Specifies the maximum amount for which credit memos can be automatically created for overpayments.
Document No.	Allocation of Overpayment Credits Specifies whether to use either the document no. of the posted down payment invoice supplemented by a suffix (Suffix option) or a separate document no. series (Number series option) when posting credit memos for overpayments.
Overpayment credit memo document no. suffix	Specifies the suffix to be added to the document no. of the posted down payment invoice during the realization posting.
Overpayment credit memo numbers	Specifies the number series of the unposted credit memo for the overpayment.
Geb. Overpayment credit memo numbers	Specifies the number series for the posted credit voucher for the overpayment.

**Vendor**

Further additional settings can be made on the vendor card on the "Invoicing" info tab. These then apply specifically to this one vendor.

<b>Field</b>	<b>Description</b>
Cumulative prepayments	Specifies whether to create down payments as cumulative invoices for this vendor. In case of cumulative down payment invoices, down payments already made will be included in new invoices.
Down payments at document line level	Specifies whether down payments are to be created for this vendor based on the entire purchase order or individual purchase order items. If this parameter is set, down payments and final invoices with final invoice deduction can be created for individual document lines.

**Cash Flow Setup**

Posted down payment documents and down payment plans may not be included in the cash flow accounts of regular receivables and payables, but must be shown in separate cash flow accounts. For this purpose, the following cash flow accounts must be defined in the "Cash Flow Setup":

<b>Field</b>	<b>Description</b>
Adv. Receivables CF Account No.	Specifies the account number to be used for receivables by down payment documents.
Sales Order Advance Plan CF Account No.	Specifies the account number to be used for sales order down payment schedules.
Adv. Payables CF Account No.	Specifies the account number to be used for payables by down payment documents.
Purchase Order Advance Plan CF Account No.	Specifies the account number to be used for purchasing purchase order down payment plans.
Project Down Payment Plans - Cash Flow Account No.	<p>Specifies the account number to be used for project down payment plans.</p> <p><b>Note</b> Analogous to "Project - Cash Flow Account No.", a net representation of amounts is also made on the "Project Down Payment Plans - Cash Flow Account.</p>

### Origin codes

Separate origin codes can be set up for down payment accounting documents in the "Origin code setup".

Field	Description
Sales down payments	Specifies the code associated with items posted in connection with down payment invoices and down payment credit memos in sales.
Purchasing down payments	Specifies the code associated with items posted in connection with down payment invoices and down payment credit memos in Purchasing.

### Report selection

For down payment accounting, you can use your own documents, which must be entered accordingly in the report selection for sales and purchasing.

The following reports can be used for sales:

Usage	Report ID	Report name
Down payment invoice	1306	Sale - Invoice
Down payment credit	1307	Sale - credit note
Final invoice deduction	5487540	Sale - Final Invoice

The following reports can be used for purchasing:

Usage	Report ID	Report name
Down payment invoice	406	Purchase - Invoice
Down payment credit	407	Purchase - credit note
Final invoice deduction	5487580	Purchasing - final invoice

### Down payment strands

The down payment string forms the basis of down payment accounting. In the standard system, down payment strings can be created for the following sources:

- Sell orders
- Sales order lines
- Projects (sales side)
- Purchase orders
- Purchase order lines

As described in the setup, down payment strings can be generated automatically with the new creation of documents. If the parameter "Automatic creation of AZ strings for orders" is set in the Accounts Receivable & Sales setup (or "Automatic creation of AZ strings for orders" in the Accounts Payable & Purchasing setup), a

down payment string will be created when creating a new document (or a new document line - setting per customer or vendor in the field "Down payments on document line level").

You can call up the down payment strings via the user search using the search term of the same name.

In the following, the fields from the overview are explained in more detail:



<b>Field</b>	<b>Description</b>
Lfd. No.	Specifies the unique number of the down payment string.
Description	Specifies a freely definable description for the down payment line. The description is initially specified with the corresponding document type and document number of the document, but can be changed individually.
Completed	Indicates whether this down payment string has been closed. Down payment strings are marked as closed when all linked down payment documents have been closed and final cleared. Even after closing, down payment documents can be posted again for the down payment string, the flag is then automatically removed again.
Source account type	Indicates whether the down payment string belongs to a customer or a vendor.
Source account no.	Specifies the number of the customer or vendor to which this down payment string belongs.
Source account name	Specifies the name of the customer or vendor to which this down payment line belongs.
Source table name	Specifies the name of the table to which this down payment string belongs. Options are: Sales header, Sales line, purchase header, purchase line
Currency code	Specifies the currency in which the source document for this down payment string was created.
Cumulative down payment	Specifies whether to create down payment invoices for this down payment string as cumulative down payment invoices. Cumulative down payments include the down payment invoices that have already been posted.
Prices incl. VAT.	Indicates whether the prices of the source document are specified including VAT. If this is the case, the prices in the down payment plan of the down payment string must also be specified gross.
Zlg. condition code	Specifies the payment terms for the source document. In the down payment plan, other payment terms can be specified for individual plan lines.
Project no.	Specifies the No. of the default project to which this down payment string is linked. Depending on the type of source document, this project number can be changed per down payment document.
Project description	Specifies the name of the default project to which this down payment string is associated.
Responsible	Indicates the person responsible for the project to which this down payment string belongs.

Field	Description
Project task no.	Specifies the project task to which this down payment string belongs. Depending on the type of source document, this can be overridden per down payment document.

Use the buttons in the menu bar to maintain or retrieve additional information:

Button	Description
Dimensions	Here you can define dimensions for the down payment string. When creating the down payment string, the dimensions of the source document are taken over. If the dimensions of the source document are changed, they will also be updated subsequently for the down payment string.
Source document	This button allows you to branch directly to the source document (sales order or purchase order) on which this down payment string is based.
Down payment plan	Here you can call up the down payment plan for this down payment line. There you can plan down payments and generate the corresponding invoices.
Display debit/credit items	The customer or vendor line items for the down payment line show additional information about the status of the down payments.
Display unposted documents	Here you can display the unposted documents for this down payment line.
Down payment statistics	Via this button you can call up the down payment statistics. This shows a detailed overview of all business transactions posted in connection with this down payment strand (see chapter 6.1).

The down payment plan stored for the down payment line is displayed in the info box area of the window.

#### Create down payment strings manually

If down payment strings are not created automatically when creating documents, they can be created manually from within the documents.

In the "Down payment string" field of the sales order or purchase order (or one of its lines) you can click "Link to down payment string".

The subsequent query must then be confirmed with the option "Create down payment string for this document".

If the document is to be linked to an existing down payment string, the option "Link to down payment string" can be selected.

If the document is already linked to a down payment line (a line number is displayed in the Down payment line field of the document), further actions can be performed via the link in this field.

## Down payment plans

The down payment plan defines which down payment invoices have to be issued and when. Final invoices can also be planned in down payment plans. Down payment plans are stored per down payment line.

This section describes how to create a down payment plan.

A down payment plan can be mapped based on a down payment string. The down payment plans can be accessed either from the source document (via the Down Payment String field) or from the Down Payment String window.

In the header of the down payment plan, information about the down payment string is shown. The following fields can be changed:

Field	Description
Cumulative prepayments	Specifies whether to create down payment invoices for this down payment string as cumulative down payment invoices. Cumulative down payments include the down payment invoices that have already been posted.
Description	Specifies a freely definable description for the down payment line. The description is initially specified with the corresponding document type and document number of the document, but can be changed individually.

The rows in the down payment schedule map the individual planned down payment invoices and the final invoice. The fields must be filled as follows:

<b>Field</b>	<b>Description</b>
Plan type	Indicates the type of down payment plan line. Down payments and final invoices can be planned
Invoice date	Specifies the date of the planned invoice.
Amount %	Specifies the percentage of the base amount to be settled with this down payment plan line. The base amount is equal to the value of the source document.
Payment Amount	Indicates the amount to be billed with this down payment plan line.  Note: If the total of all lines in the down payment planning type exceeds the base amount, a message will appear, if specified in the setup.
Cum. Proportion Amount %	Indicates the cumulative percentage of the base amount to be settled with the down payment plan lines. This amount includes all previous down payment plan lines.  This field is only displayed if the "Cumulative down payment planning" parameter is activated in the "Accounts Receivable and Sales Setup" or "Accounts Payable & Purchasing Setup"
Automatic cancellation of previous AZ invoices for cumulative down payment. Down payment	Indicates the cumulative amount to be settled with the down payment plan lines. This amount includes all previous down payment plan lines.  This field is only displayed if the "Cumulative down payment planning" parameter is enabled in the "Accounts Receivable and Sales Setup" or "Accounts Payable & Purchasing Setup"
Down payment amount	Indicates the amount in client currency to be settled with this down payment plan line.
Payment Term Code	Specifies the payment term code to be used to create the scheduled invoice. It will initially default to the code of the source document, but can be modified.
Description	Specifies an optional, user-definable description for this down payment schedule line. The description will be used as posting description in the document line of the generated document.
Job No.	Specifies the project to which this down payment plan line is linked.
Job Task No.	Indicates the project task to which this down payment plan line belongs.
Release for Invoicing	Indicates whether this down payment plan line may be transferred to an invoice.  This field is only displayed if the parameter "Release for down payment plan

Field	Description
	lines necessary" is activated in the "Setup Customer and Sales" or "Accounts Payable & Purchasing Setup".
Release by	<p>Indicates which user has released the down payment plan line for invoicing.</p> <p>This field is only displayed if the parameter "Release for down payment plan lines necessary" is activated in the "Setup Customer and Sales" or "Accounts Payable &amp; Purchasing Invoice".</p> <p>This field is only displayed if the parameter "Release for down payment plan lines necessary" is activated in the "Setup Customer and Sales" or "Accounts Payable &amp; Purchasing Invoice".</p>
Unposted Invoice No.	Indicates the document number of the unposted sales or purchase invoice created for this down payment plan line. If a document was created for the down payment plan line, this line cannot be retrieved again into a document.
Down Payment Invoice No.	Specifies the document number of the posted sales or purchase invoice created for this down payment plan row. If a document has been posted for the down payment plan row, this row cannot be recalled into a document.
Posting Status	<p>Indicates the posting status for this down payment plan line.</p> <p>Options are: Open, Posted, Paid, Credited, Final Cleared</p>
Non-deductible VAT %	Indicates the current identical percentage from the purchase order for the down payment plan line. For down payment plan lines created for a complete purchase order, this is a weighted percentage across all purchase order lines in the source document. For down payment plan lines created using the "Create lines for order items" function, the percentage is taken from the relevant purchase order line. Through the down payment invoice creation function, the "Non-deductible VAT %" is taken from the down payment plan line to the invoice line.
Warning	Warnings are displayed here if any information is missing. There must be no warnings if a document is to be generated.

The following actions can be performed using the buttons in the ribbon:

<b>button</b>	<b>description</b>
Create down payment invoices (for selected lines)	This function allows you to create an unposted down payment invoice for selected down payment plan lines of the down payment planning type.
Create lines for order items	Here you can create down payment plan lines based on document lines contained in the source document.
Insert Template	Opens the list of available down payment plan templates to insert several predefined lines.
Withholdings	Views the list of withholdings to assign them to the respective down payment plan lines.
Display Generated Invoice	Allows you to view the generated, unposted invoice for this down payment plan line. This is only possible if a document number is specified in the "Unposted invoice no." field.
Remarks	This button can be used to store remarks for the down payment plan lines.
Dimensions	Shows the dimensions for the down payment plan line. The dimensions can be revised here.
Delete Down Payment String	Here the current down payment string including the down payment plan can be deleted. This is only possible if no documents have been posted for this down payment line yet.
Down payment statistics	Use this button to call up the down payment statistics. This shows a detailed overview of all business transactions posted in connection with this down payment strand.

### Advance payments in sales

This section shows a typical posting history of down payments in the Sales area. The basis for the down payment string is a sales order. A down payment plan has already been defined. The procedure for down payments at order line level or based on projects is analogous - the starting point is always a down payment string.

### Create and post a down payment invoice

The individual down payment plan lines that have not yet been retrieved can be retrieved in down payment invoices. This can be done in two different ways:

- Creating a down payment invoice from the down payment plan
- Create a sales invoice and call off the plan lines From the down payment plan, a sales invoice can be created automatically for one or more down payment plan lines of the planning type "Down payment". To do this, the desired lines must be selected, then the function "Create AZ invoice (f. selected lines)" is executed.

The created document will be opened directly afterwards.

In addition to the already known fields, the following fields are important for documents with reference to down payment strings:

Field	Description
Down payment	Specifies whether this document should be posted as a down payment document. This has an influence on the handling of the posted document in the further posting process.
Post final invoice	This field can be used only for final invoice documents (documents without down payment indicator).
Down payment string	Indicates to which down payment line this document is linked. The specification is necessary for down payment documents as well as for final invoices, so that the posting can be assigned accordingly.

Customer and posting date are taken from the down payment plan line. The down payment indicators are also set and the document is linked to the down payment line.

The down payment plan lines are copied to the lines of the document. The G/L account from the field "Deb. Unrealized Down Payments" field from the customer's posting group. It is important that this G/L account has a VAT product posting group with unrealized tax. Otherwise an error message will appear.

The sales price without VAT is filled with the down payment amount of the down payment plan line. If the "Prices incl. VAT" field is activated in the down payment line, the amount from the down payment plan is transferred to the "Sales price incl. VAT" field instead.

In the down payment plan, the "Unposted invoice no." field is filled after the invoice is created. The "Display created invoice" button can be used to return to the created A/R down payment invoice.

When posting, the next sequential number of the number series from the field Dept. down payment invoice numbers of the Accounts Receivable & Sales setup is used as the document number. Corresponding G/L items are created.

The receivable for this invoice is posted to the G/L account "Deb. Collective account down payments" from the customer's customer posting group.

The VAT items show the facts of the unrealized tax.



Additional information about the down payment is shown on the customer item.

If an A/R down payment invoice is created directly, the fields for the down payments must be set manually in the document header. If a down payment line was selected for which a down payment plan was also maintained, a function can be used to copy the plan lines that have not yet been called into the document.

Via the menu item "Prepare" > "Get down payment plan lines" in the ribbon, the down payment plan can be opened.

There, the relevant lines can be marked and the selection confirmed. The lines will then be inserted into the sales invoice.

In documents marked as down payment, only texts and G/L accounts can be used in the lines.

If an A/R down payment invoice is to be created for which no down payment plan has been defined, the document lines can also be entered manually. If a line with the type "G/L account" is created, the no. with the G/L account "Deb. Unrealized down payments" from the customer posting group.

#### **Payment of a down payment invoice**

When paying a down payment invoice, the same options exist as when paying a normal sales invoice:

- Posting of a payment via a ledger sheet with specification of a clearing
- Posting a subsequent clearing in the accounts receivable item

When clearing a down payment invoice with a payment, the following transfer postings are made:

- Unrealized tax to sales tax
- Unrealized down payment to down payment received

The account for down payments received is drawn from the VAT posting matrix (Deb. Real. Down Payment Account field).

- Normal receivables account to receivables account for down payments

These accounts are determined from the customer posting group. Clearing for down payment invoices can also be canceled again. The transfers posted with the clearing are then reversed again, so that the down payment is again managed as posted but not paid.

#### **Note**

If down payment invoices are issued in foreign currency, there may be discrepancies between the requested down payment amount and the amount actually received due to exchange rate differences during payment.

These exchange rate differences are posted to the realized prepayment account when payment is made, so that the prepayments received correspond to the amount actually received.

#### **Advance payment credits**

The following section shows how to credit an incorrect or overstated down payment invoice.

A credit memo is necessary if a down payment invoice was posted incorrectly. A down payment credit memo can also be created in the event that the down payment invoice is no longer required because a final invoice has been issued in the meantime.

An A/R down payment credit memo is initially recorded as a normal A/R credit memo, for which additional down payment information is then set:

Field	Description
Down payment document type	Indicates whether this document is a down payment credit memo.
Down payment string	Specifies the down payment string to which this down payment refers.
Clearing with voucher no.	Specifies the document number of the posted down payment invoice to be reversed with the credit memo.

If a down payment string is selected, the open down payment invoices for this down payment string are automatically proposed for selection. The "Customer item clearing" window opens. After selecting an invoice document, the "Clear with document no." field is filled and the document lines from the posted invoice are copied to the down payment credit memo.

Alternatively, the function "Call up AZ invoice for credit memo" can be executed under the menu item "Prepare" in the menu ribbon. Here, too, the list of open down payment invoices is displayed, which can be canceled with the credit memo.

#### Note

The procedure for down payment credit memos differs from that for normal credit memo documents\_ in the following respects.

- Only exactly one down payment invoice can be cleared with an A down payment credit.
- It is not possible to subsequently clear down payment invoice and credit note, the credit note must be cleared directly with the invoice when posting.
- Clearing between down payment credits and invoices cannot be canceled.

#### Posting the final invoice

When the final invoice is posted, the down payments must be cleared or reversed. The clearing of the down payment takes place in the form of a credit note as a so-called final invoice deduction. Requested down payments can either be cleared with the final invoice deduction or credited. This is regulated by the setting "Final invoice for down payment invoices" in Accounts Receivable & Sales Setup. The other settings here control the creation of the necessary follow-on documents (Auto Post Final Invoices, Auto Post Remaining Amount Credits, Auto Post Realization Invoices fields). These documents can be automatically created and, if necessary, posted when the final invoice is posted. If this is not the case, the down payments must be cleared manually via documents.

If the final invoice is posted and the fields for automatic creation of follow-on documents are set, corresponding messages (or corresponding messages for creating and posting the follow-on documents) will appear.

**Final invoice deduction**

With the final invoice deduction the down payments are cleared with the final invoice. The final invoice deduction refers to a down payment string, which means that only down payments for this down payment string can be cleared, even if other down payments may exist for the customer.

The final invoice deduction reduces the receivables from the final invoice issued by the cleared down payments and clears them.

For this to be mapped, the following fields in the document are relevant:

<b>field</b>	<b>Description</b>
Payment document type	Indicates whether this document is a final invoice deduction.
Payment String	Indicates the down payment string to which this document relates.
Clearance with Document No.	Specifies the document number of the posted final invoice with which the down payments are to be cleared.

For the final invoice deduction, after the "Down payment document type", the field "Clearing with document no." must be filled first, if the document is created manually. The document number of the final invoice is specified here. In the "Down payment string" field, you can then select from which down payment string down payments are to be cleared. After selection, the down payments that have not yet been cleared appear automatically.

The selected lines are then transferred to the credit memo as document lines. As G/L account the account "Deb. Real. Down payment account" is taken from the VAT posting matrix. This is the case even if the cleared down payment is one that has not yet been paid. Made down payments that have not been received are then credited and re-posted as received down payment ([see following section](#)).

Final invoice deductions can also be created manually in this way.

When the final invoice and final invoice deduction are posted, customer items are created, invoice and final invoice deduction were cleared with each other.

Via the interface "Down payment string" this fact can be traced in further interfaces.

The down payment debit items show in detail the transactions posted to the down payment string and indicate which amount was invoiced, whether the invoice was paid or credited and whether it has already been finally cleared.

The down payment statistics also provide information on the current status of the down payment string.

**Treatment of unpaid down payment invoices**

Unpaid down payment invoice must be credited with the final invoice. There are two cases, depending on the setting of the "Final invoice for down payment invoices" parameter in the Accounts Receivable & Sales setup:

- Unpaid down payment invoices are not cleared against the final invoice deduction (option: Paid): a down payment credit must be posted.
- Unpaid down payment invoices are cleared with the final invoice deduction (option: all): a down payment credit must be posted as well as a realized invoice for the down payments received.

The down payment credit memo is created in the same way as the reversal procedure (section ["Down payment credit memo"](#)). When the down payment credit memo is posted, the requested down payments are cleared again.

This also occurs when the unpaid down payment invoices have been offset against the final invoice deduction. However, as this has already reduced the down payments received, they must be reposted as realized.

This document is a normal sales invoice made with the account for down payments received from the VAT posting matrix (Deb. Real. Down Payment Account field). This clears the final cleared down payment of the final invoice deduction.

**Cancellation options****Cancellation of a down payment invoice**

Down payment invoices that have not yet been paid can be cancelled via down payment credit notes (see section ["Down payment credit note"](#)).

**Cancellation of a down payment**

If a down payment invoice has already been cleared with a down payment, the reversal of the posted down payment is done via the cancellation of the clearing and a subsequent write-off via a ledger sheet or the reversal of the payment transaction.

When clearing is cancelled, the transfer of down payments, receivables and VAT from unrealized to realized is reversed again (see also section ["Payment of a down payment invoice"](#)).

**Reversal of a final invoice deduction**

Cancellation of posted final invoice deductions is done by cancelling the clearing of final invoice and final invoice deduction. Thereby the opened final invoice deduction is automatically charged off via an invoice (with down payment document type final invoice deduction). The document number assignment for this reversal is defined in the Accounts Receivable & Sales setup (field Document number assignment final invoice deduction reversal and following).

When the clearing is cancelled, the reversal document is created automatically, a message about the created document appears.

The following picture then appears in the customer items: the final invoice was reopened in full, the final invoice deduction was reversed and cleared with the reversal.

## Note

If the final invoice deduction was also used to clear unpaid down payment invoices and create realized invoices, it is necessary to

- the realized invoice is manually charged off (=cancelled) via a credit note.
- The original unpaid down payment invoice that was reversed with a down payment credit memo to be manually re-posted via a new down payment invoice.

## Overpayments

It may happen that the amount of the deposit received exceeds the amount of the final invoice. Thus, more than 100% of the final invoice has been paid.

In the down payment debit items, such a case can be recognized by a negative open down payment amount after final clearing.

This amount can be automatically charged off via an overpayment credit note. Relevant for this are the settings in the Accounts Receivable & Sales setup (Max. credit amount of overpayments field and following).

To do this, select the item with the overpayment and call the "Overpayment credit memo" function. A credit note will be created and opened.

The credit note shows a reference to the down payment line. The G/L account for realized down payments is entered in the lines as well as the open, overpaid amount.

When the credit memo is posted, the overpaid down payment is cleared and an open item is created for the customer. This can now be used for a refund or for clearing with another invoice.

If an error occurred when creating a credit note, the credit note can be transferred to an invoice using the Copy document function ("Including header" must be activated in the options) and then posted.

## Calculation cash flow planning

When transferring cash flow planning information to the cash flow worksheet, the following origin types to be included can be selected when calling the "suggest worksheet lines" function:

- Sales Order Advance Plans
- Purchase Order Advance Plans
- Job Advance Plans

to define which down payment plans should be included in the cash flow planning. When considering the respective payment plans, sales order lines, purchase order lines and projects with down payment transactions are not included in the cash flow planning.

Even if the payment plans listed above are not included in cash flow planning, down payment invoices flow into cash flow planning and reduce the values for sales orders, purchase orders, and projects.

The account assignment to origin types is based on the cash flow setup.

## Retentions

In order to manage retentions for down payment and final invoices, it is possible to define any number of retentions for invoices.

When creating down payment invoices, negative lines are listed for the retentions in the respective invoice, so that the retentions amounts are deducted from the invoice amounts.

When posting invoices that contain retention amounts, an additional invoice document with the respective retention amount will be posted for each retention amount.

### Allocation of retention amounts in the down payment plan

If retentions are stored in the system, the call "Retentions" appears in the down payment plan on the info tab "Lines". If there are no retentions, the call is automatically hidden by the system.

The menu item "Retentions" opens a view in which all suitable retentions (*matching "Supported cost type" and "Supported document type"*) are listed for the currently selected down payment plan line. Per withholding, a percentage of the down payment amount or a fixed amount can now be specified.

If a down payment invoice is created from the down payment plan, an additional line is inserted in the invoice document for each selected down payment.

The line contains the specified amount with a negative sign. The amount 1, is keyed to the "Unrealized account" of the [Retention setup](#) and takes into account the description from the retentions or their translations.

If there are additional dimensions stored on the "Retentions", they will be added to the line as well.

!!! note "Note Retentions for final invoices in the down payment plan are for information purposes only. In order for withholdings to take effect in the final invoices, they must be set up in the respective document (sales order, purchase order, invoice) ([see following section](#)).

### Assignment of retentions in orders / invoices

For sales orders, purchase orders or invoices that are not created via the down payment plan, down payments can be entered in the document via the menu item "Insert down payments".

When the menu item is called up, the same view appears as when it is called up from the down payment plan, so that the amounts for the desired retentions can be stored there.

When closing this view, the lines for retentions are inserted directly in the respective document (*sales order / purchase order / invoice*).

### Note

Retentions for final invoices are not mapped for this process. Setting up withholds for final invoices in the down payment plan is for informational purposes only ([see section before](#)).

### Document posting

When a document is posted, the system automatically checks whether it contains lines with withholdings. If this is the case, an additional invoice is generated and automatically posted for each line with a retention amount.

The document gets the same document/ and posting date and the same document number as the original document, only supplemented by the suffix from the [Retention setup](#).

In addition, the payment term from the "Retention" is stored on the document.

If the original document is a down payment invoice, the newly created document for the retention will also be marked as a down payment invoice.

The document contains a line about the selected G/L account of the retention, the corresponding amount with positive show and the quantity 1. Here, too, any additional dimensions of the retention are taken into account.

When the document is posted, the "code" of the retention amount is transferred to the vendor/customer item, as well as to the generated project items or down payment project items. This serves the later evaluability.

### Payment on down payment invoices

When a down payment invoice created for a retention is paid, a transfer of the net amounts, tax and payables/receivables from the "Unrealized" to the "Realized" accounts takes place analogously to regular down payment invoices.

Here, in contrast to regular down payment invoices, the net values of goods are transferred from the "Unrealized account" to the "Realized account" from the "Retentions".

### Evaluations

In the reports "Vendor items per" and "Customer items per", the field "Retention filter" can be used to control whether retentions should be included in the result or not.

### Evaluations

The following interfaces can be used for evaluations or an overview of the current status for a down payment string:

- Down payment statistics
- Down payment debit item / down payment credit item

### Down payment statistics

The down payment statistics show a detailed overview of all business transactions posted in connection with this down payment line.

In the header, the Display amounts as field can be used to select whether net or gross amounts are to be displayed.

In the matrix, all planned and posted vouchers are listed on the left. The columns to the right of it show the individual vouchers and amounts per posting date.

**Down payment item**

The customer or vendor items for the down payment line show additional information on the status of the down payments. In addition to the amount and remaining amount, separate columns show whether an amount has been paid or credited or whether it has been cleared via a final invoice deduction. The column "Open down payment amount (paid, not cleared for closing)" provides information about outstanding postings.

The buttons can be used to perform the following actions:

Button	Description
Item	
Set/remove filter for open AZ	Selects whether this list should show only items with open down payment amounts.
Down payment statistics	Shows a detailed overview of all posted transactions linked to the down payment line of the current item (see section <a href="#">"Down payment statistics"</a> ).
Navigate	Searches all items and documents that exist for the posting date and document number of the current item.
Detailed items	Time all posted items and corrections to the current customer item.
Show receipt	Opens the posted document for the current item.
Overpayment	
Overpayment credit	Creates a credit memo document for a down payment item with an overpayment (see the <a href="#">"Overpayments"</a> section).
Realization calculations	
Real. Invoices	Opens the posted realization invoices linked to this item (see the section <a href="#">"Treatment of unpaid down payment invoices"</a> ).
Real. Credits	Opens the posted realization credits associated with this item (see the <a href="#">"Overpayments"</a> section).



## Cash flow

In the "Cash flow planning statistics" and "Cash flow availability by period" presentations, the following types of origin are shown:

- Advance payment receivables
- Advance payment plans
- Down payment liabilities
- A/P down payment plans
- Project down payment plans

### **Note**

Analogous to projects, project down payment plans are also shown with net amounts (see also [cash flow setup](#)).

In the Cash Flow Date Summary report, amounts for the down payment accounting source types listed above flow into the following standard source types:

- Receivables
- Payables
- Sales orders
- Purchase orders
- Projects

## Down payments in purchasing

For down payments in purchasing, down payment strings can be created based on purchase orders or purchase order lines.

The posting procedure and the corresponding documents are analogous to the procedure in the Sales area (see section ["Down payments in Sales"](#)).

## Non-deductible VAT

In the down payment accounting, the Microsoft Dynamics 365 Business Central Standard function of ["Non-deductible VAT"](#) is supported in down payment accounting.

In addition to enabling the ["Non-deductible VAT"](#) feature in the standard Microsoft Dynamics 365 Business Central, the setups described in the ["VAT product posting groups and VAT posting matrix"](#) section must be made in Down Payment Accounting.

As stated in the ["Down-payment-plans"](#) section, the "Non-deductible VAT %" is transferred from the purchase order to the rows of the down-payment plan and from here to the down-payment invoice and the other down-payment accounting documents.

## What happens after the free trial



[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).

## 1.3.4 Change Log Quick Access

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### Overview

The "Change Log Entries" function in Business Central Standard can only be called up in the "Administration" main menu and displays all data in an unfiltered and unclear manner.

The app "Change Log Quick Access" from KUMAVISION extends this function in that the change log can be opened directly from any master data card. Preset filters then show you exactly the log items of the data record that you need, without you having to make any further settings.

All views can be filtered multiple times. The existing signal lights can also be replaced by icons of your choice.

Thereby, the change log access offers you the following advantages:

- Maximum transparency through visual representation
- Short response time in case of bottlenecks in warehouse and logistics
- Prompt invoicing for booked delivery
- High level of customer satisfaction thanks to the ability to quickly provide information on the availability of articles
- Short-term information provision for management

### Introduction Change Log Quick Access

 [Change Log Quick Access | KUMAVISION App](#) from [KUMAVISION](#) on [Vimeo](#).  
[Link to Microsoft App Source "KUMAVISION Change Log Quick Access"](#)

### Change log setup

#### Activation change log

After successfully installing the app, the change log must first be activated. To do this, call up the change log setup via the user search.

The change log setup opens. Now activate the "Change Log Activated" check box.

#### Logging tables and table fields

Via Setup > Tables in the ribbon you can define the tables with the corresponding table fields for logging.

To do this, first select the desired table. Using the "Insert / Edit / Delete logging" fields, you can select whether and if so, which changes are to be logged by the system.

Field	Description
Log Insertion	Specifies that inserts of new data are logged. You can choose from the following options:
	<b>Empty:</b> No insertions are logged in any field.
	<b>Some fields:</b> Insertions are logged for selected fields. You can define the selection of the fields by opening the field overview via the Assist button [...]. Set a check mark in the column "Log Insertion" if logging is desired for the respective field.  <b>All fields:</b> Insertions are logged for all fields.
Log Modification	Specifies that changes to the data are logged. You can choose from the following options:
	<b>Empty:</b> No changes are logged in any field.
	<b>Some fields:</b> Changes are logged for selected fields. You can define the selection of the fields by opening the field overview via the Assist button [...]. Set a check mark in the column "Log editing" if logging is desired for the respective field.  <b>All fields:</b> Changes are logged for all fields.
Log Deletion	Specifies that deletions of data are logged. You can choose from the following options:
	<b>Empty:</b> No deletions are logged in any field.
	<b>Some fields:</b> Deletions are logged for selected fields. You can define the selection of the fields by opening the field overview via the Assist button [...]. Place a check mark in the "Log deletion" column if logging is desired for the respective field.  <b>All fields:</b> Deletions are logged for all fields.

## **Change log item usage**

### **Change log Access**

For the following pages you can now use the " access" via the change log:

- Customer Card
- Customer List
- Vendor Card
- Vendor List
- Item Card
- Item List
- Insurance Card
- Insurance List
- Routing Version List
- Machine Center Card
- Machine Center List
- Fixed Asset Card
- Fixed Asset List
- Bank Account Card
- Bank Account List
- Stockkeeping Unit Card
- Stockkeeping Unit List
- Job Card
- Job List
- Contact Card
- Contact List
- Comment Sheet
- Service Item Card
- Service Item List
- Rlshp. Mgt. Comment Sheet
- Stock. Unit Comment Sheet
- Production BOM
- Production BOM List
- Production BOM Version
- Routing
- Routing List
- Routing Version
- Work Center Card
- Work Center List
- Manufacturing Comment Sheet
- Prod. BOM Version List
- Prod. Order BOM Cmt. Sheet
- Routing Comment Sheet
- Prod. Order Comment Sheet
- Prod. Order Rtng. Cmt. Sh.
- Prod. Order Comp. Cmt. Sheet
- Chart of Accounts
- G/L Account Card
- G/L Account List
- Resource Card
- Resource List
- Sales Price and Line Discounts

- Item Cross Reference Entries
- Blanket Sales Order
- Blanket Sales Order List
- Sales Credit Memo
- Sales Credit Memo List
- Sales Invoice
- Sales Invoice List
- Sales Order
- Sales Order List
- Sales Quote
- Sales Quote List
- Sales Return Order
- Sales Return Order List

The change log can be accessed from the respective master data cards via "Related"> "History"> "Change Log".

#### Note

If you cannot see the changes in the history, please close the system once and log in again. This process may occur during the very first use of the functionality after installing the app. After that, the changes will be written automatically.

#### Change log item

Alternatively, you can view the change log items in the overview of the same name provided for this purpose. To do this, call up the "Change log items" via the user search.

#### What happens after the free trial



[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).

## 1.3.5 Core

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### General

The Core App does not offer any features for the end user, but serves as a common basis for all KUMAVISIONs Apps as the most central collection of shared functionalities. The main feature is the module setup, which can be used to control all verticals and modules and manage their registrations. Furthermore, the Core App also offers additional administrative features.

### Module Setup

You can find the KUMAVISION Module Setup either via the Tell me function or the Advanced settings. In the module setup you will find general information about your licensing status of all KUMAVISION modules and industry solutions. Using the corresponding Actions you can update the registration information and purchase additional packages if necessary. Furthermore, you can set which modules are active in your current client.

#### Note

The option to purchase additional packages is only available in SaaS environments. If you are using Business Central onPrem, please contact your partner.

#### Warning

In order for us to verify the proper registration of our apps in an on-premise environment, the following URIs must be accessible without restrictions! Please adjust your firewall- and proxy-setup accordingly.

- <https://kvssappreg001.azurewebsites.net/>
- <https://businesscentral.dynamics.com/>

### Connection Test

The connection test can be called from the KUMAVISION Module Setup or from the search. When running the test, it checks if some basic services are available which are necessary for the proper functioning of the system. If there were any errors during the test, the corresponding message can be displayed by clicking on *Details*. For even more information, the test result can also be exported.

### Frequently Asked Questions

My Role Center is completely empty. What can I do?

This problem usually occurs in onPrem environments when no [user experience](#) has been set up in the company informations. This can be the case after adding a completely empty company.

To fix the problem, open the KUMAVISION Module Setup. Here you will see a notification that allows you to open the company information page. Here, in the FastTab *User experience*, the setting can be made according to the license model.



## 1.3.6 Sanction Check

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### Overview

Companies with international business contacts must ensure that there are no relationships with sanctioned individuals, associations or organizations. The Sanction Check app turns this complex task into a fully automated process.

Review your contacts for compliance with export control laws, U.S. interdiction and early warning lists, and European anti-terror regulations (EC 881/2002 and 2580/2001). This will ensure that your company complies with legal requirements.

In doing so, the sanction check offers you the following advantages:

- All contacts are checked against a variety of different sanctions lists
- Legally compliant logging
- Manual verification of individual addresses or persons possible
- Ad hoc checks when creating a new contact
- Periodic master data check
- Automatic checks, e.g. when creating quotations, purchase orders, deliveries or contracts
- Locked contacts are displayed directly in the process or when creating master data
- Reliable security that no delivery can be made to blocked contacts
- Consistent processes and always compliant action
- Full integration with Business Central

### Introduction Sanction Check



[ComplianceCheck Setup](#) from [KUMAVISION](#) on [Vimeo](#).

[Link to Microsoft App Source "KUMAVISION Sanction Check"](#)

### Lists for the sanction check

- Common Foreign & Security Policy [EU-CFSP]
- Japan METI - The Foreign End User List [JP-METI].
- Consolidated list of financial sanctions targets [HM-List]
- UN ISIL (Da'esh) & Al-Qaeda Sanctions List [UN-AQSL].
- Specially Designated Nationals List [US-SDN]
- Iran Watch List Suppliers [IW-SUP].
- Denied Persons List [US-DPL]
- Iran Watch List Entities [IW-SUS].
- Unverified Parties List [US-UVL].
- Sanctions against Russia and Ukraine [EU-RUUA]
- Entity List [US-EL]
- UN Consolidated United Nations Security Council List [UN-CSL]
- US Statutorily Debarred Parties List [US-DTC].
- State Secretariat for Economic Affairs SECO [SECO-List].

- Nonproliferation Sanction List [US-ISN].
- Foreign Sanctions Evaders List [US-FSE]
- Sectoral Sanctions Identifications List [US-SSI].
- US-List of Persons Identified as Blocked Solely Pursuant to
- Executive Order 13599 [13599-list]

## Setup

### Wizard Sanction Check

After the successful installation of the "Sanction Check" app, the setup wizard is started. Within the wizard you can set up all necessary information for the sanction check. Alternatively, you can call up the wizard via the "Assisted Setup" > "Sanction Check" or set up the necessary setup manually via the [Sanction Check Setup](#).

### Sanction Check Setup

#### General

Field	Description
Duration of Validity	Specify here the validity period for the sanction checks performed. If the validity has expired, the results will become invalid. Invalid checks can be automatically updated via the task queue item.
Save Request and Response Data	Specify here whether incoming and outgoing data streams should be saved in Microsoft Dynamics 365 Business Central. If this field is checked, the requests and responses from the web service will be saved to the database.
Max Message Size	Set the maximum message size for queries here. Changing this value should only be done if corresponding error messages are reported back by the web service.

**S-Check**

The information provided on the "S-Check" info tab is only used in OnPrem environments.

<b>field</b>	<b>description</b>
S-CHECK Endpoint Address	Defines the endpoint URL of the web service. The initial default address is:  "https://z3.tia.com/Kumavision-SCHECK/addressScreening".
S-CHECK Username	Set the username for logging in to the S-CHECK web service.
S-CHECK Password	Set the password for logging in to the S-CHECK web service here.
S-CHECK Mandator	Specify the S-CHECK client for the connection to the S-CHECK web service.
S-CHECK Search Profile Name	Specify the search profile for the connection to the S-CHECK web service.

**Sales**

On the "Sales" info tab, you can define whether and at which process stages within sales processing an automatic sanction check is to take place. To do this, activate the respective switch.

**Purchase**

On the "Purchasing" info tab, you can define whether and at which process stages within purchasing processing an automatic sanction check is to take place. To do this, activate the respective switch.

**Bitmaps**

On this info tab you can store icons for the respective bitmap results.

**Functions in the menu ribbon****Batch Check Entities**

Use batch processing to review filtered entities of contacts, accounts receivable, accounts payable, and employees.

**Job Queue Entries**

Job queue items allow you to set automatic update intervals for sanction checks.

**Workflows**

With the help of the workflows you can define possible reactions to changed sanction checks.

**Buy additional queries**

If you want to buy additional queries, call up the KUMAVISION Module Setup via the user search. You can purchase additional queries via the menu ribbon "Action>Buy app packages".

## Use sanction check

### Customer verification

To carry out the sanction check for a customer, call up the customer overview via the user search. Via "New" in the menu ribbon, you then create a new customer as usual with all the necessary information.

Then perform the "Force Sanction Check Refresh" action in the "Sanction Check" infobox.

If your customer is on a sanctions list, the result is "Blocked". Otherwise, the result will be "Ok".

A lookup on the result will take you to the Sanction Check Entities page, where you can view detailed information about the customer.

### Vendor verification

To carry out the Sanction Check for a vendor, call up the vendor overview via the user search. Via "New" in the menu ribbon, you then create a new vendor with all the necessary information as usual.

Then perform the "Force Sanction Check Refresh" action in the "Sanction Check" infobox.

If your supplier is on a sanctions list, the result is "Blocked". Otherwise, the result will be "Ok".

A lookup on the result will take you to the Sanction Check Entities page, where you can view detailed information about the supplier.

### Contact verification

To perform the Sanction Check for a contact, call up the contact overview via the user search. Via "New" in the menu ribbon, you then create a new contact with all the necessary information as usual.

Then perform the "Force Sanction Check Refresh" action in the "Sanction Check" infobox.

If your contact is on a sanctions list, the result is "Blocked". Otherwise, the result will be "Ok".

A lookup on the result, will take you to the Sanction Check Entities page, where you can view detailed information about the contact.

### Employee Review

To carry out the Sanction Check for an employee, call up the contact overview via the user search. Via "New" in the menu ribbon, you then create a new employee as usual with all the necessary information.

Then perform the "Force Sanction Check Refresh" action in the "Sanction Check" infobox.

If your employee is on a sanctions list, the result is "Blocked". Otherwise, the result will be "Ok".

A lookup on the result will take you to the Sanction Check Entities page, where you can view detailed information about the employee.

**Automatic check on release of sales/purchase documents**

In the Sanction Check setup you can define which documents should be checked before release. In addition, you can set which addresses should also be checked.

**Customer/supplier was not checked**

If you forgot to check your customer/supplier, you must not release a sales/purchase document. It is necessary to check your customer/supplier on the customer/supplier card before you can release the sales/purchase document.

**Customer/supplier was previously checked**

If your customer/supplier is on a Sanction Check list and has been previously checked, the system will issue a notification message about the last failed sanctions check for this customer/supplier. You must not release the sales quotation.

Provided your customer/supplier has been previously audited and is not on a sanctions list, you can work with your additional checks via the corresponding info boxes.

For each activated check, the result must be "OK". Otherwise, you must not release the document.

**What happens after the free trial**

[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).

## 1.3.7 Credit-Check App powered by Creditsafe

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### Overview

With the Credit-Check App powered by Creditsafe you can check the solvency of your (future) customers, partners or service providers, reduce your credit risk and thus build long-term successful business relationships. KUMAVISION Credit-Check App powered by Creditsafe gives you easy access to the world's most widely used credit report "Creditsafe", directly from Microsoft Dynamics 365 Business Central.

The Credit-Check App powered by Creditsafe offers you the following advantages:

- Daily updated creditworthiness reports incl. inquiry logging
- Queries from Business Central incl. direct contact creation
- Company monitoring
- Automatic data update cycle
- Address validation for matching and updating of company & address data in Business Central
- Pre-built workflows for setting credit limits or blocking a contact based on the credit rating
- Cost control and budget security through fixed price model

You reduce your processing times and identify risks at an early stage to avoid bad debt losses. Outdated data and double entries are a thing of the past - always work with validated debtor/creditor and contact data with correct company name and address.

### Introduction Credit-Check App powered by Creditsafe



[Credit-Check App powered by Creditsafe | KUMAVISION App \(EN\)](#) from [KUMAVISION](#) on [Vimeo](#).

[Link to Microsoft App Source "KUMAVISION Credit-Check App powered by Creditsafe"](#)

### Setup

In order to use the Credit-Check App powered by Creditsafe, some settings have to be made in advance. On the one hand, this concerns the setup and assignment of users and authorization sets and the basic setup of the "Creditsafe Global Gateway Services" for credit reporting. The individual setup steps for the connection are listed and explained in more detail below.

#### Registration

After successful installation, the app must be registered for use free of charge. Please return to the Business Central Role Center and confirm the pop-up prompt for registration.

#### User authorization

In order to use the Credit-Check App powered by Creditsafe, some settings have to be made in advance. On the one hand, this concerns the setup and assignment of users and authorization sets and the basic setup of the

"Creditsafe Global Gateway Services" for credit reporting. The individual setup steps for the connection are listed and explained in more detail below.

<b>Authorization record</b>	<b>Description</b>
CRS Setup	<p>This authorization set grants the respective user full access rights to the connection. I.e.:</p> <ul style="list-style-type: none"> <li>• set up the connection</li> <li>• create new queries</li> <li>• View credit reports</li> </ul>
CRS Edit	<p>This permission set grants the user the following access rights:</p> <ul style="list-style-type: none"> <li>• create new queries</li> <li>• View credit reports</li> </ul>
CRS View	<p>This permission set grants the user the following access rights:</p> <ul style="list-style-type: none"> <li>• View credit reports</li> </ul>

#### **Wizard Creditsafe Credit Check**

In order to make the setup of the connection as comfortable as possible for the users, a wizard has been developed to guide you through the individual steps. This wizard can be accessed via the start page "Assisted Setup" / "Facilities to the Creditsafe Global Gateway Service / Creditsafe Connect API". Alternatively, users can also set up the facilities via the individual application areas. The information that can be stored in each case is identical.

The wizard is started. The individual steps are explained in more detail below:



Wizard step	Description
Welcome screen	<p>A welcome message appears at the beginning.</p> <p>Click on "Next" to continue.</p>
Query Creditsafe Account	<p>If you already have a Creditsafe account, click "Next" to continue.</p> <p>You do not have an account yet? Please click on the following link to activate your free trial account with Creditsafe:</p> <p> <a href="#">Link to Creditsafe Belgien</a>  <a href="#">Link to Creditsafe Germany</a>  <a href="#">Link to Creditsafe France</a>  <a href="#">Link to Creditsafe Italy</a>  <a href="#">Link to Creditsafe Netherlands</a>  <a href="#">Link to Creditsafe Great Britain</a>  <a href="#">Link to Creditsafe United States of America</a> </p>
Connection information	<p>Enter the connection information in this window. Click on "Next" to proceed to the next installation step.</p>
Service URL	<p>At this point the URL to the Creditsafe web service is stored.</p> <p>By default, this field is filled with the URL, which is common in Germany:</p> <p><a href="https://connect.creditsafe.com/v1">https://connect.creditsafe.com/v1</a></p>
Setup user	<p>You can create a new user via the "Setup user" button. The corresponding fields are explained below:</p> <p><b>Creditsafe User Name:</b></p> <p>Enter here your personal username for the connection, provided by Creditsafe. This field is mandatory.</p> <p><b>Creditsafe Password:</b></p> <p>Enter here your personal password for the connection, provided by Creditsafe. The password is stored encrypted in the database.</p> <p>Close the "User Setup" window and click "Next" in the wizard to proceed to the next installation step.</p>
Modify Countries	<p>In Microsoft Dynamics 365 Business Central, as in Creditsafe, country codes are used. Since the codes used in both systems do not necessarily have to match, the Business Central country codes have to be mapped to the Creditsafe country codes. When the action "Modify countries" is called, the country codes are queried from Creditsafe and stored in Microsoft Dynamics 365 Business Central. To query the data a connection to an external service of Creditsafe is necessary. Allow the app to access the external service once or always, if you have not already granted this permission. After retrieving the countries from the Creditsafe service, the current list of countries is displayed in a Business Central window. In this list you will see all the Creditsafe</p>

## Wizard step

### Description

countries for which you are activated. If there is a matching Business Central counterpart for a Creditsafe country code, the assignment in the "Country code" column is already suggested automatically. Please check the automatic assignments at this point and change them if necessary by selecting a Business Central-internal country code. Then confirm the "Creditsafe Countries" window with "OK" to return to the setup wizard. Click "Next" in the current step of the setup wizard to proceed to the next installation step.

In the "Basic settings" window you can make various settings as well as defaults.

#### **Default E-Mail address for Offline Report:**

If a report cannot be requested online, you have the option within the app to request an offline report from Creditsafe. To ensure that this report can be sent to you easily by e-mail and for any queries on the part of Creditsafe, please use the "Default e-mail address for offline report" field to specify which e-mail address should be used for this purpose.

#### **Default Language:**

Use the "Default language" field to specify the language in which you would like to receive the creditworthiness reports. If the report is available in the selected language, it will be retrieved accordingly.

#### **Default Language (secondary):**

Use the "Default language (alternative)" field to specify the alternative language in which you would like to receive the creditworthiness reports. If the report is not available in the default language, the alternative default language will be used for retrieval. If there is no report in the alternative language either, the available language of the report will be used.

#### **Default Country:**

Select as default country the Creditsafe country code through which a company search should be performed by default. In the company search, you can search for companies that are not yet created in your database as contacts, customers or vendors. In this case, as well as in cases where the "Country code" field of the contacts, debtors or creditors is empty, the country specified here will be suggested for the search, but can be overwritten in the search window.

#### **Default Matchtype:**

When you search for a company on Creditsafe, specifying the company name, the search is performed for the entire term or partial words. Specify here the search mode you want to use to search for companies by default. You can override this field again in the company search. The value specified here is only a suggestion and to simplify the search. Possible values are:

#### **MatchBeginning:**

## Basic settings

**Wizard  
step****Description**

Searches at the beginning of the company name for the exact term specified

Example: "Testfirma GmbH & Co. KG" will be found by "Test", "Testfirma", "Testfirma GmbH" etc.

**MatchBlock:**

Searches for a partial text within the company name Example: "Testfirma GmbH & Co. KG" is found by "estfirm", "GmbH", "irma" etc.

**MatchAnyPars:**

Searches for text blocks in the company name - One block per search term Example: "Alpha Bravo charlie Co. KG" is found by "alph ravo", "lpha harl" etc.

**MatchWords:**

Searches for whole words regardless of the order Example: "Testfirma GmbH & Co. KG" is found by "gmbH Testfirma", "KG GmbH" etc

**MatchBlockOrWords:**

ombination of MatchBlock and MatchWords Searches partial texts as well as whole words regardless of the order.

**ExactValue**

Searches for the entire exact partial text Example: "Testfirma GmbH & Co. KG" is found by "testfirma gmbH & co. kg".

**ClosestKeywords**

Searches for any keyword using a "fuzzy" logic (similar to fuzzy search) Example: "Alpha Bravo charlie Co. KG" is found by "brava", "brawo" etc.

The possible search modes vary depending on the country used. If you have any questions about this, please contact your Creditsafe representative.

The default setting for Germany is "MatchWords".

In Germany, it is mandatory that a cause code for the query is transmitted in the course of a creditworthiness query. In this field, specify the default DE cause code to be used by default. You can override the DE cause code within the company search. The code specified here is used only as a default value.

**Default DE  
Reason  
Code**

Possible values are:

- Credit decision
- Credit assessment - future business relationship (with default risk)
- Credit assessment - Existing business relationship (with default risk)
- Realization check for debt collection
- Purchase agreement - intention to sign a purchase agreement (with risk of default)
- Capital goods credit insurance (with default risk)

**Wizard  
step****Description**

- Contract - intention to sign a lease or rental agreement (with default risk).
- Insurance contract - intention to sign an insurance contract (with risk of default).

The default setting is "Credit check - Existing business relationship (with default risk)".

Click "Next" in the current step of the setup wizard to proceed to the next installation step.

In the advanced settings you can define which automation steps should be executed by the connection and how the application should react to changed data.

**Modify Name & Address**

Use this field to specify how the application should handle changed company or address data in the course of retrieving creditworthiness reports.

The possible options are:

**Prompt User**

Unless the query is run in the background, if name or address information is changed, a window will open prompting the user to accept individual or all of the changed data.

**Always**

Changed company name or address information is always automatically transferred to the address master by the application. There is no separate query to the user!

**Advanced  
settings****Never**

Changes to the company name or address data will not be accepted.

The default value of the application is: User query.

**Regular Update Interval**

The application provides a batch run that is used to update the existing creditworthiness reports at a regular interval. This run is executed every day and, depending on the date formula stored here, checks whether the last successfully retrieved creditworthiness report is out of date. If this is the case, a current report is automatically retrieved.

The default value of the application is: 6M. This will automatically update credit reports every 6 months.

**Request Report with Job Queue**

Provided that this field is activated, creditworthiness reports for known Creditsafe addresses are queried in the background. The advantage of this method is that the user does not have to wait for the query and the processing of the result, but can

<b>Wizard step</b>	<b>Description</b>
	<p>continue working in parallel.</p> <p>The prerequisite for background processing is that the contact/debtor/creditor to be queried already contains an assigned Creditsafe ID. If this is not the case, the company search is started and the query cannot be performed automatically in the background due to the required selection of the correct company.</p> <p><b>Job Queue Category Code</b></p> <p>Provided that the task queue is to be used for querying creditworthiness reports in the background, you can specify a category for grouping the queue items here.</p> <p><b>Notify On Success</b></p> <p>Check this box to be informed about the notifications after a background check has been performed and a new credit report is available.</p> <p>The system automatically generates a notification, the link to which allows you to branch directly to the master record of the contact/customer/vendor.</p> <p>Click "Next" in the current step of the setup wizard to proceed to the next installation step.</p>
Portfolios	<p>Via portfolios, it is possible in Creditsafe to group selected companies and, for example, to enable monitoring of a group. Furthermore, notification settings for individual portfolios can be activated via the Creditsafe website so that, for example, automatic e-mail notifications are generated when monitored companies change.</p> <p>Select the "Modify Portfolios" function to retrieve the portfolios already stored in Creditsafe and save them in a Business Central table. Once retrieved, the portfolios will be displayed in a Business Central screen.</p> <p>For more information on managing portfolios, please refer to the chapter "Managing Portfolios". Click "Next" in the current step of the setup wizard to proceed to the next installation step.</p>
Job queue entries	<p>Job queue entries allow you to manage automations that perform time-based or change-based updates to credit reports in conjunction with the Creditsafe connection.</p> <p>Select the Open Task Queue Item action to open the Task Queue Item page.</p> <p>In this window, two tasks have been integrated by "Credit-Check App powered by Creditsafe", but not activated. Thus, you can decide for yourself whether automatic updates should occur or not.</p> <p><b>Codeunit 70259982 - KVSCRSJobUpdatePortfolio</b></p> <p>This task is called by default once a day on each weekday and updates the companies named in a portfolio if they have undergone a change by Creditsafe. The batch</p>

**Wizard  
step****Description**

automatically queries the portfolios and if changed companies are named by the query, the updated creditworthiness reports for these companies are obtained in the background.

**Codeunit 70259981 - KVSCRSJobIntervalUpdateReport**

This task is called by default once a day on each weekday and updates the companies whose last successfully retrieved creditworthiness report is older than the date specified due to the date formula in chapter "Update cycle" in combination with the current date. The batch checks the date of the last report for all assigned Creditsafe companies in the master data and performs the creditworthiness queries for the corresponding companies in the background.

Click "Next" in the current step of the setup wizard to proceed to the next installation step.

**Workflows**

Workflows can be used to perform actions in Microsoft Dynamics 365 Business Central depending on events or record changes. This logic has been extended by "Credit-Check App powered by Creditsafe" to include the event of a new successful credit report retrieval.

Select the "Open workflows" action to get to the list of workflows where you can create new workflows based on workflow templates. Two workflow templates have been created automatically:

- Block a debtor/creditor on the basis of a credit report
- Set credit limit based on credit report

Both workflow templates are assigned to the new category "Creditsafe" and can be used to set the credit limit or block a debtor/creditor based on the values of a new credit report. Click on "Next" in the current step of the setup wizard to proceed to the next installation step.

**Assign  
contacts**

The action "Assign contacts" can be used for the first assignment of Creditsafe IDs to already created contacts. Before the creditworthiness reports of a contact/debtor/creditor can be retrieved, an assignment to a Creditsafe ID is mandatory. While this step is done automatically for the selected master record in the course of the individual retrieval of a report from the contact/debtor/creditor card, an assignment can be made at this point for all already created contacts via the action "Assign contacts". If a contact is linked to a customer or vendor, the Creditsafe ID will also be assigned to the linked record.

After calling the action, a Creditsafe company search will be executed with the default parameters for the search mode (see chapter "Default search mode") and the DE cause code (see chapter "Default DE cause code"). You can still narrow down the contacts to be searched within the call by setting appropriate filters on the contacts.

For example, in the following screen shot, only the contacts with a country/region code "DE" for Germany are retrieved. Likewise, other arbitrary filters are possible for

## Wizard step

### Description

restriction.

Since this process makes a query to the Creditsafe system for each record, this process takes a corresponding amount of time.

After the search has been completed, a mask is displayed with all contacts that have not yet assigned a Creditsafe ID. In the column "Number of found Creditsafe companies" you can see how many companies were found for the search entry. By clicking on the number, you can view the different companies.

Using the action "New" -> "Assign unique IDs", you can automatically include all IDs that could be uniquely assigned ("Number of found Creditsafe companies" = 1) in the assignment.

For all contacts for which more than one entry was found, you have to make an assignment manually by clicking on the number in the column "Number of found Creditsafe companies" and a subsequent selection of the corresponding company entry.

If no company can be assigned to a contact ("Number of found Creditsafe companies" = 0), you can open the company search by clicking on the number and adjust the transferred search parameters for a new individual search.

After adjusting the search parameters (e.g. by removing the address and/or the postal code) and calling up the search again (shortcut: Ctrl+F), the company can be found and is assigned by clicking on "OK".

Click "Next" in the current step of the setup wizard to proceed to the next installation step.

*This setup step is only available if the app [„Vendor Rating Management“](#) of KUMAVISION AG is installed parallel to this app!*

### Vendor Rating Authentication Type

*This field is only visible in on-premise environments!* The field can be used to control whether the authentication of the API connection should be done via **OAuth2** authentication or **Basic Authentication**.

## Vendor Rating Connection

### Vendor Rating User ID

*This field is only visible in on-premise environments!* In this field, the user ID must be entered, via which data is passed on to the Vendor Rating Management module.

### Password

*This field is only visible in on-premise environments!* The user's password must be entered in this field to ensure connection via the API interface.

**Wizard  
step****Description****Vendor Rating AAD-Application**

*This field is only visible in SaaS environments or when selecting the Vendor Rating Authentication Type OAuth2!* In this field, select the "Azure Active Directory Application" to be used for authentication against the API.

**Vendor Rating Connection Client Secret**

*This field is only visible in SaaS environments or when selecting Supplier Rating Authentication Type OAuth2!* The "secret key" (Client Secret) of the Azure AD App registration must be stored in this field.

**Use Vendor Rating Connection**

This field controls whether to establish an API connection to the Vendor Rating Management (VRM) module. This field contains the following options:

*Undecided:*

No decision has been made yet whether to establish a connection between this app and the VRM module. This value is the initial value of the setup.

*Yes:*

A connection between this app and VRM module is to be established. In this case, the other fields in the interface setup must be filled in.

*No:*

The interface between this app and VRM module should not be used.

**Vendor Rating Type Code**

This field is used to set the rating type from the vendor rating module for credit checks.

The "Assist" button for this field can be used to reference an existing rating type with the code **CREDITSAFE**. If no corresponding rating type exists yet, it will be created automatically.

**Notice:**

If there is not yet an rating type with the code **CREDITSAFE**, it must be created via the Assist button. A corresponding rating type is necessary to pass the information between the module Credit-Check powered by Creditsafe and the VRM module.

Finish  
setup  
wizard

This completes the setup of the "Credit-Check App powered by Creditsafe".  
  
Click the Finish action to exit the Setup Wizard and close the window.

If you subsequently want to change setup parameters, you can restart the setup wizard at any time or alternatively open the "Setup Creditsafe Service" window via the Role Explorer (under "Setup and Extensions")



/ "Manual Setup") or the search (magnifying glass). In the setup area, the following individual setup steps can also be performed:

- Setup Creditsafe service
- User setup
- Creditsafe countries (update and assign)
- Creditsafe Portfolios
- Task queue post
- Workflows
- Vendor Rating Connection (*provided that the app "Vendor Rating Management" of KUMAVISION AG is also installed in parallel.*)

#### Vendor Rating Connection

If the module for vendor rating (KUMAVISION „[Vendor Rating Management](#)“ is installed in parallel to the Credit-Check powered by Creditsafe app, these two applications can be set up in such a way that credit checks are automatically included in the vendor rating. Communication between the two modules takes place via an API connection, with API calls generally being authenticated via service-to-service authentication. Only in an on-premise environment, a basic authentication by means of user ID and web service access key can be used as an alternative.

#### Note

For the general setup of a Service-to-Service (S2S) authentication for API access, please refer to the standard guidance from Microsoft. <https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/administration/automation-apis-using-s2s-authentication> However, when assigning user permissions in the Business Central page (*Azure Active Directory application map*), additively add the user permission record **KVSVRMSETUP!**

To activate the interface to the supplier rating, the following setups must be made:

Field	Description
Vendor Rating Authentication Type	<i>This field is only visible for On-Premise environments!</i> Using this field you can decide, whether to use <b>OAuth2</b> -Authentication or <b>Basic Authentication</b> for API connection.
Vendor Rating User ID	<i>This field is only visible for On-Premise environments!</i> This field must be used to enter the user through which the API interface passes data to the vendor rating module.
Password	<i>This field is only visible for On-Premise environments!</i> The password of the selected user must be entered in this field to secure the connection via the API interface.
Vendor Rating AAD-Application	<i>This field is only visible in SaaS environments or when selecting the Vendor Rating Authentication Type OAuth2!</i> In this field, select the "Azure Active Directory Application" to be used for authentication against the API.
Vendor Rating Connection Client Secret	<i>This field is only visible in SaaS environments or when selecting Supplier Rating Authentication Type OAuth2!</i> The "secret key" (Client Secret) of the Azure AD App registration must be stored in this field.
Use Vendor Rating Connection	<p>This field controls whether to establish an API connection to the Vendor Rating Management (VRM) module. This field contains the following options:</p> <p><b>Undecided:</b> No decision has been made yet whether to establish a connection between this app and the VRM module. This value is the initial value of the setup.</p> <p><b>Yes:</b> A connection between this app and VRM module is to be established. In this case, the other fields in the interface setup must be filled in.</p> <p><b>No:</b> The interface between this app and VRM module should not be used.</p>
Vendor Rating Type Code	<p>This field is used to set the rating type from the vendor rating module for credit checks.</p> <p>The "Assist" button for this field can be used to reference an existing rating type with the code <b>CREDITSAFE</b>. If no corresponding rating type exists yet, it will be created automatically.</p> <p><b>Notice:</b> If there is not yet an rating type with the code <b>CREDITSAFE</b>, it must be created via the Assist button. A corresponding rating type is necessary to pass the information between the module Credit-Check powered by Creditsafe and the VRM module.</p>

**Action "Test vendor rating API connection"**

This action can be used to test the API connection to the Vendor Rating Management (VRM) module. The system issues a corresponding message here whether the connection could be established or not.

**Functionality**

Through the API interface between the Credit-Check powered by Creditsafe (CRS) and Vendor Rating (VRM) modules, vendor rating items are formed based on the credit reports, which can be processed by the vendor rating functionality.

The rating classification (A - E) from the credit report is used as the basis for the vendor rating item. If a rating score is stored for the classification, this is transferred to the vendor rating item.

!!! note "Note Within the interface between the modules Credit-Check powered by Creditsafe and Vendor Rating, one vendor rating entry is generated for each credit check.

**Use credit check****Query credit report**

Two different ways are offered for retrieving the creditworthiness information. The use of the respective step depends, for example, on whether a business relationship already exists with the company to be queried and thus the data record has already been created as a customer, vendor or contact, or whether it is a matter of initiating a new business relationship and thus no master data record exists yet.

While it is possible to retrieve current creditworthiness information from the respective master record for existing data records, the company search is used for new companies.

**Credit rating retrieval via the Creditsafe Company Selections**

To find a company via the Creditsafe Company Selections and retrieve a credit report, open the "Creditsafe Company Selections" card via the User Search.

In the Creditsafe Company Selections, search information can be entered and a search based on the Creditsafe company database can be started.

Use the "Name", "Address", "Post Code", "City", "Country", "Creditsafe ID", "Creditsafe SafeNumber" and "VAT ID" fields to narrow down the results accordingly.

Use the "German Reason Code" selection field to specify the reason for the query. In Germany, a legitimate interest in a credit report is legally required. Therefore, please use the selection field to specify the reason for the query.

The "Search type" field is used to define the basis on which entries are searched. The search types are available here:

Search type	Description
MatchBeginning	The beginning of the text must match. Example: "Alpha Bravo Charlie" is found by specifying "alph", "alpha", "alpha bra" etc.
MatchBlock	A block of text must match. Example: "Alpha Bravo Charlie" is found by specifying "ravo" "ha bra", "ha bravo char" etc.
MatchAnyParts	Text blocks must match - one block per "token". Example: "Alpha Bravo Charlie" is found by "alph ravo arl", "lph harl" etc.
MatchWords	Match whole words regardless of order. Example: "Alpha Bravo Charlie" is found by "alpha", "alpha bravo", "bravo alpha" etc.
MatchBlockOrWords	Match a textblocked or whole words regardless of the order. In some countries an independence from the order is not possible! Example: "Alpha Bravo Charlie" will be found by any text from MatchBlock or MatchWords.
ExactValue	All text must match. Example: "Alpha Bravo Charlie" will only be found by "alpha bravo charlie".
ClosestKeywords	Each word in the query is checked against a list of keywords that describe a company. Example: "Alpha Bravo Charlie" is found by any text from MatchWords plus "brava", "brawo" etc.

#### Note

Please note that due to restrictions on the part of Creditsafe services, not all search types are available in every country! For detailed information, please contact your local Creditsafe contact person.

After entering the search criteria, you can start the company search via the "Find" action.

The companies found are displayed in the hit list. If a company has already been created in your database as a master data record (*customer, vendor or contact*), then the corresponding hit is displayed in color.

In addition to the basic company information, you can also see from the list whether the online report, monitoring, basic report or complete report options are available.

This information is based on the country-specific settings and your individual contract information with Creditsafe.

If a master data record already exists for a hit and the entry is highlighted in color, you can open the respective master data card via "Open".

If the respective entry does not yet exist as a master record, you can create the corresponding master record via "Create as".

By clicking on "Get report" you can call up a creditworthiness report for the respective match the respective hit without having to create the data record as a master data record.

In this case, however, the creditworthiness report cannot yet be "anchored" to a master data record and is therefore offered for download.

#### Creditworthiness retrieval from the master data

Info boxes have been integrated within the contact card, customer card and vendor card, which directly display the most important creditworthiness information for the respective master record.

If you have opened a master data record for which no credit report has been created yet and to which no Creditsafe-Id has been assigned, this info box is without content.

To retrieve a credit report for this contact, click on the heading "Last Credit Check" in the info box and select the action "Do Credit Check".

If no Creditsafe ID has been assigned yet, the "Creditsafe Company Search" will open first. Select the corresponding hit in order to assign the unique ID.

The creditworthiness report is then retrieved. In addition to the creditworthiness data, the complete address data is also included in the Creditsafe report, so that if there are any differences between the data already stored and the results of the creditworthiness report, the "Creditsafe address comparison" is displayed. Here you have the possibility to transfer single or all changed field information into the current master record.

Subsequently, the data record is automatically updated and the infobox "Last credit report" is displayed with the valid data of the credit report.

#### View credit information

#### Infobox data

Info boxes have been integrated within the contact card, debtor card and creditor card, which directly display the most important creditworthiness information for the respective master record.

The values displayed are:

- Rating
- Rating Description
- Creditworthiness index
- Creditworthiness index Description
- Proposed credit limit
- Date / time of the last report call-off
- Creditsafe ID
- Creditsafe safe number
- Number of portfolios in which the master record is listed with link to the portfolios
- Reference to changed address data due to the last creditworthiness report with link to the changed address data (see Update address data).

## View credit report

Select the action "Last credit report" / "Show credit report" to display the PDF report of the last credit query.

## Show XML data file

In addition to the transferred creditworthiness data and the PDF report, by calling the action "Last Credit report" / "Show XML data file" to call up the underlying data file. Here contains all the information about the company that is also displayed in the PDF report. This file ensures that, for example, at a later point in time, further information on the companies can be imported and interpreted in Business Central tables.

In addition to the allocation to industries, current employee figures and balance sheet information, this also concerns Notes on management / shareholder structure and positive/negative changes.

For an exact representation and description of the data included, please contact your Creditsafe contact.

## Reset creditsafe assignment

If an incorrect Creditsafe ID has been assigned to a company by mistake, the company must be informed accordingly. To remove the link again. To do this, the incorrectly assigned contact / customer / vendor is called up.

If you call up the "Delete creditworthiness information" action within the "Last creditworthiness report" info box, the assignment is cancelled.

Creditworthiness reports that have already been retrieved are marked as "Invalid" and are no longer used for the display. Consequently, the new company search can be started and the correct company assigned via the "Last credit report" / "Query creditworthiness" call.

## Note

No retrieved reports or log entries are deleted!

## Update address data

In addition to the pure creditworthiness data, the connection to the Creditsafe WebService is also able to return the current, validated address data to Microsoft Dynamics 365 Business Central. This ensures that no outdated address data exists in the address master.

Depending on the setup, you can specify whether changed address data should be applied automatically, by user query or not at all.

If this setting has the value "User query", the user is informed of the changed values with a change mask depending on the processing type of the query. If background processing ("Query report via task queue") is disabled or if the query is from the company search, a change of address window is displayed immediately after the report has been retrieved.

If background processing is activated, the "Changed address data" field in the "Last credit report" info box for the contact/debtor/creditor is displayed with the value "Yes". In this case, the identical window opens only after clicking on the value "Yes".

Within the window the existing address from the data master is displayed.

You can transfer any individual value from the master record or the Creditsafe record to the resulting record in the above display by clicking on the value.

If you want to apply all values of a record, you can click the "Apply All" button either in the "Database" or "Creditsafe" column.

Furthermore, the values in the "Resulting record" area can also be edited manually. After data maintenance has been completed, you can transfer the values from the resulting data record to the master record using the "Update customer" or "Update vendor" or "Update contact" action.

Afterwards the selected data will be taken over into the master data record. The window "Creditsafe address matching" closes and the value "Changed address data" within the infobox is reset to the value "No".

If you do not want to perform any update, you can simply close the "Creditsafe Address Matching" window. In this case, no changes will be made to the master record and the value "Changed address data" within the info box will remain with the value "Yes".

#### **Manage portfolios**

In portfolios at Creditsafe, companies can be grouped in order to be able to monitor them and to start actions depending on events.

The portfolios are exchanged bi-directionally between the (protected) Creditsafe website and your Business Central system, so that a group created in Business Central is also visible from the website access and the contained companies can be seen and edited from both systems.

To create a portfolio in Microsoft Dynamics 365 Business Central or check the existing portfolios, open the "Creditsafe Portfolios" window from the "Creditsafe Service Setup".

#### **Update portfolios**

Since, in principle, portfolios can be created not only via "Credit-Check App powered by Creditsafe", but additionally via the Creditsafe web interface, they must be compared against each other.

While portfolios created in Microsoft Dynamics 365 Business Central are automatically transferred to Creditsafe in the background, the Creditsafe website cannot automatically write to the Business Central database.

In order to nevertheless transfer the portfolios created there to Business Central, the action "Update portfolios" has been developed. After calling this function, a connection to the Creditsafe service is established and the portfolios stored there are retrieved and compared with the portfolios already created in Business Central.

#### **Create portfolio**

To generate a new portfolio from Microsoft Dynamics 365 Business Central, create a new record in the "Creditsafe Portfolios" window via the "New" action. After you have given the new portfolio a name and the record has been inserted, it is automatically transferred to the Creditsafe service in the background and created there as a new portfolio as well.

**Delete portfolio**

To delete an existing portfolio from Microsoft Dynamics 365 Business Central, switch to the corresponding record in the "Creditsafe Portfolios" window and start the "Delete" action. The portfolio will be deleted in the Business Central database and the delete command will be passed to the Creditsafe service in the background.

**Include companies in portfolio**

In order for a company to be monitored within a portfolio, it must be assigned to the portfolio. There are two different ways to do this, which can be used from the respective starting point of the call.

**Note**

Please note that only companies can be assigned to a portfolio if the property "Monitoring possible" is activated for the corresponding data set. This property depends on the respective data set as well as on your Creditsafe contract. If you have any questions, please contact your Creditsafe advisor.

**Portfolio list - add company**

Provided that you have called the portfolio list from the "Setup Creditsafe service", you can call the list of companies assigned to this portfolio by selecting a record and calling the action "Companies".

Within the opened list "Creditsafe Portfolio Companies" you can create a new assignment via the action "New" and add the related company to the portfolio by specifying the corresponding Creditsafe ID.

**Company card - Add to portfolio**

If you have opened the contact / accounts receivable or accounts payable card of a company that you have assigned to a Portfolio, you can add a portfolio to the info box by clicking on the item "Number of Portfolios" to open the "Creditsafe Portfolio Company" window.

Within the opened "Creditsafe Portfolio Companies" list, you can create a new assignment using the "New" action and add the company to the respective portfolio by specifying the corresponding portfolio.

**Remove company from portfolio**

To remove a company from monitoring within a portfolio, there are two different ways that can be used starting from the respective starting point of the call.

**Portfolio list - remove company**

Provided that you have called the portfolio list from the "Setup Creditsafe service", you can use Selecting a record and invoking the "Company" action will bring up the list of companies that are allocated to this portfolio.

Within the opened "Creditsafe Portfolio Company" list, you can use the "Delete" action to delete remove an existing assignment. The change is sent directly after the action to the Creditsafe service forwarded, so that the assignment is also removed on the Creditsafe website.

**Company card - Remove from portfolio**



If you have opened the contact / accounts receivable or accounts payable card of a company that you want to remove from a portfolio, within the info box you can use the link of the item "Number of Portfolios" to open the "Creditsafe Portfolio Company" window.

Within the opened "Creditsafe Portfolio Company" list, you can use the "Delete" action to delete remove an existing assignment. The change is sent directly after the action to the Creditsafe service forwarded, so that the assignment is also removed on the Creditsafe website.

#### Check protocol

In the Creditsafe log, every query made against the Creditsafe web service is procollated. You can reach the log via the user search, the role center or the navigation menu as "Creditsafe request log".

In the subsequent list, all performed queries are listed chronologically. The query parameters are displayed as well as the date & time and the user ID of the querier. Furthermore, the response data as well as the response date and time are listed. The status and the status description are also included, so that in the event of an error, the status description can be used for troubleshooting.

Depending on the query type, the actions can be used to display the creditworthiness report or the response XML data structure.

#### Set up task queue items

Two task queue items have been automatically created via the "Credit-Check App powered by Creditsafe" setup. The list of task type queue items can be opened via the user search or the role center via the term "Task queue items".

#### Update run due to update cycle

The task queue item "KVSCRSJobIntervalUpdateReport" is based on the code unit 70259981 and can be used to trigger a regular update of the creditworthiness reports depending on the setup parameter "Update cycle" (see Update cycle). The task start time is set to "04:00" by default and can be customized.

#### Note

The update run only takes into account companies for which online report retrieval is possible. If only an offline report is available for a company due to company or country restrictions, it will not be automatically re-requested.

#### Update run due to portfolio update

The item "KVSCRSJobUpdatePortfolio" is based on code unit 70259982 and is used to query the created portfolios at regular intervals and to automatically update the creditworthiness reports for the changed master data in the event of changed data. The start time of the task is set to the value "02:00" by default and can be customized.

Via the creation of the task queue items, both tasks are created as "Recurring tasks" with a "Number of minutes between executions" of 1440, which corresponds to a daily run. If a different rotation is desired, the parameters of the task queue items can be changed here.

## Note

The update run only takes into account companies for which online report retrieval is possible. If only an offline report is available for a company due to company or country restrictions, it will not be automatically re-requested.

### Set up workflows

About the setup of "Credit-Check App powered by Creditsafe" two workflow templates have been created, which can be used to create workflows that react in the background to changes in creditworthiness data.

#### Workflow template KVSCREDITSAFE-BLOCK - "Block a customer/vendor due to a credit report"

The workflow template "KVSCREDITSAFE-BLOCK" / "Create a customer/vendor based on a credit report Block" is set up by default in such a way that when a new creditworthiness report is created for a debtor or creditor, if the valuation of the report shows the value "D" or "E", first the credit limit is set according to the proposed credit limit of the credit report and then the Master record is locked.

#### Workflow template KVSCREDITSAFE-LIMIT - "Set credit limit based on credit report"

The workflow template "KVSCREDITSAFE-LIMIT" / "Set credit limit based on credit report" sets on the basis of a newly prepared creditworthiness report for a debtor, the credit limit is increased to the level set by Creditsafe proposed value unless the valuation of the debtor corresponds to the value "D" or "E".

### What happens after the free trial



[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).

## 1.3.8 EDX - Electronic Data eXchange

### General

EDX - Electronic Data eXchange stands for the document exchange module of KUMAVISION 365. EDI documents are sent in different formats, e.g. EDIFACT, VDA, OpenTrans etc.. A converter handles the conversion from the external format to the EDX internal XML format.

EDX then processes the converted messages and imports them into Microsoft Dynamics 365 Business Central. Required message acknowledgements are automatically sent within the internal document exchange. In the case of external EDI (electronic data interchange), message acknowledgement must be coordinated with the EDI service provider.

Incoming messages are validated by the EDX module. This means that the message content is loaded into the EDX document and checked for correctness, discrepancies and completeness. The user can manually correct the data in the EDX document and subsequently create the associated Business Central document.

For incoming messages, mapping is often required between the external item units and those stored in Business Central. For this purpose, the EDX module provides appropriate mapping tables.

The following diagram should clarify which task EDX takes over in the electronic document exchange:

Area	Description
1 <sup>st</sup> communication	In this area the communication of the data exchange parties takes place.
	For the transmission different protocols are used. The transmission protocols are usually specified by the data sender. Automotive, for example, uses the OFTP2 protocol. The trade sector tends to use X.400 or AS2.
	It is not always necessary to use a service provider for document exchange. For X.400 transmission, for example, FileWork from Telekom can be used. However, if the OFTP½ protocol is required, then it makes sense to delegate the task of document exchange to a service provider
Message converter	The incoming messages are converted from the source format to the EDX target format using a converter. For example, EDIFACT messages are converted to EDX in-house format. For outgoing messages, the message is converted from the EDX in-house format to the respective target format.
EDX Inhouse Format	The Inhouse Format maps the documents of the Business Central business processes in a defined format. EDX uses the XML format for this purpose. The documents are described in the "KUMAVISION EDI Guideline".
4. EDX Business Logic	In this area the previously converted documents are transferred into intermediate documents. With the "Business Logic" all relevant process steps are served, which are necessary for the examination of the document, creation as well as processing of the Business Central document. If it is possible by the document, an automation of the business process takes place.

## Business processes

The EDX module enables internal as well as external document exchange. BC documents can be exchanged within a group of companies as well as with external EDI partners.

### Internal document exchange

If there is a hierarchical company structure with several companies, then the document exchange can be implemented with the EDX module. Here, the documents of the individual companies can be exchanged among each other.

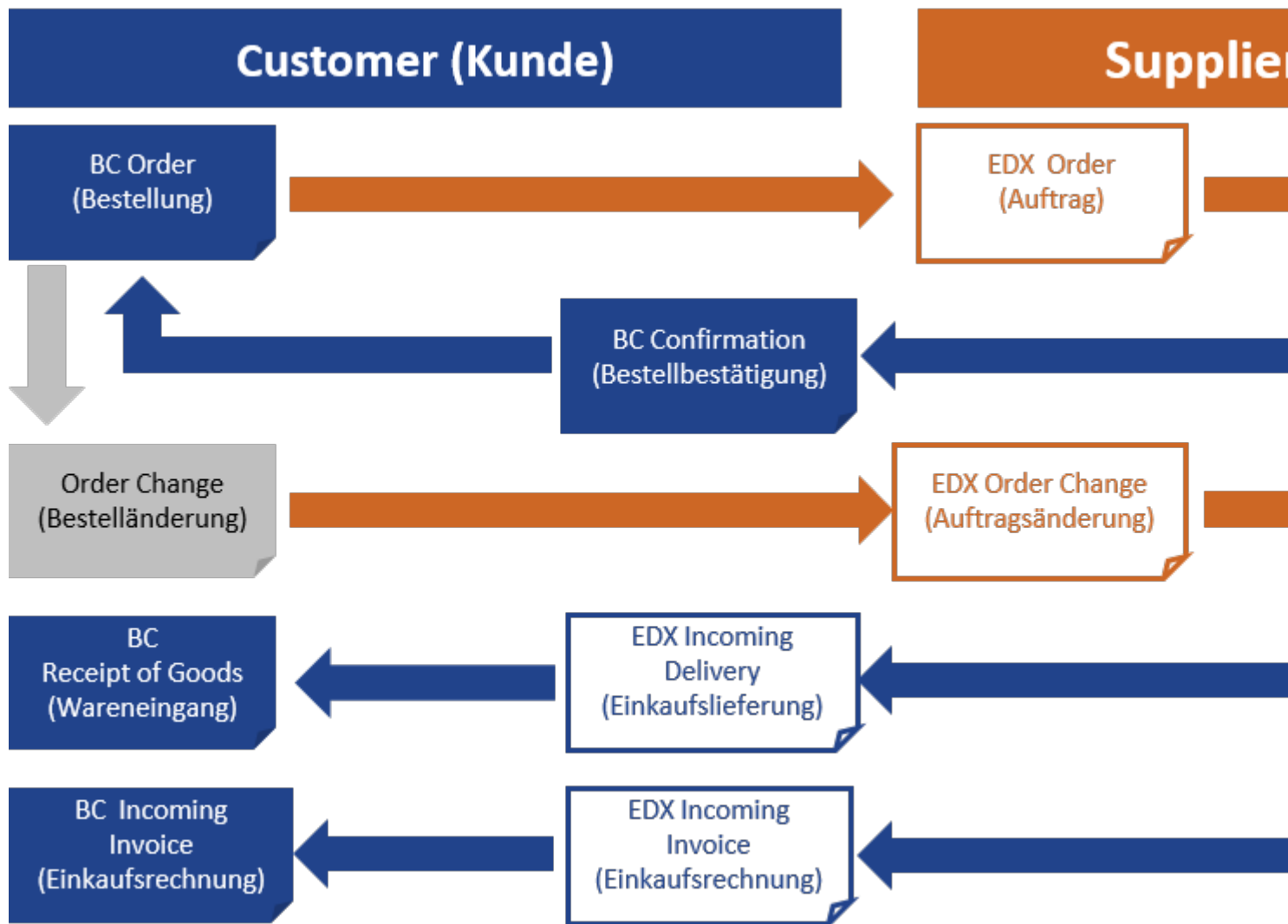
Prerequisites for the internal document exchange:

- Main company and companies are in one database  
In this case, the internal document exchange can be set up directly with the wizard.
- Main company and companies are in separate databases  
In this case, document exchange must be set up manually.
- There is a common network structure and all participants can access a shared network path.

The following figure shows the document flow between customer and supplier in conjunction with the EDX module:

Main Company = Customer

Company = Supplier



#### External document exchange

If documents are sent to an external partner (*EDI*) this is described below as external document exchange.

The external document exchange contains message types that have been developed for use with EDI service providers. The EDI service provider receives the EDX messages, transforms them into the target format and transmits the messages to the recipient.

It is not mandatory to use an EDI service provider. Depending on the requirements, the transformation and transmission can also be implemented as an in-house solution with appropriate middleware.

#### Available vouchers

The following documents are already available in XML format after installation:

**Purchase**

- Order outgoing
- Order change outgoing
- Order confirmation incoming
- Incoming purchase delivery
- Incoming purchase invoice
- Purchasing complaint outgoing

**Sale**

- Sales order received
- Sales order change received
- Order confirmation outgoing
- Sales quotation outgoing
- Delivery bill outgoing
- Sales invoice outgoing
- Sales credit note outgoing
- Sales complaint outgoing

**Establishment**

The module has numerous configuration and customization options, which will be explained in more detail in the following sections. The first part of the documentation covers all topics concerning administration and configuration. The second part describes the operation of the data exchange.

## Entitlement rates

Via the installation of the EDX Apps, different authorization sets are automatically integrated in your Business Central application. Assigning these permission sets to your users or user groups ensures that the respective users have access to the connection and can execute the functions depending on the assigned set.

Authorization set	Description
EDX ALL	<p>Permissions to read the EDX setup.</p> <p>This role must be assigned to the users.</p>
EDX SETUP	<p>Permissions to read, write, modify as well as delete records for all EDX tables.</p> <p>This permission set allows EDX setup as well as access to all EDX objects.</p> <p>This role must be assigned to the BC Administrator as well as the task queue user.</p>
EDX SALES	<p>Permissions to read, write as well as modify records related to the sales business process.</p> <p>This role must be assigned to the sales users.</p>
EDX PURCHASE	<p>Permissions to read, write as well as modify records which are related to the business process purchasing.</p> <p>This role must be assigned to users from the purchasing area.</p>

## Roll Center

The EDX Role Center represents the central work platform for the entire EDX module. All necessary information regarding documents (*incoming/outgoing*), items (*incoming/outgoing*) and configurations are displayed with corresponding stacks in the role center.

Incoming and outgoing documents are displayed as links in the Purchasing, Sales and Logistics overviews, indicating the number of each. Clicking on the link opens the relevant document or an overview of the documents. It is therefore possible to navigate from the role center to all EDX relevant documents.

Furthermore, all settings as well as error entries and system messages are displayed in additional overviews.

## EDX Setup

In the EDX Setup, settings can be made that are valid for the entire module. The EDX Setup can be called up via the **Facilities and extensions > Service connections > KVSEDX Setup** start page.

In the register **Interface directory** the directories for documents, test as well as the productive have to be defined.

Further entries are not necessary for the time being, since these are made with the **EDX Setup Wizard**. Further information can be found in the section of the same name.

For completeness, all fields of the EDX setup are explained in more detail below.

#### Inforegister General

field	Description
Test environment	This flag controls whether the messages are processed in the subdirectory for the production or test database. see <a href="#">"Inforegister interface-directory"</a>
database name	name of the current SQL database

#### Inforegister interface directory

field	Description
Document directory (UNC)	Base directory for electronic document exchange. The path must refer to a network share and be written according to UNC notation. Example: \server name\EDX
Subdirectory Test Environment	Subdirectory for Test Environment.
Subdirectory productive environment	Subdirectory for productive environment.



## Inforegister Azure Storage

field	Description
Storage Account Name	Name of the created Azure storage account. See Azure Environment: All Resources-> Storage Account
Shared Access Key	Access key for the storage account After selecting the storage account in the Azure environment, the access key ( <i>key1</i> ) can be retrieved and copied to the <b>Shared Access Key</b> field.
Container	Name of the blob container in the storage account.
Azure subdirectory Prod	Subdirectory for productive data.
Azure subdirectory Test	Subdirectory for test data.
Activated	When activated, the Azure Storage interface is registered as a service connection and can be used.
File Share	Name of the Azure file share.

The Azure service connection is registered when the setup dialog is closed. Before the **Azure Connection Test** action can be executed, the setup dialog must be closed and reopened.

After that, the **Azure Connection Test** action can be executed.

Depending on the setup, either the connection to the Azure Storage Container or to the Azure File Share can be tested.

The following actions are performed during the test:

- Create Readme.txt file in the container.
- List files in the container
- Read in file "Readme.txt"
- Delete file "Readme.txt".

## Information register partner

field	Description
Extension Vendor EDX Partner Code	Within the EDX module the EDI partners are created based on a customer or vendor. The partner codes are composed of the respective BC vendor or customer number and the extension specified here
Extension Customer EDX Partner Code	<p><b>Example:</b></p> <p>Creating an EDX partner based on vendor 1000. The EDX partner is managed as V1000.</p> <p>The extension codes are freely selectable. Both extension codes must be filled in</p> <p>.</p>

## Inforegister numbering

All incoming EDX documents are first stored in EDX intermediate tables. For these EDX documents number series are necessary. If the EDX module is used exclusively for outgoing documents, then the specification of number series is not necessary.

Field	Description
EDX Order Number	Incoming order from customer.
EDX Order Change Number	Incoming order change from customer.
EDX Purchase delivery number	Incoming sales delivery from supplier.
EDX Purchase Invoice Number	Incoming sales invoice from vendor.
EDX Order Confirmation Number	Incoming order confirmation from supplier.

## Information register web service

field	Description
Log incoming web service data	Specifies logging of incoming web service calls. Logging takes place in the EDX inbox.
Log outbound web service data	Specifies logging of outbound web service calls. Logging takes place in the EDX outbound.

## Inforegister error handling

field	Description
<p>The parameter "Time period until e-mail is sent" can be used to control the time period for which the errors are collected. Only after this time span has expired, the mail dispatch of all occurred errors takes place.</p>	<p>Mail address to which error messages are sent. Only error messages are sent, which occur within the server processing. The following list shows a few examples of when error mails are sent automatically:</p> <p>An error occurs when reading an XML file. Possible error causes:</p> <ul style="list-style-type: none"> <li>- General errors within the XML file (Wellformed)</li> <li>- The XML file does not match the expected schema</li> </ul> <p>An error occurred during automatic further processing "Receiving a sales order". Possible causes of error:</p> <ul style="list-style-type: none"> <li>- Within the sales order, a reference is made to a Business Central master data record (e.g. article number, article unit) which does not exist.</li> <li>- When the sales order is created, queries are made which must be confirmed by the user (e.g. credit limit). These queries are not allowed in a background process.</li> </ul> <p>An error occurs when sending an XML file. Possible error causes:</p> <ul style="list-style-type: none"> <li>- No permission to write the outbound directory.</li> </ul> <p>In the error mail, a link to call the related Business Central Page is provided. For further information, please refer to the section "Setting up e-mail dispatch".</p>
Error mail address	

## Inforegister XML

field	Description
Disable XML Byte Order Mark	This switch can be used to control whether the XML message to be output should contain the byte order mark.

## Inforegister Reorganization

field	Description
<p>The date formula in the "Archive outputs/inputs that are older" fields can be used to specify the date from which EDX inputs/outputs will be moved to the archive. Only outgoing items for which no transmission error has occurred will be moved to the archive.</p> <p>Outgoing items with transmission errors can be manually moved to the archive using the <b>Archive outgoing items with transmission errors</b> action.</p> <p>For inbound items, only completed acknowledgement messages are moved to the archive. The archiving of other input messages, such as EDX sales orders is controlled via the respective EDX document.</p>	

## Inforegister BC Configuration

field	Description
Task queue items in seconds interval	As soon as the switch is active, all EDX task queue items except for the parameters "Reorganization" and "Send Mail" will be executed in seconds interval.

## Inforegister Facility Overview

The fields on the **Setup Overview** info tab give an overview of which items are already set up in EDX.

## EDX Setup Wizard

To make the setup of the connection as comfortable as possible for users, a setup wizard has been developed to guide you through the individual steps. This setup wizard can be called up via the EDX Setup menu ribbon (**More Options > Action > Setup > EDX Setup Wizard**).

Furthermore, the EDX Setup Wizard can also be started via the "Supported Setup".

The EDX setup wizard is started.

During the first EDX configuration, the "Communication" function should be started.

With the selection "Communication" the parameters for the file transfer (*OnPrem*) as well as the parameters for the Azure Storage can be entered.

The **General** selection is used to create the message types as well as number series for incoming messages.

If you want to send purchase orders, delivery bills or invoices to another client, then select the **Internal document exchange** function. For more information, see the "Internal document exchange" setup section.

#### EDX Document types

When installed, the EDX module already has some message types which can be used for internal and external document exchange.

#### Establishment

The EDX message types are created with the action "EDX Setup Wizard" within the EDX setup.

You can view the "EDX message types" using the call of the same name via the user search. The individual fields are explained in more detail below:

Field	Description
Document	Name of the EDX message.
Description	Description of the EDX message.
Document Direction	Inbound/Outbound Message.
GS1 Business Message Standard	Indicates if this is a GS1 Business Message Standard message.
Intercompany Role	Role of the document within the intercompany message exchange (customer/vendor).
Processing order	Default value for the processing order.  This ensures that a purchase order confirmation is processed before the purchase delivery.
Field setting active	Default value for the field setting.  If the message supports the field setting, then the field setting can be called after the message has been assigned to an EDX partner.
Collective mail allowed	Default value for collective mail. See <a href="#">"Processing"</a> .
Include PDF allowed	Indicates to include the associated Business Central PDF document as a base64 string in the message.
Message Encoding	Sets the message encoding.
Web Service Function	The EDX message can be accessed via SOAP web service.
Webservice Function Name	Name of the associated webservice function.

**Distribution of EDX document types**

All EDX message types have a prefix with which an area assignment can be made.

The areas are subdivided as follows:

Area	Description
IC	Internal message exchange.
GS1	GS1 Message.
CC	External message exchange. Documents reconciled with Clearing Center. These messages are used from EDX version $\geq 10$ for external message exchange.  See also KUMA EDI Guideline.

<b>document</b>	<b>description</b>	<b>document direction</b>
BASE CUSTOMER	Base Customer Export	Outgoing
BASE ITEM	Basic Item Export	Outgoing
BASE VENDOR	Basic Vendor Export	Outgoing
CC PURCHASE ORDER	Send Purchase Order (CC)	Outgoing
CC PURCHASE ORDER CHANGE	Send Purchase Order Change (CC)	Outbound
CC PURCHASE RETURN ORDER	Send Purchase Order Complaint (CC)	Outgoing
CC PURCHASE RETURN ORDER CHG	Send purchase complaint change (CC)	Outgoing
CC PURCHASE INVOICE	Receive Purchase Invoice (CC)	Outgoing
CC PURCHASE RECEIPT	Purchase delivery received (CC)	Incoming
CC PURCHASE ORDER CONF	Purchase order confirmation received (CC)	Incoming
CC SALES INVOICE	Send sales invoice (CC)	Outgoing
CC SALES ORDER	Receive Sales Order (CC)	Incoming
CC SALES ORDER CHG	Receive sales order change (CC)	Incoming
CC SALES ORDER CONF	Send order confirmation (CC)	Outgoing
CC SALES SHIPMENT	Send sales shipment (CC)	Outgoing
CC DESPATCH ADVISE	Send sales delivery (CC) This message can only be used in conjunction with <a href="#">"KUMAVISION shipment processing"</a> . The message contains the assigned load carriers and their hierarchy.	Outbound
CC SALES CR.MEMO	Send sales credit (CC)	Outgoing
CC SALES RETURN ORDER	Send sales complaint (CC)	Outgoing



<b>document</b>	<b>description</b>	<b>document direction</b>
CC SALES RETURN ORDER CHG	Send sales complaint change (CC)	Outgoing
CC SERVICE INVOICE	Send Service Invoice (CC)	Outgoing
CC SERVICE CR.MEMO	Send Service Credit Note (CC)	Outgoing
CONFIRMATION RECEIVE	Receipt Confirmation	Outgoing
CONFIRMATION SEND	Send Receipt Confirmation	Outgoing
GS1 APP REC ACK IMP	Receive Acknowledgement	Incoming
GS1 APP REC ACK IMP	Send Receipt Acknowledgement	Outgoing
IC PURCHASE INVOICE	Receive Invoice (IC)	Incoming
IC PURCHASE ORDER	Send purchase order to vendor (IC)	Outgoing
IC PURCHASE ORDER CHG	Send purchase order change (IC)	Outgoing
IC PURCHASE ORDER CONF	Receive purchase order confirmation (IC)	Outgoing
IC PURCHASE SHIPMENT	Receive Purchase Delivery (IC)	Incoming
IC SALES INVOICE	Send Sales Invoice (IC)	Outgoing
IC SALES ORDER	Receive sales order (IC)	Incoming
IC SALES ORDER CHG	Receive Sales Change (IC)	Incoming
IC SALES ORDER CONF	Send Order Confirmation (IC)	Outgoing
IC SALES SHIPMENT	Send Sales Delivery (IC)	Outgoing
IC SALES DELFOR	Receive delivery schedule (FACTORY only)	Outgoing

## EDX Partner

In order to be able to exchange documents, one or more partners must first be defined in the EDX module. These partners can be created based on existing accounts payable or accounts receivable.

EDX partners are managed under a code that consists of the respective Business Central vendor or customer number and a defined prefix.

Before creating the EDX partner, the field "Our account number" must be defined in the vendor/customer.

### Example of "Our Account Number":

Vendor Role: For customer 1000, 61000 is entered in the "Our Account Number" field.

Role of Customer: For vendor 61000, 1000 is entered in the "Our account number" field.

## Partner type debtor

A new EDX partner is created directly from the partner overview. To do this, first call up the "EDX partner" via the user search.

With the action "Create customer" a new EDX partner is created on the basis of a customer.

For the EDIFACT UNB segment to be created, the fields: GLN, Data sender as well as Recipient Id. can be used for the EDIFACT UNB segment to be created.

The fields data sender and recipient ID are not subject to a format check. Accordingly an ODETTE-Id, DUNS-No etc. can be entered.

For the transmission of XInvoices to an EDI service provider the "Routing Id." is required. see "Coordination Office for IT Standards".

Basically all above mentioned fields have to be coordinated with the EDI service provider. The fields are transmitted within the CC messages invoice, credit bill as well as delivery bill in the element "Routing".

## Units mapping

A unit mapping is necessary to change the customer's unit code to your own unit code.

### Example:

A customer orders 5 PCS, the unit code in BC is Piece. In this case, a mapping must be created for the translation from PCS to Piece.

The unit mapping is accessed from the "EDX Partner Overview" via the ribbon.

It is not necessary to store a unit mapping for each EDX partner and article. As a rule, the unit "PCS" must be converted to the Business Central unit "Piece" for all EDX partners and articles.

The following sequence is used to determine the unit mapping:

1. mapping with EDX partner, article and reference code search.
2. mapping with article and reference code search
3. search mapping with EDX partner and reference code
4. mapping with reference code search

Unit mapping is used with the following documents:

- Sales orders
- Sales order changes
- Purchase order confirmations
- Purchasing deliveries
- Purchasing invoices

For outgoing documents, unit mapping is only performed in the "Clearing Center Messages".

- born sales delivery
- born sales invoice
- purchase order
- order confirmation

#### **Additions/Detractions Mapping**

In EDX additions/deductions mapping, additions and deductions can be assigned to articles, resources, G/L accounts and fields in the document header.

#### **Examples:**

- G/L account for surcharge advertising costs
- Item as freight costs
- Amount incl. VAT field from the sales header as an insurance surcharge.

Only fields from the sales header can be used. Amounts and percentages can be specified. These two fields are disabled for lines surcharges/discounts. The field "Position" is filled automatically and is only an information for the user.

The addition and deduction codes are selected from a separate table.

The surcharge/deduction mapping is only used for external outgoing document dispatch with Clearing Center. This includes the following documents:

- Order Confirmation
- Posted sales invoice
- Posted sales credit memo

#### **Service GTIN Mapping**

With the "EDX Service GTIN Mapping" resources, G/L accounts etc. can be provided with a GTIN. The stored GTIN is sent within the service invoice as well as credit note.

#### **EDX Occupancy device**

Different message types can be defined for each EDX partner. With the "EDX message setup" the documents are assigned to the EDX partner as well as configured.

Via "New" an EDX message is assigned to a previously created EDX partner. In the following, the fields of the EDX message card will be explained in more detail.

**Inforegister General**

field	Description
Partner No.	Selection of EDX partner. Only active EDX partners can be selected.
EDX Message	Selection of the EDX Message. By default, the following messages are included: <ul style="list-style-type: none"> <li>- Order outgoing</li> <li>- Order confirmation incoming</li> <li>- Order change outgoing</li> <li>- Sales order incoming</li> <li>- Sales order change incoming</li> <li>- Order confirmation outgoing</li> <li>- Delivery bill outgoing</li> <li>- Sales invoice outgoing</li> </ul>
EDX Message Description	A freely selectable description can be entered here. This is for information only
EDX Message Direction	Indicates the direction of the message ( <i>incoming or outgoing</i> ).
EDX transmission from	BC documents are received or sent from the date specified here.
Receipt Confirmation Check	<p>Receipt confirmation check can be used to control whether a message confirmation should be requested.</p> <p><b>Example:</b> Sending a purchase order with receipt confirmation check.</p> <p>Upon receipt of the purchase order on the receiving end, a receipt confirmation is sent to the message sender. The EDX status within the purchase order will automatically change to "Recipient Received". After the Business Centrals sales order is created at the recipient's end, another acknowledgement is sent. The EDX status within the order automatically changes to "Recipient accepted".</p> <p>If the recipient rejects the EDX sales order, then an acknowledgement is also sent. The EDX status in the sent order will change to "EDX Rejected".</p> <p>Acknowledgement check should be enabled on outgoing as well as incoming message.</p> <p>Outgoing acknowledgement messages e.g. for receiving an EDX sales order will now be sent via EDX outgoing.</p> <p>The "Source record" field now always refers to the associated document. The acknowledgement check is now supported by all EDX messages, sales deliveries, sales invoices as well as sales credit notes.</p>

field	Description
	In case of external EDI, the acknowledgement messages may have to be coordinated with the EDI service provider.
Test Indicator	Identifies the incoming or outgoing messages as a test message See section <a href="#">Productive/Test Database</a> .

Inforegister transfer

**field****Description****Intercompany**

If both clients are in one database, then the transfer type "Intercompany" can be used. The EDX Intercompany setup must be done via the EDX setup wizard.

**API V2.0 Intercompany**

Prerequisite: see section ["OAuth Setup"](#).

If both clients are in different SaaS databases, then the transfer type "API V2.0 Intercompany" can be selected. EDX Intercompany setup must be done through EDX setup wizard.

**Azure Storage**

Prerequisite: set up an Azure storage and container. See section "Inforegister Azure Forwarding"

All messages are stored or retrieved on the specified Azure Storage container.

This transfer type can be used in the following scenario:

Messages are to be stored on an FTP or SFTP server for the interface operator.

An Azure Logic App must be created in the customer project.

Within the Azure Logic App, the Azure Connector "FTP" is used for message transfer.

EDX  
transfer  
type

**Note:**

The Azure Logic App is not part of the EDX module.

**Azure Fileshare**

Prerequisite: set up an Azure storage and fileshare.

All messages are stored on or retrieved from the specified Azure fileshare.

This transfer method can be used in the following scenario:

Messages are to be stored in the file system of the interface operator. A Powershell script is provided to the interface operator for the Azure fileshare that has been set up. With this script the interface operator can integrate the Azure fileshare as a network drive into his infrastructure.

**Note:**

The transmission type can be extended in the customer project.

Extension of the transmission type is useful if the interface operator provides e.g. web services for message reception.

Messages from the interface operator to BC can be sent to the "EDX API Inbound".

## Inforegister Azure / File Transfer

field	Description
EDX file path	Input/output path for files.
	In this field either an absolute or dynamic path can be entered. The dynamic path is stored with the placeholder %ROOT_DIR%.
	This placeholder is exchanged at runtime for the base directory from the EDX setup.
	Thus, when moving a directory share, it is sufficient to change the new directory in the "Directory Documents (UNC)" field within the EDX setup.
	In the above example, %ROOT_DIR% is exchanged for \kvsdodc01\temp\EDX\Test10\Prod\.
	Once the "Test Environment" switch is enabled, the following directory applies to %ROOT_DIR% \\kvsdodc01\temp\EDX\Test10\Test\
	The same rules apply to the placeholder %AZURE_CONTAINER% In this case, the Azure container set up is used.

## Inforegister Azure Forwarding

The forwarding parameters are sent to an Azure Logic App or Power Automate.

The Azure Logic App is not part of EDX. A corresponding "Azure Logic App" or "Power Automate" must be created in the customer project to process the parameters listed below. For the creation of the "Azure Logic App" the template "EDX\_Outbound\_Message" can be used.

When using the forwarding parameters, the GS1 messages "GS1 APP REC ACK IMP" as well as "GS1 APP REC ACK EXP" must be assigned to the EDX partner.

Field	Description
Forwarding type	This parameter can be used within the Logic App to decide which Azure Connector is used.
Forwarding ID	Determines the EDI party.
Forwarding Destination	Determines the destination of the message.

**Example:**

CC Invoice message is to be forwarded to EDI service provider EDI1 via SFTP. The message is to be placed on the destination FTP server in the /inbound directory.



Specify the following forwarding parameters:

<b>field</b>	<b>description</b>
Forwarding type	SFTP
Forwarding ID	EDI1
Forwarding destination	/inbound/

#### FTP information register

No longer supported.

For FTP as well as SFTP transfer, an Azure Storage in connection with an Azure Logic App is required.

#### Inforegister e-mail

<b>field</b>	<b>Description</b>
Recipient Email Address	Email address of the message recipient.
Email Subject	Indicates the subject of the e-mail.
Email Text (HTML)	Indicates the text of the e-mail.

#### Information register processing

In this info register the processing parameters for the incoming as well as outgoing messages are defined.

Field	Description
Automatic processing	<p><b>EDX incoming document:</b></p> <p>The received EDX document is automatically checked. If there are no errors during the check, the Business Central document is created.</p> <p>If an error occurs during the review or creation of the Business Central document, an error email is automatically sent.</p> <p>This feature is currently available for EDX sales orders. See section: <a href="#">"Automatic processing"</a></p>
	<p><b>EDX Outbound Document:</b></p> <p>So far, the following outbound documents can be sent automatically:</p> <ul style="list-style-type: none"> <li>- Sales delivery</li> <li>- Sales invoice</li> <li>- Sales credit memo</li> <li>- Purchase order</li> <li>- Purchase order changes</li> </ul> <p>See section: <a href="#">"Automatic processing"</a>.</p>
Processing order	Specifies the processing order of incoming messages.
Do not add transmission ID	<p>If this option is enabled, the "EDX Transmission ID" element is not transferred to the XML file.</p> <p>The EDX module basically assumes that the "TransmissionID" element is present in the incoming XML document. This element, for example, is used for document navigation within EDX.</p>
	<p>If the incoming XML document does not contain the TransmissionID, then this is automatically added as the first element.</p> <p><b>Note:</b> The setting of this switch should only be changed if described in the respective application documentation (<i>customer project</i>).</p>
Invoice ignore zero	Invoices with a value of 0 € will not be transferred if this option is enabled.
	The setting of this switch should only be changed if it is described in the respective application documentation ( <i>customer project</i> ).
Ignore zero credit notes	Credit notes with a value of 0 € will not be transferred if this option is enabled.

Field	Description
Automatic archiving	Determines that the associated EDX receipt is archived after EDX receipt processing.
Direct Purchase Invoice	<p><b>Disabled:</b> When processing an incoming purchase invoice, the purchase delivery information is expected. Based on the purchase delivery number, the associated purchase order is determined. The purchase delivery as well as the purchase order are then used for plausibility checks.</p> <p><b>Switched On:</b> The EDX purchase invoice data is transferred directly to an unposted purchase invoice. Plausibility checks are performed with regard to the "purchase from vendor" as well as the articles.</p> <p><b>Note</b> This option is not available with EDX Intercompany.</p>
Include the associated PDF document	<p>In the case of outgoing messages for the Clearing Center, the associated PDF document can be included directly in the message. The PDF document is transmitted as a base64 encoded string.</p> <p>If the created Business Central documents (<i>sales delivery bill, sales invoice as well as sales credit bill</i>) should not be sent immediately when posting, then a document collection can be activated with this option.</p> <p>This option is currently used by the EDX documents: Sales Delivery (CC), Sales Invoice (CC), Sales Credit Memo (CC) supported.</p> <p>The time for sending the document can be set by the processing time window.</p>
Next list number	<p>When sending collective shipments, a list number is usually required. In the "Next list number" field, the list number can be specified which will be used for the next transmission.</p> <p><b>Note:</b> Sales deliveries can be transmitted as collective consignments. There is no provision for assigning a list number. In general, a forwarding order number must be transmitted within the delivery note message. This is currently not supported by the EDX CC delivery note message.</p>
BC Release document	This setting controls that a scanned document is automatically released after creation.
BC Post Document	Determines whether an incoming EDX document should be posted or not.

Field	Description
	Specifies which date should be used for incoming EDX vouchers.
Use Posting Date	<p>The following options are available:</p> <ul style="list-style-type: none"> <li>- Posting date</li> <li>- Current date</li> <li>- Work date</li> <li>- Incoming document date</li> </ul>
	<p>Since in the rarest cases there is a consolidated article master between the partners, it is necessary to ensure a reliable assignment of the article numbers. The setting "Use article references" controls a check of the transmitted article number, as well as the transmitted reference number. The article/reference number check is based on the Business Central article master &gt; References.</p> <p>When using this function, the following requirements are necessary:</p> <ul style="list-style-type: none"> <li>- The partner must necessarily transmit the GTIN or reference number.</li> <li>- The article references of the partner must be maintained in the article master.</li> </ul> <p>When transmitting a GTIN, the Business Central article is determined based on the GTIN field in the article master. If no matching article is found, then a search is performed using the article references with type "Barcode". With the article reference search the reported article unit is used.</p> <p>If also this search should lead to no result, then the search takes place on the basis the article references with type "debtor" and/or "creditor". The reported article reference number from the message is used.</p>
	<p>This setting controls an automatic mapping of the article units.</p> <p><b>Example:</b></p> <p>The EDX partner transmits for any article the article unit "PCS" which is managed in Business Central as "Piece". If the corresponding mapping table is maintained and the "Article Unit Mapping" setting is maintained, the unit will be changed accordingly upon receipt.</p> <p>.</p>
Use article unit mapping	
EDX Automatic Archiving	<p>If an EDX document is processed, this setting can be used to control that the corresponding incoming item is archived.</p>
	<p>For outgoing documents, the processing time window controls when the document is sent. For incoming documents, the processing time window controls the review and creation time.</p> <p><b>Example for outgoing sales invoices:</b></p> <p>Sales invoices are to be collected by Saturday and sent at 10:00 p.m. In this case, the "Execute Saturday" option is enabled in the processing time</p>
Processing Time Window	

**Field****Description**

window. All other days will be disabled. The start time is set to 22:00 and the end time is set to 23:00. The earliest start date will be calculated automatically. Once the specified time window is reached, all invoices that have not yet been sent will be sent.

**Incoming sales order example:**

Sales orders should be processed automatically at 22:00 every day. In this case, every day will be activated in the processing time window. The start time is set to 22:00 and the end time is set to 23:00.

**Note:**

Once the specified time window is reached, all unprocessed EDX sales orders will be checked and created as BC order.

## Info tab Advanced

<b>field</b>	<b>description</b>
Partner Type	Indicates whether the displayed EDX partner is a customer or vendor.
Partner BC No.	Displays the BC customer or vendor no. depending on the "Partner type" field.
Message Type	Displays the BC message type associated with the EDX document setup.
Document Table No.	Displays the BC Table No. associated with the EDX Document Setup.
Object Type Object ID	Indicates the XML port or code unit responsible for message processing.
Message Encoding	Specifies the message encoding. This parameter has no effect on EDX standard messages. Within project specific messages this parameter can be used for the message encoding.
Webservice Function	Specifies the message for use within internal webservice functions.
Webservice Function Name	Sets the name of the internal webservice function.

Inforegister parameters

Transmission type	Parameter	Description
Azure File Share		<p>These parameters can be used to override the Azure file share parameters from the EDX setup.</p> <p><b>Example</b></p> <p>1. In the EDX setup, the Azure storage account "PartnerA" and the file share "Transfer" is set up. No different parameters are entered on the selected message.</p> <p>In this case, the message transfer is to the Azure storage account "PartnerA" / "Transfer".</p> <p>2. As described in point 1, the Azure storage account as well as the fileshare is set up in the EDX setup.</p> <p>For the selected message, the Azure storage account "PartnerB" and the fileshare "Interface" are specified via the parameters.</p> <p>In this case, the message transfer will be to the Azure storage account "PartnerB" / "Interface".</p>
	AZURE_FILESHARE_ACCOUNT_NAME	storage account name
	AZURE_FILESHARE_ACCESS_KEY	Storage account access key
	AZURE_FILESHARE	fileshare name
	AZURE_FILESHARE_DIR_PROD	Directory for Prod. environment
	AZURE_FILESHARE_DIR_TEST	directory for test environment

## Function "Field settings document check "

The function "Field settings for document check" in the ribbon defines which fields of the EDX document are checked or transferred to the Business Central document.

Field	Description
Validation Order	According to the defined validation order, the data from the EDX intermediate document will be transferred to the BC document.
Use default values	With the option "Use default values" fields within the EDX document can be predefined, which are not included in the message for example.
Default value	<p>It can be set, e.g. for the due date in the sales header, that this field is always initialized with the work date. Within the default value, constant values or placeholders can be used. When using a constant, care must be taken to enter the value according to XML format.</p> <p>So a fixed date must be entered in the format <i>YYYY-MM-DD</i>. For decimal values, the period must be used as a separator. The XML format was chosen to avoid translation errors of different languages. If staff set the date: 01/15/2023 as default value and then English speaking staff check the message, the default date cannot be converted.</p> <p>The default values will be initialized when EDX document is checked. List of wildcards: %WORKDATE = Work date %TIME = Current time %TODAY = Current date %COMPANYNAME = Client name @Fieldname = Reference to another field in the current table</p>
Create field content	<p>This flag controls whether the field content from the EDX document should be checked as well as transferred to the BC document</p> <p>.</p>

## Set up task queue item

Automated message sending/receiving is done by setting up the task queue items. These are created using the EDX setup wizard. See ["EDX Setup"](#).



**Process distribution within the task queue items**

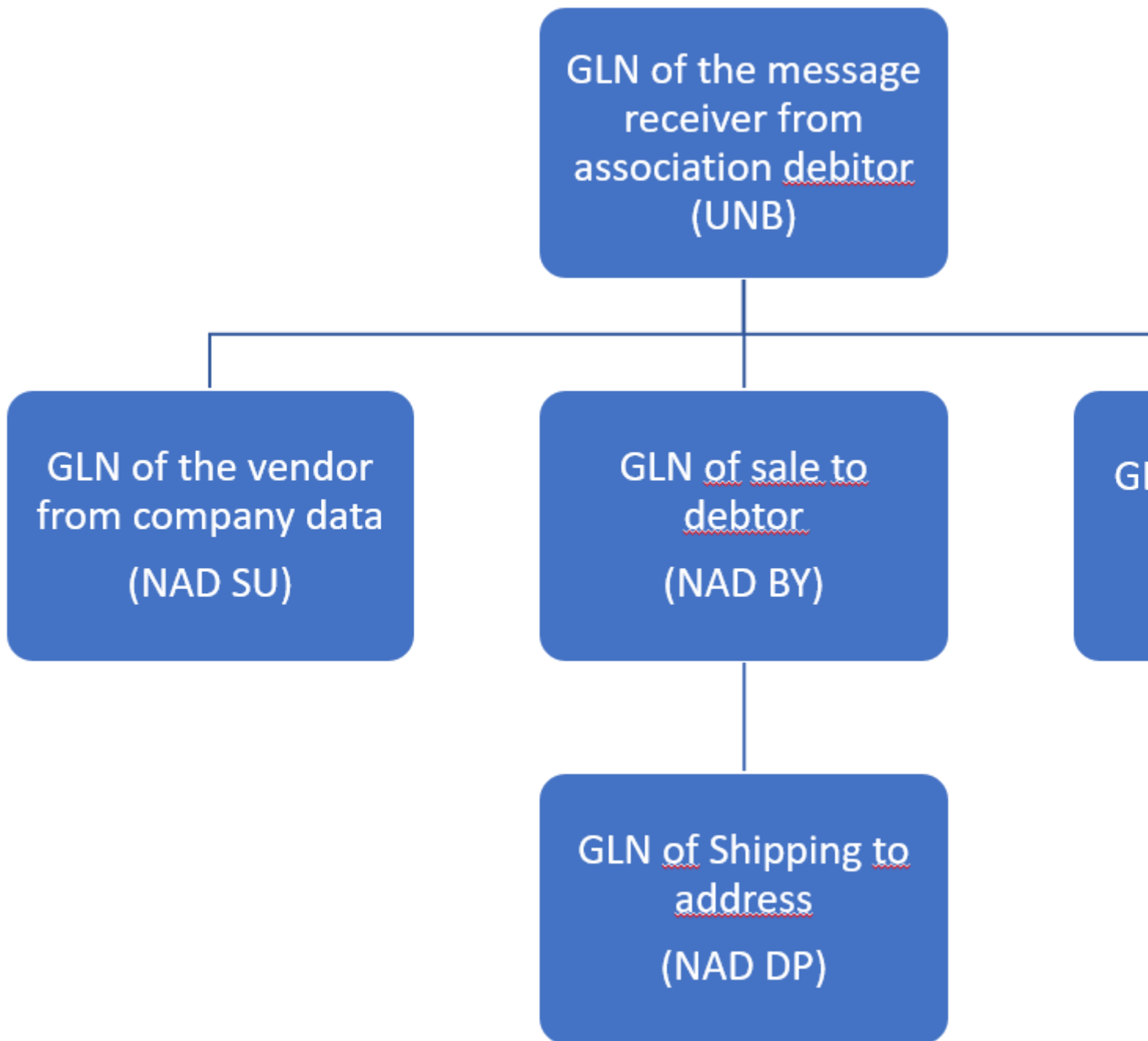
The following task queue items are created using the EDX Wizard: CodeUnit: 5487951 EDX Job Queue

Parameter	Description
INBOUND_TRANSMISSION	Read data according to the specified transfer type ( <i>e.g. file transfer</i> ) and make it available in "EDX Inbox".
INBOUND_TO_EDX_DOCUMENT	Process all EDX input items with status "Unprocessed".
INBOUND_POST_EDX_DOCUMENT	Check all created EDX documents ( <i>sales order, purchase order confirmation, etc.</i> ) that have been configured with the "Automatic processing" flag and create the corresponding BC document if necessary.
OUTBOUND_SEND_NAV_DOCUMENT	All created BC documents ( <i>sales delivery, sales invoice, etc.</i> ), which are configured with the "Automatic processing" flag, are transferred to the "EDX outbox".
OUTBOUND_TRANSMISSION	Send all EDX outgoing items with status "Unprocessed" according to the defined transmission type.
SEND_MAIL	Send processing errors by mail.
REORGANIZATION	Archive the EDX outputs. Time of archiving is defined in EDX Setup.

**GLN facility**

For the creation of an EDIFACT message, further GLNs are required in addition to the GLN (*Global Location Number*) in the customer. With EDIFACT the message recipient is transmitted in the UNB segment. The GLN of the message recipient can differ from the GLN of the customer.

According to EDIFACT GLN's are mapped in the following segments:



Message Segment	Description	Identifier
	Interchange Header ( <i>Message Sender/Receiver</i> ).	
UNB	If the "Invoice to Customer" belongs to a federation, then GLN of the federation customer; otherwise GLN of the "Invoice to Customer".  Special case: The message receiver requires a GLN, which does not belong to the above master data. In this case the GLN of the EDX partner is used.	
NAD	Name and address data	SU = Supplier BY = Buyer DP = Delivery address IV = Invoice address

The GLN's are entered in the following Business Central master data:

#### Message receiver (UNB)

The GLN for the message recipient/sender (UNB) is entered directly at the EDX partner in the "GLN" field.

#### Debtor (NAD segment)

The GLN for the customer (NAD segment) is entered directly on the customer card in the "GLN" field in the "Invoicing" info tab.

#### Delivery to address (NAD segment)

The GLN for the delivery to address (NAD segment) is entered directly on the customer card > delivery to addresses in the field "GLN" in the info tab "General".

The transmission of the above mentioned GLN's is supported by the XMLPorts for EDI service providers (prefix CC).

#### Set up e-mail dispatch

As described in the previous sections, EDX sends mails automatically if, for example, an error has occurred during processing.

The following items must be set up for sending mails:

**SMTP mail setup**

An SMTP account must be set up via "E-mail accounts". With the action "New" the setup wizard is displayed. Then "SMTP" is selected. After completing the SMTP setup, the scenario "EDX" must be assigned to the created account.

**BC Administration (Management Console)**

Mail is usually sent using the Business Central instance JOBQUEUE01. Since this is a process without client service, it is necessary that the base URL is entered.

In the field "Windows Client Base URL" the URL of a Business Central instance must be entered, where the option "Enable Client Services" is activated.

**Example:**

DynamicsNAV://srvnav:7246/NAVProd01/

This base URL is then used, for example, for the PageLinks within the error mail.

**Internal document exchange****Set up with the EDX Setup Wizard**

The internal document exchange can be set up completely via the EDX Setup Wizard if both clients are present in one database.

**Note**

Before starting the wizard, the EDX setup must be set up in both clients. Further information can be found under "EDX Setup".

Afterwards, the action "EDX Setup Wizard" can be started in the EDX Setup.

The setup for the internal document exchange can now be started with the action "EDX Setup Wizard".

After starting the wizard, the following parameters must be set:

- Set the function of the wizard to "internal document exchange".
- Set the role of the current client.
- Selection of the communication interface.
- Use purchase price as sales price.  
The price will be transferred from the sent purchase order to the sales order. (See Field Control)
- Selection of the client with which messages are to be exchanged.
- Assignment of customer as well as vendor according to the clients.

After executing the "Finish" action, the matching of the "Our account number" field between the customer and vendor takes place. In both clients, the required EDX partners and the related intercompany documents are assigned.

**Manual setup**

If the clients exist in different databases, then the setup must be done manually.

The following messages have to be set up on the client side:

<b>partner no.</b>	<b>EDX document</b>	<b>EDX document direction</b>	<b>EDX document description</b>	<b>partner type</b>	<b>partner BC no.</b>	<b>EDX trans type</b>
V10000	IC PURCHASE ORDER CHG	Outgoing	Send order change	Vendor	10000	File t
V10000	IC PURCHASE ORDER CONF	Outgoing	Receive order confirmation	Vendor	10000	File t
V10000	IC PURCHASE ORDER	Outgoing	Send order	Vendor	10000	File t
V10000	IC PURCHASE SHIPMENT	Outgoing	Receive purchase delivery	Vendor	10000	File t
V10000	IC PURCHASE INVOICE	Incoming	Receiving purchase invoice	vendor	10000	file trans
V10000	CONFIRMATION RECEIVE	Incoming	Acknowledgement Received	Vendor	10000	File Trans

The following messages are to be set up on the vendor side:

<b>Partner No.</b>	<b>EDX Document</b>	<b>EDX Document Direction</b>	<b>EDX Document Description</b>	<b>Partner Type</b>	<b>Partner BC No.</b>	<b>EDX Tran Typ</b>
C10000	IC SALES ORDER CONF	Outgoing	Sending order confirmation	Customer	10000	File tran
C10000	CONFIRMATION SEND	Outgoing	Message acknowledgement	Customer	10000	File
C10000	IC SALES ORDER Incoming	Receipt of sales orders	Customer	10000	File transfer	
C10000	IC SALES ORDER CHG	Incoming	Receive order change	customer	10000	File
C10000	IC SALES SHIPMENT	Outgoing	Send Sales Delivery	Customer	10000	File Tran
C10000	IC SALES INVOICE	Outgoing	Send Sales Invoice	Customer	10000	File Tran

When setting up the intercompany documents manually, the EDX file paths must be configured manually.

In doing so, the outgoing message is configured first. The corresponding path must be stored temporarily. Afterwards the incoming message can be configured. Here, the path from the previously configured outgoing message must be used.

The message recipient and sender can thus communicate via the same directory.

Using the example "IC PURCHASE ORDER", the following steps must be carried out. The EDX basic setup must already have been carried out and partners must have been created. This procedure must be carried out for all incoming messages:

- Open client "Customer".
- Create EDX message setup for document "IC PURCHASE ORDER" and save path temporarily.
- Switch to the "Supplier" client.
- Create EDX message setup for document "IC SALES ORDER" and use the path of the outgoing document.

#### **Oauth Setup**

If the intercompany setup is to be done via different SaaS databases, then the OAuth setup must be performed in both databases. For this purpose, the action "OAuth connections" is called in the EDX setup. Within the OAuth setup, the new connection is started with the action "New->Business Central Connection". The setup wizard requires the following parameters from the Azure App registry:

- Tenant Id
- Client Id
- Secret
- Environment name

#### **Shipping order / load carrier**

For the use of the outgoing message "CC DESPATCH ADVISE" (DESADV) the setup of the shipping orders including the load carriers is required.

The general information for setting up the shipping orders and load carriers can be found in the corresponding section ["Shipping processing"](#). In the following, you will only find notes on the relevant settings for the outbound message mentioned above.

#### **Setup storage location**

In order for an assignment of the load carriers/packages in the shipping order to take place, the option "Shipping order" must be selected in the "Shipping processing" field in the storage location or must remain free.

#### **Shipping order setup**

Via the menu item "Shipping and Load Carrier Setup" you set up your shipping orders. If you want to send load carriers with information on the NVE/SSCC, the fields "Company ID" must be filled with the base number (GLN) of the company, as well as "Load carrier ID numbers" with a number series. Instead of storing the number series here in general, these can also be stored specifically for individual load carriers. In addition, the option "Create check digit for carrier ID" must be activated so that the check digit specified by GS1 can be calculated and added for the NVE/SSCC.

## Note

In the field "Company ID" a reserve digit (*see GS1 specification*) must be prefixed before the base number, so that a correct NVE/SSCC can be generated.

In order for a NVE/SSCC to be generated automatically, the option "Assign load carrier ID on order release" must also be activated.

The NVE/SSCC has a total length of 18 digits (*see GS1 specification*). Therefore, the combination of company ID with reserve digit, number series of the load carrier and check digit must be exactly 18 digits long. If this is not the case when a shipping order is released and the "Assign load carrier ID on order release" option is activated, a corresponding note appears.

### Load carrier setup

The required load carriers can be set up via the menu item "Load carrier". If load carriers including NVE/SSCC are to be transferred, the option "ID mandatory" should be set here. If no number series is stored in the "Load carrier ID number" field in the shipping order or if a different number is to be used for the respective load carrier, a previously created number series can be selected here.

Please note the information on the NVE/SSCC from the "Shipping order setup" section.

### Create DESADV

The outgoing message "CC DESPATCH ADVISE" is generated from a booked dispatch order with EDX partner.

So that a valid DESADV file can be created and, if necessary, processed further by an EDI converter, the following requirements must still be met when creating shipping orders:

1. the shipping order must refer to a booked sales delivery, otherwise no valid EDX partner can be transferred to the booked shipping order.
2. each line with packaging materials/cargo carriers must be assigned to at least one delivery line.

## Incoming documents

Incoming documents are first temporarily stored in EDX documents.

### Data flow of an incoming document

The incoming message is first read into the EDX inbox. The system creates an EDX inbox item and saves the message in the item.

Then the EDX intermediate document is created from the EDX inbound item. Within the EDX intermediate document, users can intervene and correct data. Furthermore, users can reject the EDX intermediate document if necessary or create a Business Central document from it.

**EDX input items**

All incoming documents are first stored in the EDX Inbox table. When the business process for this document is completely finished, the item is automatically transferred to the transferred to the "EDX Inbox Archive".

Field	Description
EDX Status	Indicates the current status.
	<b>Unprocessed</b> The document has been transferred to the EDX module and an EDX Inbound item has been formed. The item has not yet been sent.
	<b>Error</b> An error occurred while processing the item. The "Error" field displays the number of errors that occurred. Using the look-up of the "Error" field, the associated error items can be retrieved.
	<b>EDX Document Created</b> An EDX intermediate document was created from the incoming item.
	<b>BC Document Created</b> A BC document was created from the EDX intermediate document created. The associated EDX inbound item has now been completed and will be moved to the "EDX Inbound Archive".
EDX Message	If there are system messages for this item, they can be retrieved via the look-up.
EDX Error	If there are processing errors for this item, they can be retrieved via the Look-Up button.
Action "Display file"	This action displays the document contained in the item.
Action "Manual Processing"	If an error has occurred during automatic inbound processing and this error has been corrected in the meantime, then the inbound item can be processed again using the action "Manual Processing". See section <a href="#">"EDX Edit and Reprocess Incoming Items"</a> .
Action "Archive processing errors"	The following conditions must be met for the action to archive an incoming item:  - The incoming item has a valid "Transfer GUID" - An archiving period is entered in the EDX setup, section "Reorganization"



**EDX Edit and reprocess incoming items**

The "View file" function can be used to download the XML message of the selected EDX input item and edit it if necessary. The "Save files" function downloads the XML message from all selected input items and saves it in a selected folder.

!!! note "Note". Currently this action "Save file" is not available in the WebClient (.NET Framework).

The file must be stored with the action "Show file" and then save.

If an EDX inbox item runs into an error, for example because a field length in the EDX intermediate document is exceeded or the XML structure is incorrect, the XML message can be downloaded from the EDX inbox, edited and uploaded again for new processing.

Using the "Upload message" function, the XML message can be uploaded again to the document directory on the server.

After the successful upload, the message will be processed again.

**Note**

The new EDX input item does not appear immediately after calling the function, but only when the message has been retrieved again from the task queue.

**Manual processing of an EDX document**

For the processing of EDX documents, a basic distinction is made between two cases.

Incoming EDX document, the BC document has not yet been created.

**Example:**

A sales order is received. The corresponding BC document has not yet been created. If the incoming EDX document is created, it results in a new BC sales order.

Incoming EDX document, the BC document already exists.

**Example:**

An incoming EDX order confirmation relates to an existing Business Central purchase order.

Before a Business Central document can be created from an incoming EDX intermediate document, the incoming EDX document must first be checked. After a successful check, the EDX document receives the status "Ready for creation". All EDX documents with this status can be transferred to a corresponding Business Central document.

**EDX Intermediate document**

The EDX intermediate documents contain partly identical fields as the BC documents (see EDX sales order). Specific EDX fields and associated functionality are described below.

**EDX messages/errors**

. If there are any system messages or errors specific to this document, they can be retrieved via the Look-Up.

## EDX Status

Status	Description
Unprocessed	The EDX document was created automatically. No further processing steps have been performed yet.
Error	An error occurred during the processing of the document.
Ready to create	The EDX document has been checked and can be created.
BC voucher created	A BC voucher has been created from the EDX voucher already created. This item is now done and will be moved to the "EDX Incoming Archive".
Unmatched data	An existing BC document already exists for the incoming EDX document.
Rejected	The incoming document has been rejected.
Manual processing	If it is not possible to create an incoming EDX document as a BC document, it will be given the status "Manual processing".
Archived	EDX documents that have already been archived.
Deleted	EDX vouchers that have been deleted by users.

### EDX Voucher Check

During the verification, the system performs a validation of the data. In the process, the field contents are checked. The check of the field contents is based on the settings made in the message setup.

If errors are determined, the EDX document receives the status "Error". The number of errors that occurred is indicated in the "Error" field on the document header or lines. You can open related error items using the Look-Up button.

If errors are detected, then they can be corrected directly in the EDX document. Each field change in the EDX document is logged. By means of Lookup on the field "EDX Note" these changes can be called up.

After manual correction in the EDX document, the action "Check" must be executed again. After all errors have been corrected, the BC document can be created using the "Create" action.

### Processing of EDX documents with status "Inconsistent data"

During the check, the data of the EDX document is compared with the data of the Business Central document. This is the case, for example, with an incoming order change.

To avoid having to manually compare the existing Business Central sales order with the EDX order change, EDX checks the discrepancies and displays them clearly.

If any discrepancies are found, the EDX status is set to "Inconsistent Data". Clicking on the lookup field "EDX Error" will display all discrepancies.

### Example:

An order change for an item with a quantity increase from 20 pieces to 30 pieces has been received.

The EDX status is set to "Inconsistent Data."

By clicking on the EDX error number (line), a dialog is displayed in which the discrepancies are shown.

The selection "Apply changes" determines whether the displayed change is to be applied to the Business Central document. The column "Value EDX" shows the currently transferred value. The column "Value BC" shows the current value of the Business Central document.

Once it has been determined which changes are to be adopted, the "Accept changes" action must be executed.

#### Delete EDX document

Deleting an EDX document depends on the status. If the EDX status contains one of the following values, deletion is not possible: \* BC Document created \* Rejected \* Manual processing \* Archived

If the document is not in this status, the EDX document can be deleted with the action "Delete EDX document".

After executing the action "Delete EDX document", a dialog box appears with a note that a deletion reason must be specified and whether you actually want to delete the document. This query must be confirmed with "Yes".

Subsequently, the reasons that led to the deletion of the message can be entered.

#### Create EDX document

The "Create" action transfers the EDX intermediate document to the associated Business Central document.

#### Reject EDX document

It is possible to reject incoming EDX documents.

The rejection is sent to the message sender if the "Receipt confirmation check" field has been activated in the EDX message setup.

Rejection reasons must be recorded before completing the action.

#### EDX document with "Manual processing" status

EDX documents with the status "manual processing" indicate that the EDX document cannot be created or confirmed as a Business Central document. This may be due to the following reasons:

- The existing document has already been delivered
- Reservations exist
- A unique assignment of the document is not possible
- A unique assignment of the lines is not possible
- There are discrepancies that cannot be processed automatically

Since these EDX documents cannot be processed by the system, further processing must be done by the user.

The EDX document is closed by archiving it.

**Automatic processing**

Within the "EDX Message Setup" the "Automatic Processing" can be activated. The received document will be checked automatically. If there are no errors during the check, the Business Central document is created.

Up to now, incoming sales orders are processed automatically.

**Outgoing document**

Outgoing EDX documents are not transferred to an EDX intermediate document. When the EDX message is created, an EDX outgoing item is created directly.

**EDX information**

Each outgoing document contains information which is required for the transmission. This information is displayed in the "EDX" info tab.

The fields of the info tab that are required for the transmission are explained in more detail below:

field	description
EDX Document	<p><b>Yes</b></p> <p>The document has been recognized as an EDX document by the document device. Transmission of the document is possible.</p>
	<p><b>No</b></p> <p>No document facility exists for the document. Transmission is not possible.</p>
EDX Status	<p>Indicates the current status:</p>
	<p><b>Unprocessed</b></p> <p>The document has been transferred to the EDX module and can be sent.</p>
	<p><b>Processed</b></p> <p>The EDX outgoing item has already been created.</p>
	<p><b>Sent</b></p> <p>The EDX outgoing item has been sent.</p>
	<p><b>Receiver received</b></p> <p>The receiver can use a message acknowledgement to signal that the message has arrived in the target system.</p>
	<p><b>Error</b></p> <p>An error occurred during processing. This can be looked up in the EDX system error log.</p>
	<p><b>Ignored</b></p> <p>Documents with the status "Ignored" will not be sent.</p> <p>The status "Ignored" will be set automatically if the following conditions are met:</p>
	<p>If a sales invoice that has not yet been sent is cancelled, then both documents (<i>invoice/credit note</i>) will be set to the status "Ignored".</p>
	<p>If a sales delivery that has not yet been shipped is cancelled by a complaint, then the status of the sales delivery is set to "Ignored".</p>
	<p>Sales delivery, invoice as well as credit memo.</p> <p>In the sales order it can be defined that certain documents should not be sent during the next posting.</p>
	<p>If a posting number for delivery bill or invoice is reserved via the sales order and the sales order is deleted without using this posting number, then according to BC standard a posted document is created with the note "deleted document". These documents will not be transferred.</p>

## Manual processing

### Send EDX document manually

Manual document dispatch takes place directly from the associated Business Central document with the action "Send EDX document".

### EDX output items

All sent documents are first saved in the "EDX Outbox" overview. When the process is complete, the system automatically transfers the item to the EDX Outbox Archive overview.

EDX Status	Description
Unprocessed	The document has been transferred to the EDX module. This item has not been sent yet
Error	An error occurred while processing the item. Please refer to the "Error Log" field for details. If the error occurred due to insufficient file permissions, then the EDX document can be processed again after correcting the permissions. To do this, select the "Reprocess" action.
Sent	The item has been sent to the partner. With the columns "Messages" as well as "Error" information about the outgoing item can be retrieved.

Actions	Description
Display file	This action displays the document contained in the item.
Display BC Document	This action displays the BC document contained in the item.
Display archived BC document	Displays the archived document.

## Automatic processing

So far, the following outgoing documents can be sent automatically:

- Sales delivery  
The dispatch takes place when posting.
- Sales invoice  
The dispatch takes place when posting.
- Purchase order  
Shipment takes place upon release.
- Purchase order changes  
Shipping occurs when released. If the purchase order is released and has been previously sent via EDX, then the automatic dispatch of an order change takes place. There is currently no check for quantity or date change.

Automatic dispatch of Business Central documents can be controlled within the EDX message facility.

The following conditions apply to the EDX message facility:

- The EDX partner must be of type "Customer" or "Vendor".
- The EDX "Transfer Date From" must be greater than or equal to the Work Date.

The following conditions apply to BC documents: delivery bill, invoice as well as purchase order:

- The "EDX Partner" field has a value.
- The document date is greater than or equal to the "EDX Transmission from".
- The "EDX Status" is "Unprocessed".

The following condition applies to the BC delivery bill:

- The "Sale to Customer" field must match the "BC Partner No." from the EDX message setup.

The following condition applies to the BC Invoice:

- The "Invoice to customer" field must match the "BC Partner No." from the EDX message setup.

#### **Reset EDX status**

With the action "Reset EDX status" documents can be sent again.

#### **Enhancements in "Internal document exchange"**

##### **Purchasing deliveries without goods receipt**

In the case of purchasing deliveries, it was previously always assumed that the storage location used was posted by goods receipt. The processing of purchase deliveries has been changed so that now also storage locations without goods receipt can be used. In this case, the field "Quantity current delivery" is initialized with the reported delivery quantity in the respective order line.

The document must be posted by the user.

##### **Purchase deliveries with batch / serial number**

Batch/serial numbers are supported for purchase deliveries.

The batch/serial number to be delivered is entered in the sales order. The batch is then transferred to the recipient with the posted sales delivery.

The transmitted batches/serial numbers can be retrieved in the "EDX Purchase Delivery" with the line menu.

After checking/creating the EDX purchase delivery, the item tracking data is transferred to the purchase order.

After posting the purchase order, the item/batch is available in the storage location.

##### **Additions/deductions in "internal document exchange"**

Surcharges/discounts can now be used in internal document exchange. The prerequisite is that the "Sales price without VAT" field is activated in the field control for the sales order received. Otherwise, the order line will be created without a sales price.

**Item variants in "internal document exchange"**

The item variants are supported in the internal document exchange.

**Order date in "internal document exchange"**

When sending the order, the "planned goods receipt date" is transmitted from the purchase order. The further processing looks as follows:

<b>Process</b>	<b>Field</b>	<b>Description</b>
Send Purchase Order	"Scheduled Goods Receipt Date"	Send Date
Receive Sales Order	"Desired Delivery Date"	Validate "Planned Goods Receipt Date" from Purchase Order in "Desired Delivery Date" field. The validation automatically calculates the "Planned Delivery Date", "Planned Goods Issue Date" and "Goods Issue Date" fields in the sales order.
Send order confirmation	"Committed delivery date" as well as "Planned delivery date"	Send date
Receive Purchase Confirmation	"Committed Goods Receipt Date" "Planned Goods Receipt Date"	Validate "Committed Delivery Date" from Order Confirmation to "Committed Goods Receipt Date" of Purchase Order  "Validate Planned Delivery Date" from Order Confirmation to "Planned Goods Receipt Date" of Purchase Order
Send order change	"Planned date of receipt of goods"	Send date
Receive order change	"Desired delivery date"	As for "Receive sales order"

**Remark texts**

During internal document exchange, the "remarks" are transferred from the Business Central order, header as well as line. On receipt, the remarks are stored in the EDX sales order.

Likewise, remarks can be reported back with the EDX Purchase Order Confirmation. In this case, remarks are stored in the EDX Purchase Order Confirmation.

Received remarks are not transferred to the Business Central sales order or to the Business Central purchase order. Otherwise, it would no longer be possible to distinguish between remarks entered by the user and remarks from the other party.



**Receive delivery schedules**

In the internal document exchange, previously sent purchase orders/framework orders can be received as delivery schedules. The setup for sending purchase orders can be done as described above. On the receiver side the message "IC SALES DELFOR" is set up.

When a delivery schedule is received, a delivery schedule and a scheduling agreement are created for each purchase order/article.

This functionality is only available within KUMAVISION factory365.

**Direct delivery**

When sending a purchase order with reference to a sales order (*direct delivery*) the data of the sales order will be transmitted as well.

On receipt, the data of the direct delivery is transferred to the EDX intermediate document for sales orders.

Further processing of this data must be implemented in the customer project.

**Productive -/Test database**

When copying the production database to the test database, overlaps may occur in the interface directory area. Furthermore, it should be ensured that test messages do not get into the productive system.

The steps required to secure the production database are explained in more detail in the following sections.

**Before the copy**

Before copying the production database to the test database, all task queue items (*all clients*) should be set to "Wait".

**After copying the production database to the test database**

When the production database is copied to the test database, there is usually an overlap of the interface directories. The document directories in the production and test database are identical. This can lead to the fact that current EDI documents are not imported into the productive but into the test database.

For this case a security query was integrated, which is displayed when opening the test database.

If the query is answered with "Current database is the test database", the option "Test environment" is automatically activated in the EDX setup.

All clients with active EDX setup should be opened once after copying the database. Furthermore, the interface directories must be copied from the "Prod." subdirectory to "Test".

**EDX voucher setup (FTP)**

FTP transfer is no longer supported. An Azure storage is required. The test and production path must be defined for this storage.

## Task queue items

Task queue items can now be reactivated in both databases.

## Test indicator

The "Test Indicator" is used to identify incoming and outgoing messages during the EDI test phase. For EDIFACT messages this indicator is contained in the UNB segment (*Interchange Header*). The message recipient can use this indicator to control whether the message is transferred to the production or test system.

However, this "Test Indicator" is not available in all message formats (*VDA, OpenTrans etc.*).

In the EDX message setup it can be set whether the message (*order, delivery bill, invoice etc.*) is a test message.

Effect of the test indicator on processing in Business Central:

Direction	Description
Document received in BC:	If the test indicator is enabled within the incoming message or in the message setup, then the EDX document will be marked as a test document.
Sales order change	This allows the test to be enabled for messages even if the original message (e.g. VDA) does not support the test indicator.
Purchase order confirmation	EDX documents with the test indicator enabled will only be processed automatically if the "Test Environment" option is enabled in EDX Setup at the same time. Otherwise, an error will be generated and sent by mail.
Purchase delivery	
Purchase invoice	
Document sent from BC	The test indicator from the message setup is transferred to the outgoing document.

## Receiving a sales order with test indicator

. The test indicator is transferred from the Business Central sales order to the delivery as well as invoice. This means that if a Business Central sales order was received as a test message, then the outgoing delivery/invoice messages will also be marked as a test message.

## Azure FileSync

Azure FileSync can be used to exchange files between networks. The synchronization between source and target directory can take up to several minutes.

If time-critical messages have to be exchanged, which is the case, for example, when messages are provided for a label printer, then the switch should be made to the "Azure Fileshare" file transfer.

## EDX MasterDataExport

EDX master data export can be used to export the following master data:

- Item  
Subtables: Item variants, Item units as well as Item references.
- Customer  
Subtables: Contacts
- Vendor

## Establishment

The setup is done with the EDX setup.

## EDX Setup

At the beginning, the necessary setups are done via the setup wizard. This setup wizard can be called up via the EDX Setup menu ribbon ("More options" > "Action" > "Setup" > "EDX setup wizard"). The EDX setup wizard is started. Via the selection "General" the required document types as well as number series are created.

## EDX Document types

After setup via the setup wizard, the following document types are available:

Document	Description	Document direction
BASE CUSTOMER	Basis debtor export	Based on
BASE ITEM	Base article export	Based on
BASE VENDOR	Base Vendor Export	Based on

## Setting up the document types

For each EDX partner different voucher types can be defined. With the "EDX voucher setup" the previously created voucher types are assigned to the EDX partner as well as configured.

## Field settings

The "Field settings for document verification" function in the EDX document setup card ribbon allows you to configure which fields are to be exported from the associated master data table.

Field	Description
Table name	Specifies the table name for which the master data is to be transferred. For example, "Article" or a sub-table of the article, such as "Article variant".
Field name	Specifies the respective field name for which the master data is to be transferred.
Validation sequence	The validation order sets the element order in the XML output message.
Default value	This option is not available for the master data export
Create field content	Specify which fields will be exported.

#### Master data export

The master data export takes place automatically as soon as a change is made to the master data record. Here, only field changes that were specified in the field settings are monitored.

#### Example:

The article description has been changed for an article. After the data record has been saved, the export takes place.

The output file contains the following elements:

```

<EDXTransmission>
  <TransmissionID>{80A9B0F2-2959-472B-9FB3-0A01840A1216}</TransmissionID>
  <ItemList>
    <Item>
      <No>1000</No>
      <No2 />
      <Description>Tourenrad Rot ABC</Description>
      <SearchDescription>TOURENRAD ROT ABC</SearchDescription>
      <Description2 />
      <BaseUnitofMeasure>STÜCK</BaseUnitofMeasure>
      <PriceUnitConversion>0</PriceUnitConversion>
      <Type>0</Type>
      <ItemVariantList>
        <ItemVariant>
          <ItemNo>1000</ItemNo>
          <Code>V1</Code>
          <Description>Variante 1</Description>
          <Description2 />
        </ItemVariant>
        <ItemVariant>
          <ItemNo>1000</ItemNo>
          <Code>V2</Code>
          <Description>Variante 2</Description>
          <Description2 />
        </ItemVariant>
      </ItemVariantList>
      <ItemUnitofMeasureList>
        <ItemUnitofMeasure>
          <ItemNo>1000</ItemNo>
          <Code>STÜCK</Code>
          <QtyperUnitofMeasure>1</QtyperUnitofMeasure>
        </ItemUnitofMeasure>
      </ItemUnitofMeasureList>
      <ItemCrossReferenceList>
        <ItemCrossReference>
          <ItemNo>1000</ItemNo>
          <VariantCode />
          <UnitofMeasure>STÜCK</UnitofMeasure>
          <Cross-ReferenceType>1</Cross-ReferenceType>
          <Cross-ReferenceTypeNo>10000</Cross-ReferenceTypeNo>
          <Cross-ReferenceNo>D1000</Cross-ReferenceNo>
          <Description />
          <DiscontinueBarcode>false</DiscontinueBarcode>
        </ItemCrossReference>
        <ItemCrossReference>
          <ItemNo>1000</ItemNo>
          <VariantCode />
          <UnitofMeasure>STÜCK</UnitofMeasure>
          <Cross-ReferenceType>1</Cross-ReferenceType>
          <Cross-ReferenceTypeNo>20000</Cross-ReferenceTypeNo>
          <Cross-ReferenceNo>0-0032151-0</Cross-ReferenceNo>
          <Description />
          <DiscontinueBarcode>false</DiscontinueBarcode>
        </ItemCrossReference>
        <ItemCrossReference>
          <ItemNo>1000</ItemNo>
          <VariantCode />
          <UnitofMeasure>STÜCK</UnitofMeasure>
          <Cross-ReferenceType>1</Cross-ReferenceType>
          <Cross-ReferenceTypeNo>20000</Cross-ReferenceTypeNo>
          <Cross-ReferenceNo>4811</Cross-ReferenceNo>
          <Description />
          <DiscontinueBarcode>false</DiscontinueBarcode>
        </ItemCrossReference>
        <ItemCrossReference>
          <ItemNo>1000</ItemNo>
          <VariantCode />
          <UnitofMeasure>STÜCK</UnitofMeasure>
          <Cross-ReferenceType>3</Cross-ReferenceType>
          <Cross-ReferenceTypeNo />
          <Cross-ReferenceNo>12345678</Cross-ReferenceNo>
          <Description />
          <DiscontinueBarcode>false</DiscontinueBarcode>
        </ItemCrossReference>
      </ItemCrossReferenceList>
    </Item>
  </ItemList>
</EDXTransmission>

```

#### Calculated fields

Currently, only the calculated field "Stock" is provided. Calculated fields of the debtor or creditor are not provided by this AddOn, but can be implemented in the project.

#### Bulk data export

At the beginning of a project, a function is usually needed to export all records of a table.

This can be controlled via the "Collective item" option within the document setup.

As soon as you activate the switch, all records of the table will be exported during the next data export. Afterwards, the "Collective export" option will be deactivated automatically.

## EDX OpenTrans 1.0

With the EDX AddOn OpenTrans 1.0 the following OpenTrans messages are provided:

- DISPATCHNOTIFICATION (shipping notification)
- INVOICE (Invoice)
- ORDER (sell order)
- ORDERRESPONSE (order confirmation)

### Establishment

The setup is done with the EDX setup.

### EDX Setup

At the beginning, the necessary setups are done via the setup wizard. This setup wizard can be called up via the EDX Setup ("*More options*" > "*Action*" > "*Setup*" > "*EDX setup wizard*") menu ribbon. The EDX Setup Wizard is started. Via the selection "General" the required message types as well as number series are created.

### EDX Document types

After setup via the setup wizard, the following message types are available:

Document	Description	Document direction
BASE CUSTOMER	Base Customer Export	Outgoing
BASE ITEM	Basic Article Export	Outgoing
BASE VENDOR	Basic Vendor Export	Outgoing

### Setting up the document types

The message types listed above are then assigned to an EDX partner.

### Field settings

The field setting is only available for the OpenTrans message "OT1.0 SALES ORDER". See ["Document check field setting"](#).

### Processing

The processing of OpenTrans 1.0 messages is done in EDX standard. Incoming sales orders are provided as "EDX sales order". The order confirmation can be created via the associated Business Central sales order. The sales delivery as well as sales invoice can be sent manually or automatically.

## 1.3.9 EDX - Warehouse Management System Integration

---

### General

The EDX AddOn WMS provides a basic WMS (Warehouse Management System) interface.

With the WMS interface, logistics companies can be connected to Microsoft Dynamics 365 Business Central.

The message exchange is bidirectional. This means that goods receipts/issues can be reported to the logistics company and confirmations processed accordingly in Microsoft Dynamics 365 Business Central. Inventory reconciliation is possible via the invtur message.

The EDX WMS intermediate documents can be retrieved via the user search with the term "WMS".

### Requirements EDX version

EDX19 .0.17051.0

EDX WMS 19..016994.0

### Note

In version EDX WMS Addon V14.1.0.11 the following functions are not available:

- Send / receive GS1 acknowledgement of receipt
- Transfer of PDF files, e.g. Proforma delivery bill, within the instruction messages as Base64 encoded document

### Establishment

#### EDX Setup Wizard

After the app installation, the setup is performed with the EDX setup wizard. This setup wizard can be called up via the EDX Setup menu ribbon ("More options" > "Action" > "Setup" > "EDX setup wizard"). The EDX setup wizard is started. Via the selection "General" the required document types as well as number series are created. see EDX manual chapter "EDX setup wizard".

#### **EDX Setup WMS**

In the WMS info tab, the following parameters can be set for the interface:



Area	Parameter	Description
Goods issue confirmation from WMS to BC (Outbound Notification)	Take over delivery person in goods issue	<p><b>To:</b> Specifies that the deliverer is to be transferred from the sales order to the goods issue. The transfer of the deliverer takes place before the goods issue is posted.</p> <p><b>Off:</b> When posting the goods issue, the set deliverer of the goods issue header is used.</p>
	Deliver and invoice	<p><b>To:</b> When posting the goods issue, the delivery and invoice are created.</p> <p><b>Off:</b> Only the delivery is posted</p>
Goods issue from BC to WMS (Outbound Instruction)	Send article parts list	<p><b>To:</b> If an assembly order exists for the item, then the components of the assembly order are transmitted in the outbound message.</p> <p><b>Off:</b> The components are not sent with the output message.</p>
Stock from WMS to BC (Inventory Notification)	Overread locked articles	<p><b>To:</b> If the stock report contains a blocked item, then it will not be processed.</p> <p><b>From:</b> The processing is aborted with an error as soon as a blocked article is reported back.</p> <p><b>Note</b> The message processing is completely aborted. This also applies to the following parameters from the "Stock from WMS to BC" area.</p>
	Missing articles overread	<p><b>To:</b> If the stock report contains an item that does not exist, then it will not be processed.</p> <p><b>From:</b> The processing is aborted with an error as soon</p>

Area	Parameter	Description
		as an article is reported back which does not exist in the BC article master.
	Missing serial number/batch overread	<p><b>To:</b> If the stock report returns a serial number/batch item without a serial number/batch, then it will not be processed.</p> <p><b>From:</b> Processing will be aborted with an error if a serial number/batch mandatory item is reported back without a serial number/batch.</p>

#### EDX Partner

An EDX partner must be created for the data exchange between BC and the logistics company. The EDX partner is created e.g. of the type "Contact". Within this documentation the EDX partner "WMS" is used.

#### EDX Document types

The following EDX documents are assigned to the previously created EDX partner:

## KUMAVISION Inhouse Format

<b>Document</b>	<b>Description</b>	<b>Occupancy direction from BC's point of view</b>
WMS INVENTORY IMP	Inventory notification from logistics company to BCs. KUMA WMS Guideline "WMS Inventory Notification"	In-depth
WMS WHSE RECEIPT EXP	Goods receipt from BC to logistics company. KUMA WMS Guideline "WMS Inbound Instruction"	Based on
WMS WHSE RECEIPT IMP	Goods receipt from logistics companies to BCs. KUMA WMS Guideline "WMS Inbound Notification"	In-depth
WMS WHSE SHIPMENT EXP	Outbound instruction from BC to logistics company. KUMA WMS Guideline "WMS Outbound Instruction"	Based on
WMS WHSE SHIPMENT IMP	Outbound notification of goods from logistics companies to BCs. KUMA WMS Guideline "WMS Outbound Notification"	In-depth
WMS WHSE SHIPMENT STATUS IMP	Goods issue status from logistics companies to BCs. KUMA WMS Guideline "WMS Outbound State Notification"	In-depth
GS1 APP REC ACK EXP	GS1 Application Receipt Acknowledgement Export The assignment is only required if an acknowledgement of receipt is to be sent for an incoming message. s. Chapter GS1 Application Receipt Acknowledgement	Based on
GS1 APP REC ACK IMP	GS1 Application Receipt Acknowledgement Export The assignment is only required if an acknowledgement of receipt is to be received for an outgoing message. s. Chapter GS1 Application Receipt Acknowledgement	In-depth

## GS1 Warehousing Messages (Subset Raben)

The following GS1 messages may differ from the original GS1 messages, as they contain adaptations for the logistics company RABEN!

Document	Description	Occupancy direction from BC's point of view
GS1V3.2R INVENTORY IMP	Inventory from logistics company to BC see GS1 <a href="#">Logistics Inventory Report</a>	In-depth
GS1V3.2R WHSE RECEIPT EXP	Goods receipt from BC to logistics company see GS1 <a href="#">Warehousing Inbound Instruction</a>	Based on
GS1V3.2R WHSE RECEIPT IMP	Goods receipt from logistics companies to BC see GS1 <a href="#">Warehousing Inbound Notification</a>	In-depth
GS1V3.2R WHSE SHIPMENT EXP	Outbound instruction from BC to logistics company see GS1 <a href="#">Warehousing Outbound Instruction</a>	Based on
GS1V3.2R WHSE SHIPMENT IMP	Outbound notification of goods from logistics companies to BC see GS1 <a href="#">Warehousing Outbound Notification</a>	In-depth

After the test phase is completed, all EDX documents should be set to automatic processing.

## Storage location

The EDX partner set up must be entered in the associated storage location. Within this documentation, the EDX partner "WMS" is assigned to the storage location "YELLOW". Hereby, goods receipts as well as goods issues for the storage location "YELLOW" are reported to the logistics company "WMS".

The selected storage location should have the following options:

Logistics	State
Goods receipt required	Yes
Goods issue required	Yes
Picking required	No

In the storage location the creditor, which corresponds to the logistics company, can be stored. In the field "Our account number" of the vendor, the customer number assigned by the logistics company must be entered.

**Logistics facility**

For posting goods receipt/goods issue, it is necessary to change the goods receipt/goods issue posting method in the "Logistics setup" to "Cancel and show first posting error".

If the posting method is set to "Posting errors are not processed" and an error occurs during posting, then it will not be registered by EDX and all related interface records will get the status "NAV document created" even though no posting has taken place.

**Goods issue from BC to WMS (Outbound Instruction)****General**

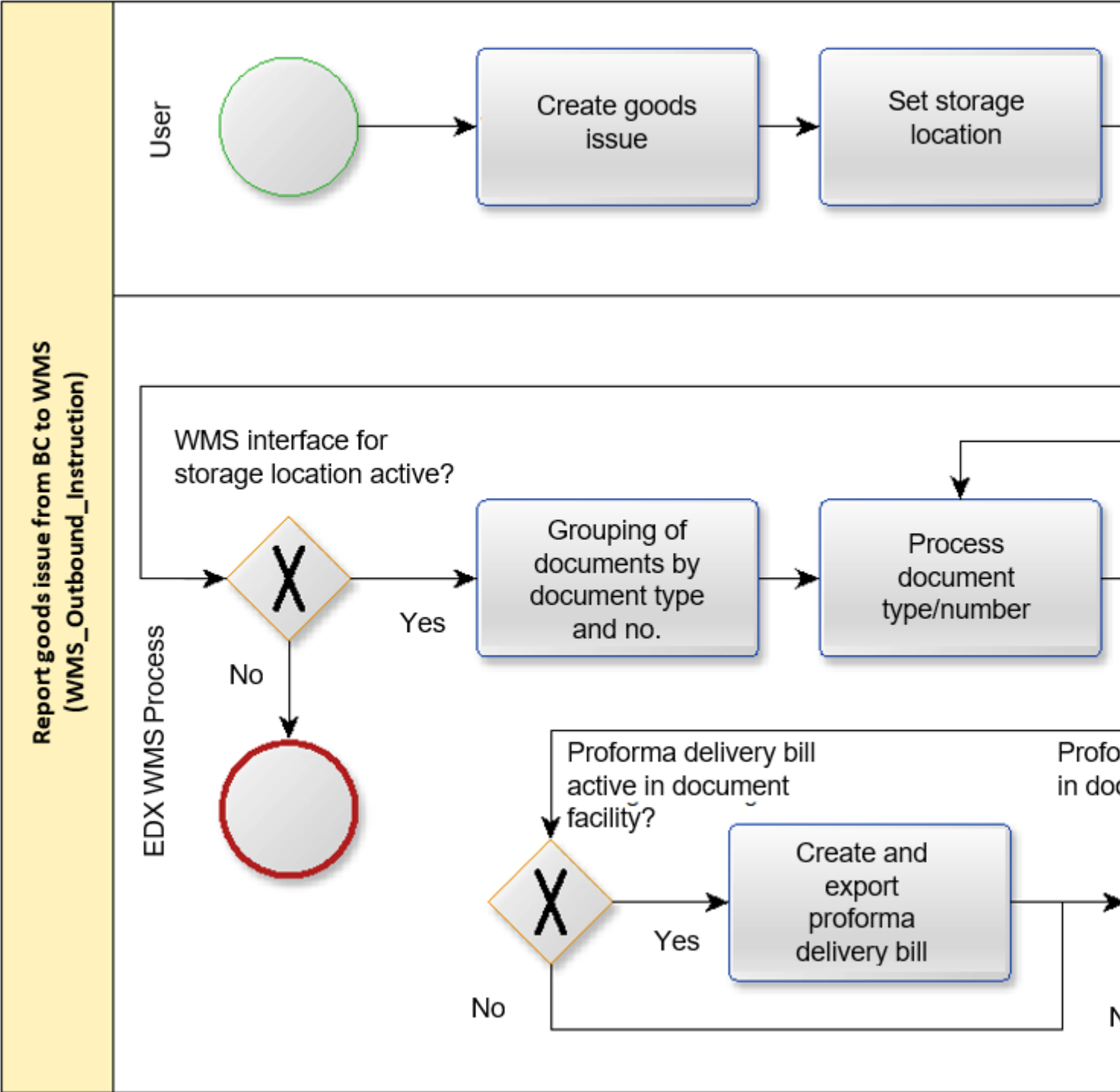
Excerpt from [Microsoft Dynamics 365 Business Central Helpsite](#):

*[...] If you ship items from a storage location that has been set up to require goods issue processing, you can only record goods issue based on origin documents that other departments in your company have approved for processing.*

*Normally, the employee who is responsible for the delivery creates a goods issue. The following procedure describes how to create the shipment manually in the standard version of Business Central.*

- *Select the icon , enter goods issues, and then select the associated link.*
  - *Select the New action. Fill in the fields on the General info tab. When retrieving the origin document rows, some of the information is copied to each row.*
  - *Select the Get origin documents action. The Origin documents page opens. From a new or open goods issue, you can use the Filter to get origin document lines that define which items are to be delivered.*
- [...]*

Procedure User/EDX



After entering the storage location code "YELLOW" in the General info tab, the fields in the EDX info tab are initialized.

The following conditions must be met for automatic EDX document dispatch:

<b>Field</b>	<b>Description</b>
<b>See EDX info register in the goods issue area</b>	
External WMS = Yes	Initialization takes place according to the selected storage location
Released = Yes	
EDX Status = Unprocessed	
EDX Partner = Partner no. from storage location facility	

The following origin documents are supported by the EDX WMS interface:

- Sell orders
- Outgoing stock transfers
- Purchasing complaints
- Service orders

After the goods issue has been released, the message is sent to the logistics company. If the document "WMS WHSE SHIPMENT EXP" is not configured for automatic processing, then the goods issue can be sent manually with the action "Send EDX goods issue".

When sending messages, one message is created in the EDX outbox for each origin document/origin number. The created EDX output can be retrieved with the action Line->EDX->Output.

In another transaction, the outgoing item is transferred.

#### **Serial number/batches**

The serial numbers/batches are reported back by the logistics company. An entry in the goods issue is generally not required. If serial numbers or batches are recorded in the goods issue, then these are reported to the logistics company.

#### **Assembly of the final article in the logistics company**

If the assembly of the final article takes place in the WMS, then the article BOM can be sent to the logistics company using the WMS interface.

The BOM is exported if the "Send article BOM" checkbox is activated in the EDX setup and the current article has an assembly or production BOM.

#### **Proforma delivery bill / invoice**

Within the interface PDF files can be transmitted as base64 encoded characters. The transmission is currently only possible for sales orders.

For the transmission, the switch "Include the associated PDF document" must be activated in the EDX document facility (WMS WHSE SHIPMENT EXP). In the "Report selection sales" the reports to be transferred must be marked with the switch "Use for WMS".

#### Note

The reports "Proforma delivery bill" and "Proforma invoice" are not part of the WMS interface.

#### Storage location / storage place

When using the KUMAVISION QM App, position locations are used. The WMS interface reports the goods issue storage bin to the logistics company.

#### WMS order number / transport number

The order number and transport number used by the logistics company are displayed in the EDX info register.

#### Send goods issue from BC to WMS again

If it is necessary to send a goods issue to the WMS again, this can be done with the actions "Reset EDX status". If the document "WMS WHSE SHIPMENT EXP" is not configured for automatic processing, then the goods issue can be sent manually with the action "Send EDX goods issue".

#### Note

The resending of messages should be coordinated with the WMS in advance. If the WMS has already started picking, changes are usually no longer possible!

#### Exclude goods issue from transmission

In some cases, the created goods issue may not be sent to the WMS. This is the case, for example, if the goods issue was created for internal processing purposes only.

For this purpose, the status of the goods issue must be set to "Open". Then the switch "External WMS" in the EDX info register can be set to "Off". When switching over, the following query is displayed:

"When releasing the goods issue, there is no transfer to the external WMS. Are you sure?"

#### Assembly order

If an assembly order exists for the goods issue line, then the components of the assembly order are transferred to the logistics company with the "Outbound Instruction" message. The transfer is made according to the following conditions:

- EDX setupThe "Transfer parts list" configuration switch must be switched on.
- Sales lines

The sales line in the goods issue must be linked to an assembly order.



**Goods issue status from WMS to BC (Outbound State Notification)****General**

With the message "WMS WHSE SHIPMENT STATUS IMP" the status confirmations are processed by the logistics company.

The message can be processed with the WMS intermediate document "WMS Goods issue status".

Currently, the following status confirmations are available:

<b>Status</b>	<b>Description</b>
0 = Preparation for picking	The goods issue message has been transmitted to the WMS. Picking should take place shortly.
1 = Picking has been started.	
2 = Picking has been completed	Delivery should be made shortly.
3 = Picking was canceled	The WMS has aborted the picking process. Consultation with the WMS required.

**WMS Intermediate document****Check action**

The following tests are performed:

<b>Status</b>	<b>Description</b>
Goods issue no.	Logistics document must exist
Goods issue line number	Logistics document line must exist
Origin number	If transmitted, the origin number must match the origin number from the logistics document line.

**Update action**

The confirmed status is transferred to the goods issue line.

**Outgoing goods**

The reported WMS processing status is displayed in the goods issue line with the "WMS Status" field.

**Goods issue from WMS to BC (outbound notification)****General**

With the message "WMS WHSE SHIPMENT IMP" the deliveries are processed by the logistics company.

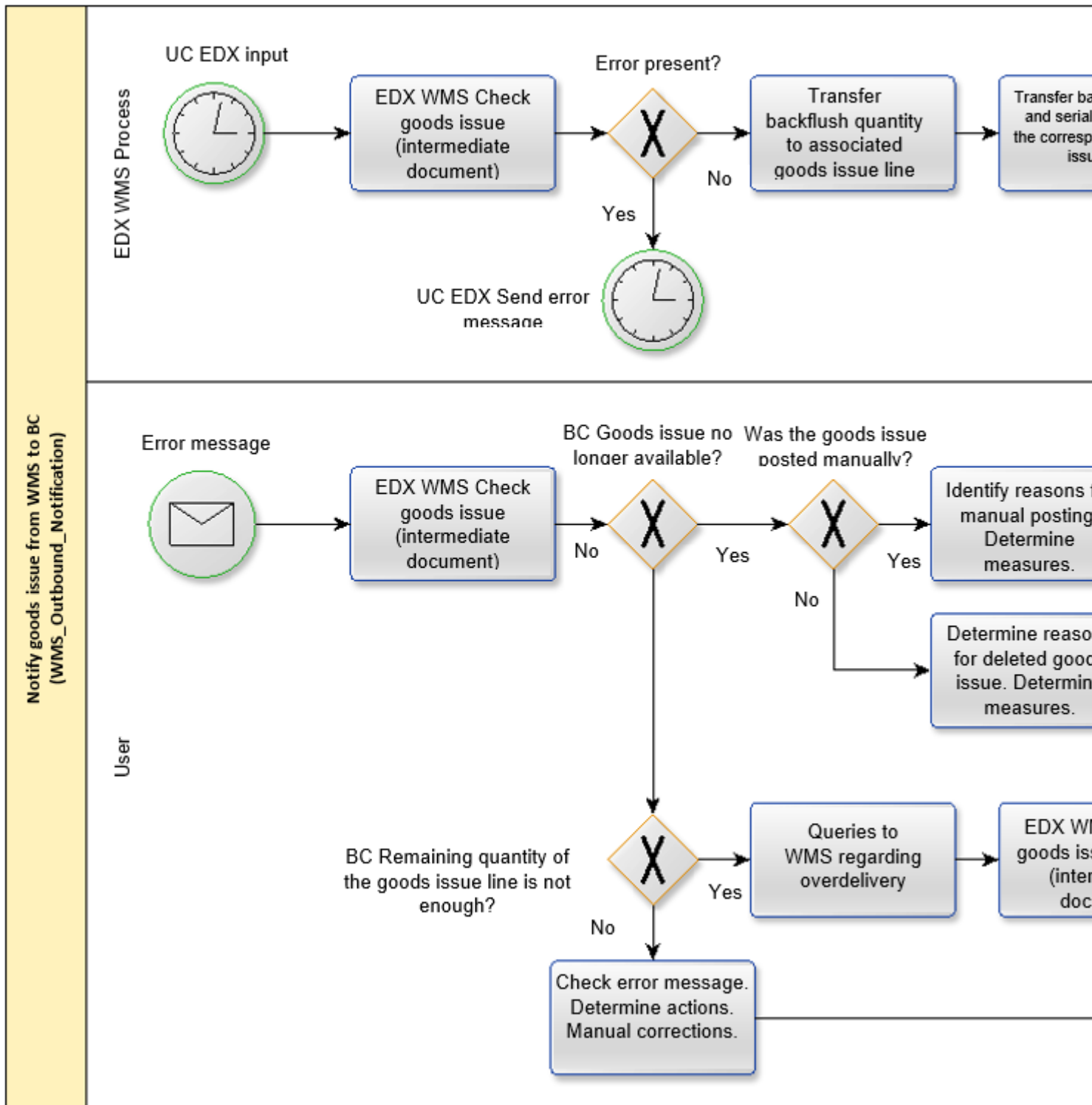
The message can be processed with the WMS intermediate document "WMS Goods issue".

**Procedure User/EDX**

The following diagram shows the automatic sequence of message processing.

Prerequisite EDX occupancy device:

- Automatic processing is enabled.
- BC Release document is enabled.
- BC Post document is activated. The posting date should be set to "Receipt document date". In this case the posting date will be used by the logistics company.



**WMS Intermediate document**

Serial number/batches

The serial numbers/batches assigned by the logistics company can be retrieved using the "Item tracking" action within the rows.

Assembly order

If the logistics company performs the assembly of the finished article, then the components used by the logistics company can be retrieved with the action "Bill of material" within the lines.

Note

Currently, the corresponding production order in BC is not automatically posted by the interface.

Packing material

The packing materials used by the logistics company can be retrieved with the action "Packing materials" within the lines. The overview contains the SSCC/NVE and the respective package tracking number.

Note

The packing materials are transferred to the corresponding sales delivery when posting the goods issue. In the given sales delivery, the packaging materials can be retrieved with the action "EDX packing list".

Packing list

With the packing list, the returned packing materials are displayed in hierarchical form. For this representation, the logistics company must report back which packaging material is contained in which packaging material.

If outer packaging is used for several origin documents, it is sufficient to report the outer packaging when it is first used. For the subsequent origin documents, only the corresponding outer packaging is referred to (Contained in SSCC/NVE).

Example:

Type	Package Tracking No.	SSCC/NVE	Contained in SSCC/NVE	Package Description
Outer		202103090000000001		CONTAINER
Outer	DHL12334457563233	202103080000000000	202103090000000001	PALETTE
Inner	DHL12334457563234	202103080000000001	202103080000000000	KLT
Inner	DHL12334457563235	202103080000000002	202103080000000000	KLT
Additional			202103080000000002	BLISTER
Additional			202103080000000002	BLISTER

Storage location / storage place

When using the KUMAVISION QM App, position locations are used.

The storage bin reported back by the logistics company is not processed. Within the interface it is assumed that the storage bin specified in the goods issue corresponds to the delivery storage bin.

#### Check action

The following tests are performed:

Status	Description
Goods issue no.	Logistics document must exist
Goods issue line number	Logistics document line must exist
Origin number	If transmitted, the origin number must match the origin number from the logistics document line.
Item number	Article number must exist and match logistics document line.
Variant	Variant must exist and match logistics document line.
Quantity to supply	Must be <= remaining quantity of the logistics document line.
Serial number/batches	Must be present if the item is subject to batch or serial number requirements.

#### Action booking

- The posting date of the logistics document is set according to the document setup.
- WMS order number / transport number is transferred to the logistics document.
- Quantity to be delivered is transferred to logistics document line.
- Serial number/batches are transferred to the origin document.
- Goods issue is posted if this is set in the document facility.
- Packing materials are transferred to the booked sales delivery.

#### Outgoing goods

##### WMS order number / transport number

The order number and transport number used by the logistics company are displayed in the EDX info register.

#### Goods receipt from BC to WMS (Inbound Instruction)

##### General

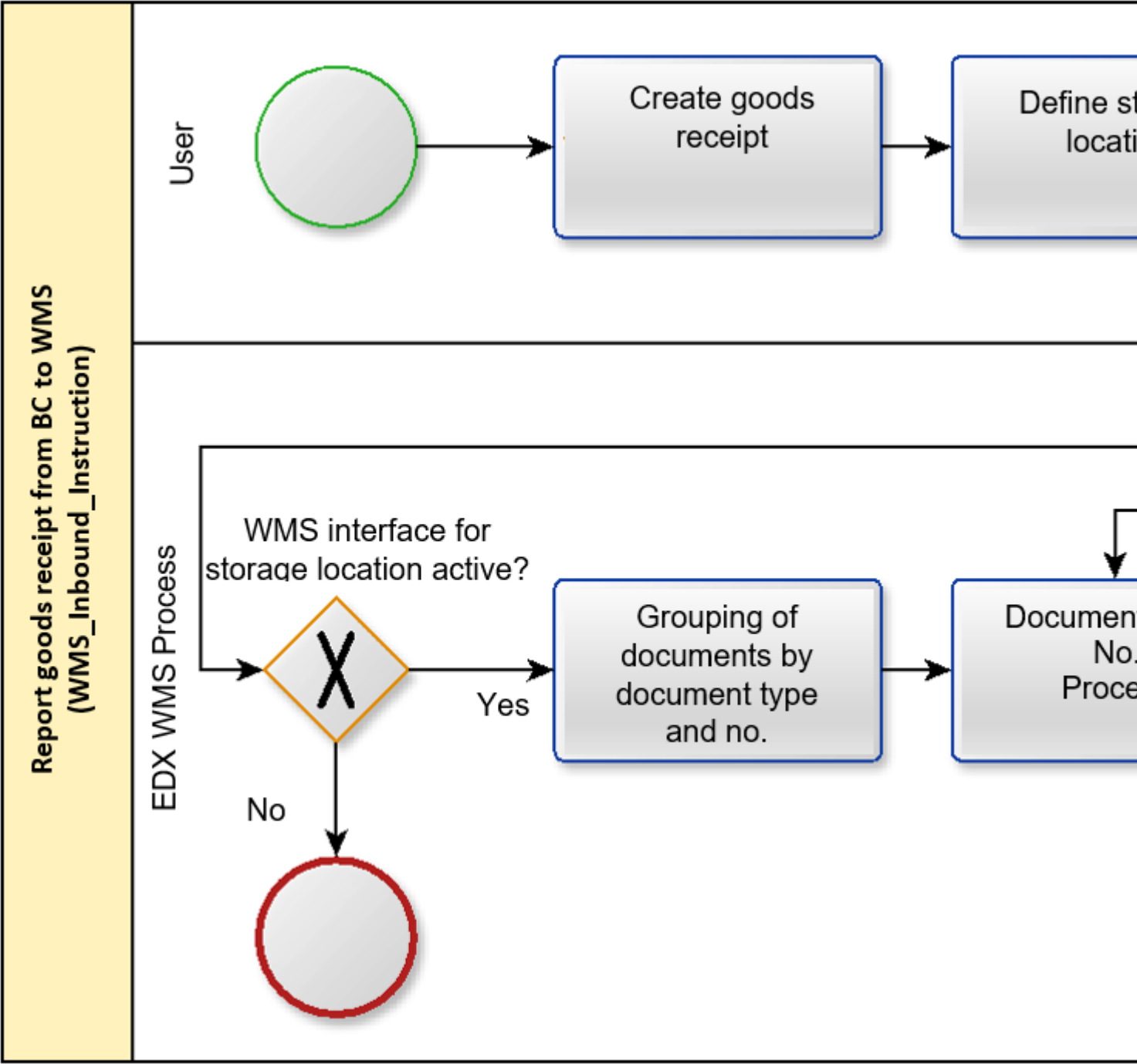
Excerpt from [Microsoft Dynamics 365 Business Central Helpsite](#):

[...] When items arrive at a warehouse set up for goods receipt processing, you must retrieve the rows of the released origin document that triggered their goods receipt. If you are using storage bins, you can either accept the default bin entered or, if the item has never been used in this warehouse before, enter the bin into

which the item is to be placed. You must then enter the quantities of the items you have received and post the goods receipt.

The following explains how items are received with an order. The steps for sales complaints and stock transfer orders are similar.

- Select the icon , enter goods receipts, and then select the associated link.
- Select the New action.  
Fill in the fields on the General info tab. When retrieving the origin document lines, some of the information is copied to each line.  
For warehouse configurations with controlled putaway and picking: if the storage location has a default zone and a default bin for goods receipts, the Zone code and Bin code fields are filled in automatically, but you can change them if necessary.
- Select the Get origin documents action. The Origin documents page opens. From a new or open goods receipt, you can use the Filter to get origin document lines that define which items are to be received or delivered.
  - a) Select the Use filters to fetch Herc. documents action.
  - b) To set up a new filter, enter a descriptive code in the Code field and click Edit Actions.
  - c) Specify the type of origin document rows you want to retrieve by filling in the respective filter fields.
  - d) Select the Execute action.[...]



Procedure User/EDX

After entering the storage location code "YELLOW" in the General info tab, the fields in the EDX info tab are initialized.

The following conditions must be met for automatic EDX document dispatch:

Field	Description
<b>See EDX information register in the goods receipt area</b>	
External WMS = Yes	Initialization takes place according to the selected storage location
Released = Yes	
EDX Status = Unprocessed	
EDX Partner = Partner no. from storage location facility	

The following origin documents are supported by the EDX WMS interface:

- Purchase orders (not external work)
- Incoming stock transfers
- Sales complaints

After the goods receipt has been released, the message is sent to the logistics company. If the document "WMS WHSE RECEIPT EXP" is not configured for automatic processing, then the goods receipt can be sent manually with the action "Send EDX goods receipt".

When sending messages, one message is created in the EDX outbox for each origin document/origin number. The created EDX output can be retrieved with the action Line->EDX->Output.

In another transaction, the outgoing item is transferred.

#### Serial number/batches

The serial numbers/batches are reported back by the logistics company. An entry in the goods receipt is generally not required.

#### Storage location / storage place

When using the KUMAVISION QM App, position locations are used. The WMS interface reports the goods receipt storage bin to the logistics company.

#### Send goods receipt from BC to WMS again

If it is necessary to send a goods receipt to the WMS again, then this can be done with the actions "Reset EDX status". If the document "WMS WHSE RECEIPT EXP" is not configured for automatic processing, then the goods receipt can be sent manually with the action "Send EDX goods receipt".

#### Note

The resending of messages should be coordinated with the WMS in advance. If the WMS has already started processing the goods receipt, changes are usually no longer possible!



**Exclude goods receipt from transmission**

In some cases, the created goods receipt may not be sent to the WMS. This is the case, for example, if the goods receipt was created for internal processing purposes only.

For this purpose, the status of the goods receipt must be set to "Open". Then the switch "External WMS" in the EDX info register can be set to "Off". When switching over, the following query is displayed:

"When the goods receipt is released, there is no transmission to the external WMS. Are you sure?"

**Goods receipt from WMS to BC (inbound notification)****General**

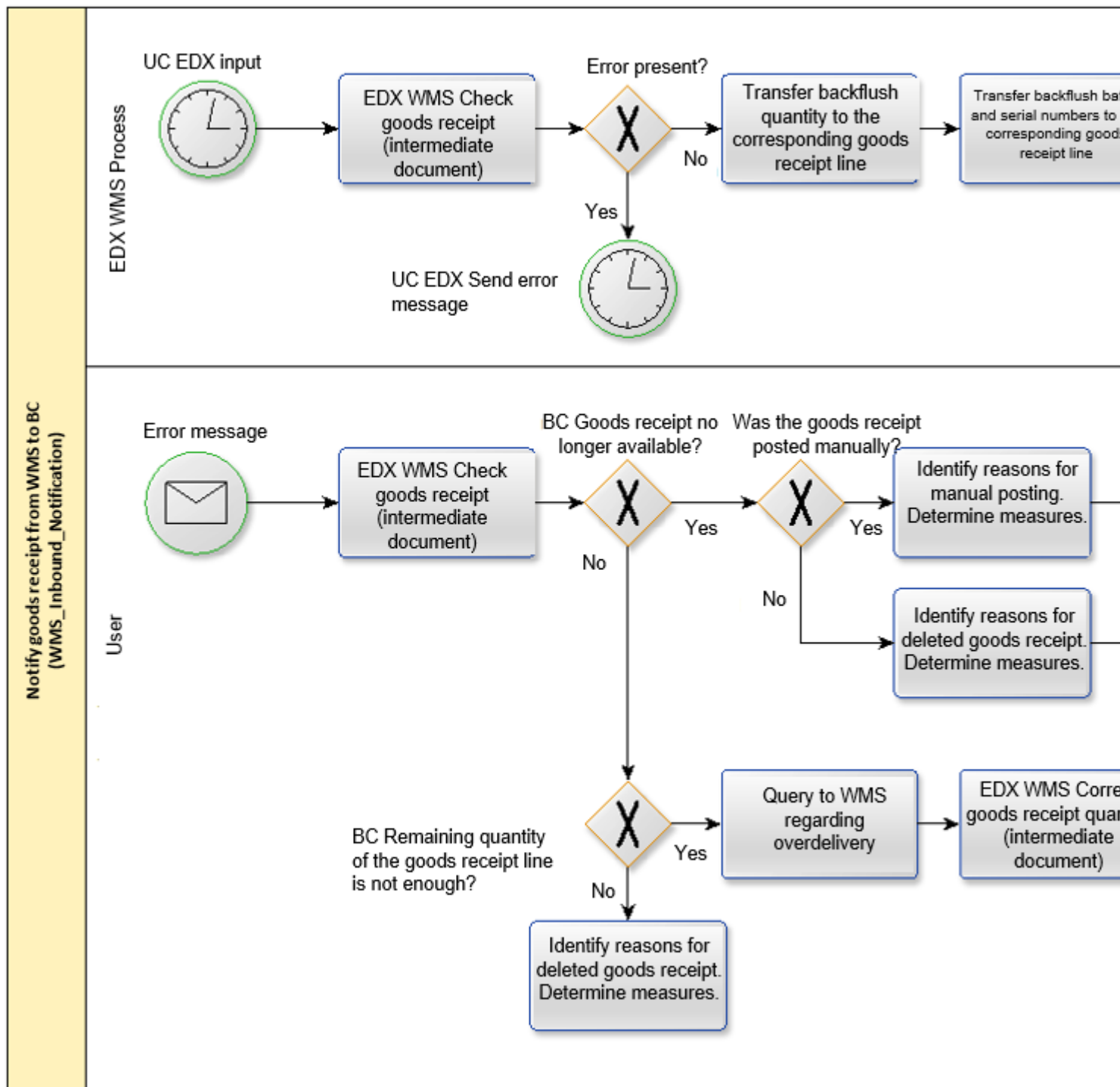
With the message "WMS WHSE RECEIPT IMP" the goods receipts are processed by the logistics company.

The message can be processed with the EDX intermediate document "WMS Goods receipt".

**Procedure User/EDX**

The following diagram shows the automatic sequence of message processing. Prerequisite EDX occupancy device:

- Automatic processing is enabled.
- BC Release document is enabled.
- BC Post document is activated. The posting date should be set to "Receipt document date". In this case the posting date will be used by the logistics company.



WMS Intermediate document

Serial number/batches

The serial numbers/batches assigned by the logistics company can be retrieved using the "Item tracking" action within the rows.

Packing material

The packing materials used by the logistics company can be retrieved with the action "Packing materials" within the lines. The overview contains the SSCC/NVE and the respective package tracking number.

Note

Currently, the packaging materials are not transferred to the posted document when posting the goods issue.

Packing list

With the packing list, the returned packing materials are displayed in hierarchical form. For this representation, the logistics company must report back which packaging material is contained in which packaging material.

If outer packaging is used for several origin documents, it is sufficient to report the outer packaging when it is first used. For the subsequent origin documents, only the corresponding outer packaging is referred to (Contained in SSCC/NVE).

Example:

Type	Package Tracking No.	SSCC/NVE	Contained in SSCC/NVE	Package Description
Outer		202103090000000001		CONTAINER
Outer	DHL12334457563233	202103080000000000	202103090000000001	PALETTE
Inner	DHL12334457563234	202103080000000001	202103080000000000	KLT
Inner	DHL12334457563235	202103080000000002	202103080000000000	KLT
Additional			202103080000000002	BLISTER
Additional			202103080000000002	BLISTER

Storage location / storage place

When using the KUMAVISION QM App, position locations are used. The storage bin reported back by the logistics company is not processed. Within the interface it is assumed that the storage bin specified in the goods receipt corresponds to the delivery storage bin.

**Check action**

The following tests are performed:

<b>Status</b>	<b>Description</b>
Goods receipt no.	Logistics document must exist
Goods receipt line number	Logistics document line must exist
Origin number	If transmitted, the origin number must match the origin number from the logistics document line.
Item number	Article number must exist and match logistics document line.
Variant	Variant must exist and match logistics document line.
Quantity supplied	Must be <= remaining quantity of the logistics document line.
Serial number/ batches	Must be present if the item is subject to batch or serial number requirements.

**Action booking**

- The posting date of the logistics document is set according to the document setup.
- WMS order number / transport number is transferred to the logistics document.
- Quantity delivered is transferred to logistics document line.
- Serial number/batches are transferred to the origin document.
- Goods receipt is posted if this is set in the document facility.
- Packing materials are transferred to the booked sales delivery.

**Goods receipt****WMS order number / transport number**

The order number and transport number used by the logistics company are displayed in the EDX info register.

**Stock from WMS to BC (Inventory Notification)****General**

The message can be processed with the EDX intermediate document "WMS Stock".

Excerpt from [Microsoft Dynamics 365 Business Central Helpsite](#):

*[...] You can perform an inventory of items using the Inventory Order and Inventory Capture documents. The Inventory Order page is used to organize the complete inventory collection project, for example, one per location. The Inventory Capture page is used to communicate and record the actual count of items. You can create multiple records for one order, for example, distributing groups of items to different employees.*

*The Inventory Capture report can be printed from any capture and contains blank quantity fields for entering counted inventory. When a user is finished capturing and the quantities have been entered on the Inventory*

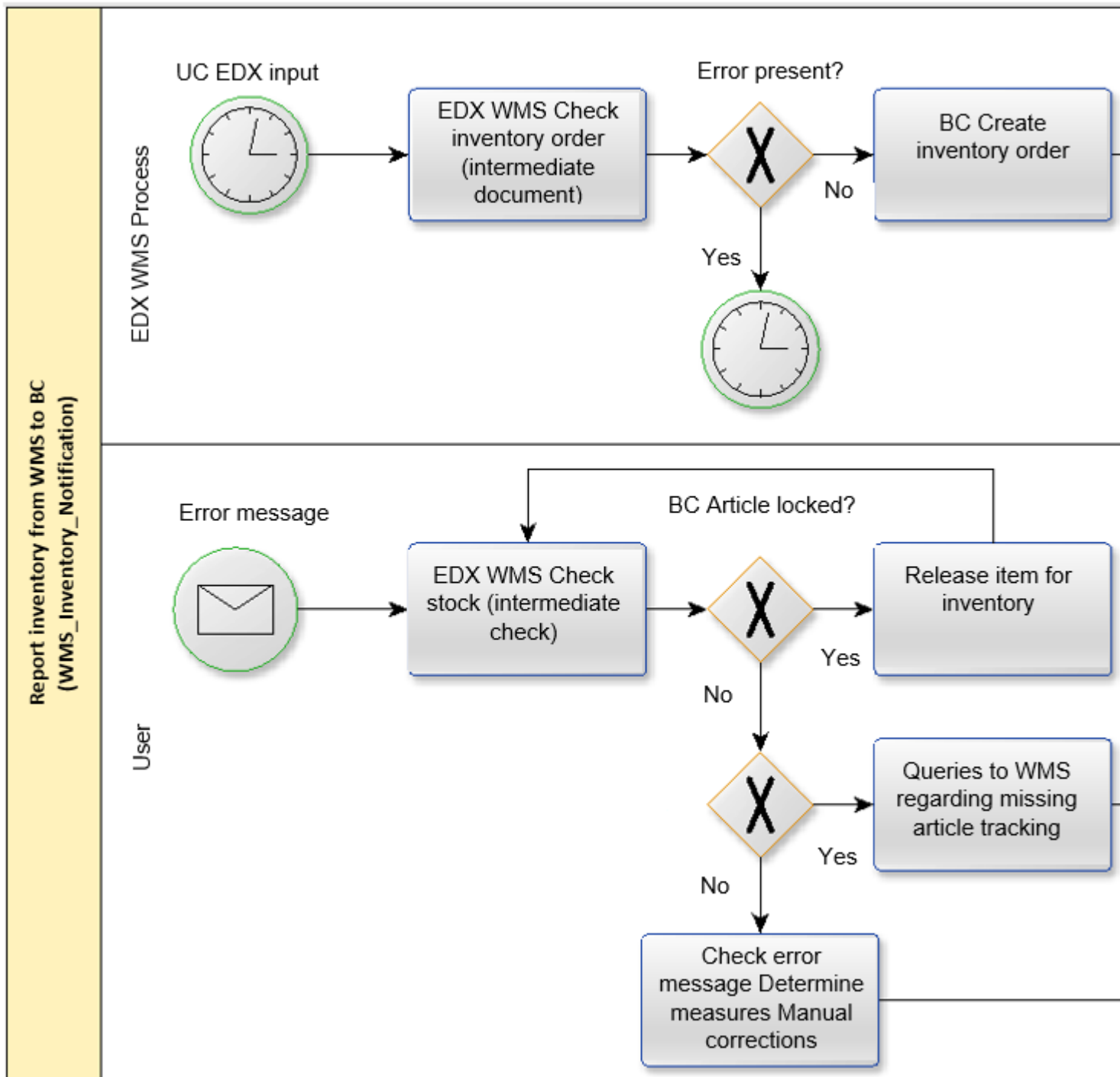
*Capture page, select the Finish action. This will transfer the quantities to the appropriate rows on the Inventory Order page. This feature ensures that no item count can be entered twice.[...]*

**Procedure User/EDX**

The following diagram shows the automatic sequence of message processing.

Prerequisite EDX occupancy device:

- Automatic processing is enabled.
- BC Release document is enabled.
- BC Post document is activated. The posting date should be set to "Receipt document date". In this case the posting date will be used by the logistics company.



Confirmation of the article stock for all storage bins

Note

The logistics company must report the stock of an item for all storage bins. The inventory order reconciles the stock between the logistics company and BC. If the stock of a storage bin is not reported by the logistics company, then this stock is also deleted in BC.

**WMS Intermediate document****Serial number/batches**

The serial numbers/batches assigned by the logistics company are displayed directly in the line.

**Check action**

The following tests are performed:

<b>Status</b>	<b>Description</b>
Storage location	Storage location must exist. If no storage location is returned, then the storage location that was assigned to the EDX partner is used.
Stockyard	Storage space must exist.
Item number	Item number must exist. s. WMS setup regarding blocked articles.
Variant	Variant must exist and match logistics document line.
Serial number/ batches	Must be present if the item is subject to batch or serial number requirements.

**Action booking**

- Creating an inventory order
- The posting date of the inventory order is set according to the document setup.
- Create inventory record for all items
- Inventory order is posted if this is set in the document setup.

**GS1 Application Receipt Acknowledgement****General**

With the message "GS1 Application Receipt Acknowledgement" a receipt confirmation can be transmitted back to the message sender. The receipt acknowledgement can be used bidirectionally.

**Example:**

Message from WMS to BC

WMS sends the stock level.

BC sends the acknowledgement of receipt after receiving the stock

**Example:**

Message from BC to WMS

BC sends the goods issue.

WMS sends the acknowledgement of receipt after receipt of the goods issue

## Note

All messages from BC to WMS contain the `TransmissionId` element with a unique GUID.

For messages from WMS to BC, the `TransmissionId` element is optional. If the acknowledgement of receipt from BC to WMS is to be used, then the messages from the messages from WMS must contain a unique `TransmissionId`.

## Establishment

As described in chapter „[EDX Document Types](#)“, the message "GS1 APP REC ACK EXP" must be assigned to the WMS partner. Then the option "Receipt Acknowledgement" is activated in the document setup.

## Guideline for GS1 Application Receipt Acknowledgement

The message description can be obtained directly from GS1.

[Application Receipt Acknowledgement - XML Application Receipt Acknowledgement | GS1](#)

## Example acknowledgement of receipt from BC to WMS

In the following example, the stock was received by the WMS with the transmission id **{B7E627FD-C00F-4826-93ED-B2D32D9F48E2}**. The receipt confirmation was sent to the WMS with the transmission id **{8415449F-E9BB-40DF-A459-5170F20E9AB4}**.

Extract from the XML message:

```
<applicationReceiptAcknowledgementIdentification>
  <entityIdentification>{8415449F-E9BB-40DF-A459-5170F20E9AB4}</entityIdentification>
</applicationReceiptAcknowledgementIdentification>
<applicationResponseMessageHeaderLevel>
  <applicationResponseStatusCode>RECEIVED</applicationResponseStatusCode>
  <originalEntityIdentification>
    <entityIdentification>{B7E627FD-C00F-4826-93ED-B2D32D9F48E2}</entityIdentification>
  </originalEntityIdentification>
```

## Example acknowledgement of receipt from WMS to BC

In the following example, the goods issue was sent from BC to the WMS with the transmission ID **{970cd006-f6f5-4aff-b152-c2d92f29a661}**. The receipt confirmation was sent with the transmission ID **{897D7F20-265F-4A16-8D32-17565A62FFE4}** from the WMS.

Extract from the XML message:



```

<applicationReceiptAcknowledgementIdentification>
  <entityIdentification>{897D7F20-265F-4A16-8D32-17565A62FFE4}</entityIdentification>
</applicationReceiptAcknowledgementIdentification>
<applicationResponseMessageHeaderLevel>
  <applicationResponseStatusCode>RECEIVED</applicationResponseStatusCode>
  <originalEntityIdentification>
    <entityIdentification>{970cd006-f6f5-4aff-b152-c2d92f29a661}</entityIdentification>
  </originalEntityIdentification>

```

## WMS API Reference

The following chapters describe the EDX-WMS events and their functionality.

### Note

For the EDX WMS Integration Events, the "Sender" is always transmitted as the first parameter. In the following description this parameter is not listed, because the documentation is from the event publisher's point of view.

For all following events the Event Publisher CodeUnit "EDX WMS AddOn" can be used.

### Integration of project-specific WMS messages

The registration of project-specific messages is to be implemented according to the "EDX API Reference".

Registration can be performed according to the examples below. "Object Type" and "Object ID" must be changed to the project-specific object accordingly. Attention: When using an XMLPort for the export of goods in/goods out, it must be ensured that the XMLPort has a table element for the goods in/goods out line. If this element is not present in the XMLPort, then an error will occur during the export!

When using a CodeUnit for the export of goods in/goods out, the field KVSSEDXOutbound. "Record Id" can be used to determine which goods in/goods out is currently being exported. With the field KVSSEDXOutbound. "KVSSEDX WMS Detail RecordId" the current origin document (sales order, purchase order, etc.) is reported.

```

// KUMAVISION WMS Guideline Format
// Initialize Document WMS_WHSE_SHIPMENT EXPORT
EDXDocumentTypesVar.Init();
EDXDocumentTypesVar."EDX Document" := WMS_WhseShipmentExpTok.
EDXDocumentTypesVar.Description := WMS_WhseShipmentExpTxt;
EDXDocumentTypesVar.Channel := EDXDocumentTypesVar.Channel::Outbound;
EDXDocumentTypesVar."Doc. Table No." := Database::"Warehouse Shipment Header";
EDXDocumentTypesVar."File Type" := EDXDocumentTypesVar."File Type"::xml;
EDXDocumentTypesVar."Object Type" := EDXDocumentTypesVar."Object Type"::XmlPort;
EDXDocumentTypesVar."Object ID" := XmlPort::"KVSEDX WMS Whse. Shipment Exp";
EDXDocumentTypesVar."Field Setup Active" := false;
EDXDocumentTypesVar."Collect Documents Possible" := false;
EDXDocumentTypesVar."Include PDF Possible" := true;
EDXDocumentTypesVar.Insert(true);

// Initialize Document WMS_WHSE_RECEIPT EXPORT
EDXDocumentTypesVar.Init();
EDXDocumentTypesVar."EDX Document" := WMS_WhseReceiptExpTok;
EDXDocumentTypesVar.Description := WMS_WhseReceiptExpTxt;
EDXDocumentTypesVar.Channel := EDXDocumentTypesVar.Channel::Outbound;
EDXDocumentTypesVar."Doc. Table No." := Database::"Warehouse Receipt Header";
EDXDocumentTypesVar."File Type" := EDXDocumentTypesVar."File Type"::xml;
EDXDocumentTypesVar."Object Type" := EDXDocumentTypesVar."Object Type"::XmlPort;
EDXDocumentTypesVar."Object ID" := XmlPort::"KVSEDX WMS Whse. Receipt Exp";
EDXDocumentTypesVar."Field Setup Active" := false;
EDXDocumentTypesVar."Collect Documents Possible" := false;
// Actual no documents defined
EDXDocumentTypesVar."Include PDF Possible" := false;
EDXDocumentTypesVar.Insert(true);

```

**// Initialize Document WMS\_WHSE\_RECEIPT IMPORT**

```

EDXDocumentTypesVar.Init();
EDXDocumentTypesVar."EDX Document" := WMS_WhseReceiptImpTok.
EDXDocumentTypesVar.Description := WMS_WhseReceiptImpTxt;
EDXDocumentTypesVar.Channel := EDXDocumentTypesVar.Channel:Inbound;
EDXDocumentTypesVar."Doc. Table No." := Database::"KVSEDX WMS Whse.Rcpt.Header";
EDXDocumentTypesVar."File Type" := EDXDocumentTypesVar."File Type":xml;
EDXDocumentTypesVar."Object Type" := EDXDocumentTypesVar."Object Type":XmlPort;
EDXDocumentTypesVar."Object ID" := XmlPort::"KVSEDX WMS Whse. Receipt Imp";
EDXDocumentTypesVar."Field Setup Active" := false;
EDXDocumentTypesVar."Collect Documents Possible" := false;
EDXDocumentTypesVar."Disable create Transmission ID" := true;
EDXDocumentTypesVar.Insert(true);

```

**// Initialize Document WMS\_WHSE\_SHIPMENT IMPORT**

```

EDXDocumentTypesVar.Init();
EDXDocumentTypesVar."EDX Document" := WMS_WhseShipmentImpTok;
EDXDocumentTypesVar.Description := WMS_WhseShipmentImpTxt;
EDXDocumentTypesVar.Channel := EDXDocumentTypesVar.Channel:Inbound;
EDXDocumentTypesVar."Doc. Table No." := Database::"KVSEDX WMS Whse.Ship.Header";
EDXDocumentTypesVar."File Type" := EDXDocumentTypesVar."File Type":xml;
EDXDocumentTypesVar."Object Type" := EDXDocumentTypesVar."Object Type":XmlPort;
EDXDocumentTypesVar."Object ID" := XmlPort::"KVSEDX WMS Whse. Shipment Imp";
EDXDocumentTypesVar."Field Setup Active" := false;
EDXDocumentTypesVar."Collect Documents Possible" := false;
EDXDocumentTypesVar."Disable create Transmission ID" := true;
EDXDocumentTypesVar.Insert(true);

```

```
// Initialize Document WMS_INVENTORY IMPORT
EDXDocumentTypesVar.Init();
EDXDocumentTypesVar."EDX Document" := WMS_InventoryImpTok;
EDXDocumentTypesVar.Description := WMS_InventoryImpTxt;
EDXDocumentTypesVar.Channel := EDXDocumentTypesVar.Channel::Inbound;
EDXDocumentTypesVar."Doc. Table No." := Database::"KVSEDX WMS Inventory Header";
EDXDocumentTypesVar."File Type" := EDXDocumentTypesVar."File Type"::xml;
EDXDocumentTypesVar."Object Type" := EDXDocumentTypesVar."Object Type"::XmlPort;
EDXDocumentTypesVar."Object ID" := XmlPort::"KVSEDX WMS Inventory Imp";
EDXDocumentTypesVar."Field Setup Active" := false;
EDXDocumentTypesVar."Collect Documents Possible" := false;
EDXDocumentTypesVar."Disable create Transmission ID" := true;
EDXDocumentTypesVar.Insert(true);

// Initialize Document WMS_STATUS IMPORT
EDXDocumentTypesVar.Init();
EDXDocumentTypesVar."EDX Document" := WMS_StatusImpTok;
EDXDocumentTypesVar.Description := WMS_StatusImpTxt;
EDXDocumentTypesVar.Channel := EDXDocumentTypesVar.Channel::Inbound;
EDXDocumentTypesVar."Doc. Table No." := Database::"KVSEDX WMS Whse.Ship.State Hd";
EDXDocumentTypesVar."File Type" := EDXDocumentTypesVar."File Type"::xml;
EDXDocumentTypesVar."Object Type" := EDXDocumentTypesVar."Object Type"::XmlPort;
EDXDocumentTypesVar."Object ID" := XmlPort::"KVSEDX WMS Whse.Ship.State Imp";
EDXDocumentTypesVar."Field Setup Active" := false;
EDXDocumentTypesVar."Collect Documents Possible" := false;
EDXDocumentTypesVar."Disable create Transmission ID" := true;
EDXDocumentTypesVar.Insert(true);
```

**OnBeforeInitializeWarehouseShipmentHeader**

The event is triggered before the WMS data (External WMS, EDX Partner) are initialized in the goods issue.

**OnAfterInitializeWarehouseShipmentHeader**

The event is triggered after the WMS data (External WMS, EDX Partner) has been initialized in the goods issue.

**OnBeforeInitializeWarehouseReceiptHeader**

The event is triggered before the WMS data (External WMS, EDX Partner) are initialized in the goods receipt.

**OnAfterInitializeWarehouseReceiptHeader**

The event is triggered after the WMS data (External WMS, EDX Partner) has been initialized in the goods receipt.

**OnAfterPostSalesDocPackages**

The event is triggered after the sales delivery is posted and the packages are transferred to the sales delivery line.

**OnAfterPostPurchaseDocPackages**

The event is triggered after the purchase delivery is posted and the packages are transferred to the purchase delivery line.

**OnBeforeCreateWarehouseReceipt**

The event is triggered before the intermediate document "EDX goods receipt" is processed.

**OnAfterCreateWarehouseReceipt**

The event is triggered after the intermediate document "EDX goods receipt" has been processed.

**OnBeforeCreateWarehouseShipment**

The event is triggered before the intermediate document "EDX goods issue" is processed.

**OnAfterCreateWarehouseShipment**

The event is triggered after the intermediate document "EDX goods issue" has been processed.

**OnBeforeCreateInventory**

The event is triggered before the intermediate document "EDX Stock" is processed.

**OnAfterCreateInventory**

The event is triggered after the intermediate document "EDX Stock" has been processed.

**OnBeforeCreateWarehouseShipmentState**

The event is triggered before the intermediate document "EDX goods issue status" is processed.

**OnAfterCreateWarehouseShipmentState**

The event is triggered after the intermediate document "EDX goods issue status" has been processed.

**OnBeforeCheckWarehouseReceipt**

The event is triggered before the intermediate document "EDX goods receipt" is checked.

**OnAfterCheckWarehouseReceipt**

The event is triggered after the intermediate document "EDX goods receipt" has been checked.

**OnBeforeCheckWarehouseShipment**

The event is triggered before the intermediate document "EDX goods issue" is checked.

**OnAfterCheckWarehouseShipment**

The event is triggered after the intermediate document "EDX goods issue" has been checked.

**OnBeforeCheckInventory**

The event is triggered before the intermediate document "EDX Stock" is checked.

**OnAfterCheckInventory**

The event is triggered after the intermediate document "EDX Stock" has been checked.

**OnBeforeCheckWarehouseShipmentState**

The event is triggered before the intermediate document "EDX goods issue status" is checked.

**OnAfterCheckWarehouseShipmentState**

The event is triggered after the intermediate document "EDX goods issue status" has been checked.

## 1.3.10 GAEB Interface and Calculation

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### Overview

With the app "GAEB Interface & Calculation" you can optimize the participation in a tender by importing the received GAEB files for the preparation of the offer into your Business Central at the push of a button. You can then easily make the created offer available to your customer again in GAEB format.

The app offers you the following advantages:

- Simple and clear quotation costing in the planning book sheet
- One-click creation of inquiries, quotations and orders from the planning ledger sheet
- Continuous presentation of the contribution margin and the project success during costing
- Maximum time savings through data import and export at the click of a mouse
- No transmission errors due to elimination of manual entries
- Accurate and simple costing including overhead, overhead and profit margins
- Clear version management of tenders and offers

### Introduction GAEB Interface & Calculation



[GAEB Interface & Calculation | KUMAVISION App](#) from [KUMAVISION](#) on [Vimeo](#).

[Link to Microsoft App Source "KUMAVISION GAEB Interface and Calculation"](#)

### GAEB Setup

In order to be able to use the functionalities of the app "GAEB Interface & Calculation", some settings on the GAEB Setup Card are required in advance. In the following, the setup options of the fields are explained in more detail.

## General

Field	Description
Unit Price Fraction	Field to enable/disable unit price breakdown.
GAEB Format	Specifies the standard GAEB format for import and export.
Map Manufacturer Item No.	If the switch is set, it is checked whether the item number in the GAEB file corresponds to a vendor item number in the system.
Change Prod. Order Status when released	If the indicator is set the system will change the Prod. Order Status of each Production Order related to a GAEB Position to the Value set in the following field "Prod Order Status" after the GAEB Quote has been confirmed.
Prod. Order Status	The Status the Prod. Order will change to if "Change Prod. Order Status" is set.
Transfer Longtext in Documents	Transfer Longtext in Sales Documents
Transfer to Sales Quote	Defines the way Groups are transferred to the Sales Quote. If the value is set to Bundle only the prices of the highest level Groups will be printed. Otherwise all lines will have prices.
Heading Line in Sales Quote	Sets whether a Heading Line with the Project Description should be created.
Default Quantity	Default Quantity
Automatic BOM List Calculation	Activate automatic calculation of items with BOM List for first Level.
Default OZ Mask	Defines a Default OZ Mask for manual Calculations.
Automatic Position Numbering	If Activated the lines will be automatic numbered when OZ Mask is filled and the Calculation Page is closed.
Lock Level	Defines the Level of locks. If more user calculate one Calculation "Lines" should be used, to prevent overwriting.
Calculation Base	Defines whether the Production Order or the GAEB BOM Structure should be used.
Hours Workday	Hours per Workday
Incomplete Check	Set this Indicator to add an manual check for lines if changes are made.



**Surcharges**

<b>Field</b>	<b>Description</b>
Reveal Surcharges	If the identifier is set, the surcharges will be shown during export.
Default Surcharge	Default value for the Surcharge (%) field when the line type is Item and no other surcharge is set up.
Standard Surcharge 2	Default value for the "Surcharge 2 (%)" field if the line type is Item and no other surcharge is set up.
Surcharge 2 (%) Base	Basis for the calculation of surcharge 2 (%)
Default Surcharge (Res.)	Default value for the Surcharge (%) field when the row type is Resource and no other surcharge is set up.
Default Surcharge 2 (Res.)	Default value for the "Surcharge 2 (%)" field if the line type is Resource and no other surcharge is set up.

**No. Series**

The number series for the GAEB documents are stored on the "Number series" info tab.

**Archive**

On the "Archiving" information tab, the descriptions for the archiving reason are stored in the "Archiving reason" field in case of the respective document archiving.

**Colors Calculation**

<b>Field</b>	<b>Description</b>
Style position	Specifies color and style for items in the project spreadsheet.
Style note	Specifies color and style for notes in the project spreadsheet.
Style group	Specifies color and style for groups in the project spreadsheet.
Style alternative	Specifies color and style for alternative items in the project spreadsheet.
Style Incomplete	Specifies color and style for incomplete items in the project spreadsheet.
Style locked	Specifies color and style for locked items in the project spreadsheet.

**Functions in the ribbon****Default Setup**

The function call restores the default setup.

## Unit Mapping

To avoid having to select items for each row individually, the "Unit Mapping" function is available in the ribbon.

The "Unit of Measure" and "Descriptionfilter" fields can be used individually or in combination. If you create a row without a filter, it will always be used as long as no other row matches the unit mapping settings.

Field	Description
Unit of Measure	Unit from the tender.
Descriptionfilter	This filter searches the description of a GAEB line when the lines are imported.
Type	Type, which should be filled in the GAEB documents, if the assignment achieves a hit. (Combination of the GAEB unit and the description filter).
Item Copy Template	Item number to be filled in the GAEB documents if the assignment results in a hit. (Combination of the GAEB unit and the description filter).
Resource/ Resource Group	Resource group/resource to be filled in the GAEB documents if the assignment gets a hit. (Combination of the GAEB unit and the description filter).
G/L Account	G/L account to be filled in the GAEB documents, if the assignment gets a hit. (Combination of the GAEB unit and the description filter).
Item Import	Specifies how to proceed with the item from the Item Template field. If the value is set to Use, the item will simply be used. If Copy is selected, the item will be copied with the number series from the "Number series" field. There is an option to lock the items after copying to prevent them from being used in planning or orders until they are released.
No. Series	Number Series for the copied items if the "Item Import" field is equal to "Copy".

## Calc. Journals

At this point you can create a spreadsheet for each user. This is especially useful for later editing of the calculation.

Field	Description
Journal Template Name	Specifies the name of the journal.
Description	Specifies the description of the journal.
User ID	Specifies the user for whom the journal is intended.

## Calculation Surcharges

To make your work easier, there are several places in the system where you can assign a default overhead for the "Overhead" and "Overhead 2" fields.

This can be done at three different levels, which equally represents the hierarchy for determination:

- Customers
- Customer price group
- GAEB Setup

The fields are explained in more detail below:

Field	Description
Type 2	Here you can specify the type of element to which you want to assign the surcharge.
No.	Here you can enter the number of the group or record to which you want to apply the surcharge. The selection depends on the type chosen in the previous field.
Description 2	Description of the group or record.
Surcharge (%)	Default value of the surcharge (%)
Surcharge 2 (%)	Default value of surcharge 2 (%)
Starting Date	Date from which the surcharge is applicable.
Ending Date	Date by which the surcharge is levied.

#### Unit price share

In the table "Unit price share" the unit price shares can be defined. These can then be stored in various master data. In addition, it is defined in the calculation into which unit price shares are to be divided. If unit price shares are defined, the calculated offer price is split into the shares based on the assigned unit price shares of the master data.

#### Process

##### Import Bidding

To import an Bidding, first call up the "Calculations" via the user search.

Via the menu item "New" > "Import Bidding" or "Import GAEB XML Bidding" you have the possibility to perform the import. After a successful import, the Bidding will be opened immediately and you can start with the calculation.

##### Quotation costing

By calling up the "Calculations" you can easily carry out the offer calculations. To do this, select the desired offer via the Calculations overview.

The offer itself is divided into the following info tabs:

## General

On this info tab you will be presented with general information such as the description and closing date of the Bidding.

Field	Description
Description	Specifies the description of the calculation.
Description Project	Specifies the description of the associated project.
Related Project No.	Specifies the project number of the associated project.
related Quote	Specifies the number of the most recent quote created from this calculation.
related Order	Indicates the number of the latest sales order created from this calculation.
Sell-to Customer No.	Specifies the customer number of the customer for which the calculation was created.
Salesperson Code	Indicates the salesperson in charge.
Purchase Quotes	Indicates the number of purchasing requests for this RFP. Clicking on the number takes you to the view of purchasing requests.
Purchase Orders	Indicates the number of purchase orders for this RFx. Clicking the number takes you to the purchase order view.
Document Date	Indicates the date of the alert.
Quote Valid Until Date	Indicates the date until when the offer is valid.
Locked by	Indicates who is currently working on the calculation. If the value is not empty or corresponds to the own ID, no changes can be made.
VAT	Specifies the value added tax of the calculation.
VAT Bus. Posting Group	Specifies the VAT business posting group for the sales quotation.
Import Filename	Specifies the filename of the imported file.
Surcharge (%)	Indicates the percentage surcharge (discount) for this RFP.
Surcharge	Indicates the amount of the award (discount) for this tender.

## Lines

On the "Lines" info tab, the positions of the Bidding are displayed in hierarchical order.

Field	Description
Position No.	Specifies the position number resulting from the definition of the OZ mask.
Quantity	Indicates the required or the offered quantity of the item.
Type	Indicates whether the row contains a resource, resource group or item.
Item No.	Specifies the number of the resource group, resource or item depending on the "Type" field.
Description	Specifies the description of the resource group, resource or item.
Unit Cost	Indicates the cost price per unit of the line.
Surcharge (%)	Specifies the percentage surcharge for the line.
Unit Cost increased by Surcharge (%)	Indicates the cost price increased by the percentage markup.
Surcharge 2 (%)	Specifies the second percentage surcharge. The basis of the surcharge can be set up in the <a href="#">GAEB Einrichtung</a> .
Einstandspreis (inkl. Zuschl. 2)	Indicates the cost price increased by the surcharge (%) and surcharge 2 (%).
Line Amount	Indicates the price offered for all units.
Text	Specifies the description of the line depending on the line type.
Surcharge/Discount	Specifies the absolute surcharge. Cannot be used with surcharge (%) and surcharge 2 (%).
Linetype	Indicates what type of line it is.
Buy-from Vendor No.	Specifies the vendor for a possible purchase request.

In the Totals area, the totals of the calculation are displayed as follows:

<b>Field</b>	<b>Description</b>
Subtotal	Specifies the total without taking into account the surcharges.
Surcharges	Specifies the sum of the surcharges ("Surcharge (%)\" and \"Surcharge 2 (%)\").
Sum Surcharges/Discounts	Indicates the sum of the Deduction/Surcharge field.
Total Sum	Indicates the total amount including surcharges.
Total Sum (excl. Alt.)	Indicates the total amount without alternatives.
Surcharge (%)	Indicates the percentage surcharge/discount for this RFP.
Surcharge	Indicates the amount of the award/discount for this RFP.
Total Sum (incl. Bidding. Surch.)	Indicates the total amount incl. tender surcharge/discount.
VAT	sales tax for this tender.sales tax for this tender.

#### Description

On the "Description" info tab, the long texts of the individual bidding items are displayed.

#### **GAEB**

GAEB specific information is displayed on this info tab.

<b>Field</b>	<b>Description</b>
Version	Specifies whether the short or long version should be used.
Placing No. of Purch.	Indicates the number of the award of the contracting authority.
DV No. Purch.	Specifies the DV number of the orderer.
Bidding No. Purch.	Indicates the bidder number of the contracting authority.
Placing No. Cust	Indicates the number of the contractor's award.
DV No. Cust	Specifies the DV number of the contractor.
Bidding Date	Indicates the date of the alert.
Offer Date	Specifies the date of the offer.
Offer Time	Indicates the time of the offer.
Acceptance Ending Date	Indicates the deadline by which feedback on the offer must be provided.
Description Purchaser	Specifies the name or company of the client.
Description Bidder	Specifies the name or company of the contractor.
Skip Price Check	If the identifier is set, lines can be offered without line amount.
OZ Mask	The OZ mask specifies how the positions and groups are to be numbered.
Position Item	Specifies the position of the material portion.
Position Wage	Specifies the position of the wage share.
Currency Code	Specifies the currency of the alert.
Description Currency	Specifies the description of the currency.
Cashback (%)	Specifies the percentage discount.
Terms of Payment (days)	Specifies the payment terms in days to discount.
Payment Date	Specifies the date by which the payment must be made to receive the discount.
Type of Days	Specifies whether the payment term is weekdays, calendar days, or working days.
1. Level 2. Level 3. Level	Specifies the length of the respective layer.



Field	Description
4. Level	
5. Level	
Position	Specifies the length of the position plane.
Indexing	Specifies whether indexing is used.
Indexing Length	Specifies the length of the indexing.
1. Fraction	Here you can define which unit price parts are used and in which order.
2. Fraction	
3. Fraction	
4. Fraction	
5. Fraction	

#### Dimensions info tab

On the "Dimensions" info tab, the associated dimensions are displayed.

#### Ribbon > Actions > Quote Price Comparison List

Opens a listing to compare all offers for this RFP.

#### Archive Calculation

With this function call you can archive the calculation manually.

#### Unlock Calculation

You can use the function to unlock the cost estimate. For more information, see ["Lock"](#).

#### Restore

With the function call you can restore an older version of the calculation.

#### Reset Active Journals

With this function call you can reset the active book sheets.

#### Confirm Quote

Here you can confirm the offer manually. For more information on this topic, see ["Confirming a sales offer"](#).

#### Calculation

Within a quotation, you can use this to open the "Project costing sheet". For more information, see ["Projekt Kalkulationsbuchblatt"](#).

#### Copy Calculation

Creates a copy of the selected calculation.

**Ribbon > Actions > GAEB Interfaces****Export Excel Overview**

Exports an overview of the current calculation.

**Import Quote(s)**

Imports a quote for the current RFx.

**Import Quote**

Here you can enter an offer manually.

**Export Quote / Export XML Quote**

With "Export quotation" or "XML export quotation", you can export the quotation to GAEB90 format or GAEB-XML format. For more information, see ["Export quotation costing"](#).

**Export Bidding**

Exports the current alert.

**Import Order Confirmation / Import XML Order Confirmation**

If an order confirmation is available in GAEB format, it can be imported with the function. For more information, see ["Confirmation of a sales quotation"](#).

**Transfer to Sales Quote**

You can use the function to transfer the cost estimate to a conventional sales quotation. For more information, see ["Transfer to a sales quotation"](#).

**Transfer to Purchase Quote**

Transfers selected lines into a purchase request.

**Ribbon > Actions > Expenditures****Create Expenditures**

Creates a sales quote for supplements.

**Confirm Expenditures**

Confirms the offer of sale for supplements.

**Ribbon > Actions > Print****Print Group Summary**

Prints an overview of the LV groups with prices.

**Print Sales Quote**

Prints the current sales offer.

**Ribbon > Related > Dimensions**

Displays the dimensions for the current calculation.

**Ribbon > Related > Information****Contract Information**

Displays the contract pretexts from the service directory.

**Orig. Bidding**

Here you can view the original tenders.

**Note**

Please note that it is not possible to edit the RFP from this view.

**Open Unit Price Fraction Matrix**

Using the "Unit price share matrix" view, you can view and manually adjust the breakdown of unit prices.

**Document Extended Text**

Here you can define document texts for the press proof.

**Versions**

Via the versions you get to the overview with all archived versions that are linked to this RFx. You can use this, for example, to restore an archived sales quotation. For more information, see ["Archiving and versioning"](#).

**Open Quote**

Opens the current sales offer.

**Open Expenditures**

Opens the sales offer to the most recent supplement.

**Open Order Confirmation**

Opens the associated order confirmation(s).

**related Quotes**

Opens the related offers.

**Price Sheet**

The price sheets for the calculation can be called up here. New price sheets can be created, updated or edited. A wizard supports you when creating a new price sheet. If required, the wizard can also be used to calculate the surcharges applicable to the calculation. In addition, you can print out the price sheets as form sheets 221 or 223.

## Job Calculation Journal

Within a quotation, the "Job Calculation Journal" can be opened. To do this, select the menu item "Actions" > "Quote" > "Calculation" via the menu ribbon.

### Lock

To prevent data from being overwritten, you can set various locks in the "GAEB Setup".

If the lock is set at user level, the quote will be locked by the user who opens the calculation. The quote can only be unlocked by the same user by executing the "Unlock Line(s)" function in the ribbon.

### Note

A prerequisite for this functionality is that a calculation journal has been created for each user in the GAEB setup.

On the other hand, if the lock is set up at row level, multiple users can edit a calculation at the same time without overwriting each other's input. As soon as a user creates a new row or edits an existing row in the book sheet, the "Locked by" field is automatically filled with his user ID.

Selected rows can also be locked manually using the "Lock row(s)" function. Likewise, the "Unlock row(s)" function can be used to unlock them again.

If it is necessary to unlock rows by a user who, for example, is absent and cannot perform this function, the "Force Unlock Row(s)" function is available. Make sure that you use this function carefully, as this can lead to data loss.

### Color representation

The opened job calculation journal displays the items according to the bidding. In the [GAEB Setup](#), different colors can be assigned to the different lines to improve their display.

### Infoboxes

On the right side of the map you will see additional information:

#### **Add. Information**

. This infobox shows the total duration of the required resource for the selected row. It also shows the average unit cost of the resource and the last date it was used.

#### **Job Evaluation**

This infobox displays the unit cost, the unit cost including the first overhead, and the unit cost including the second overhead, broken down by resource and material.

### Description

You can add notes (hints) before and after each line by using the "Insert Note" function. The "Description" info box displays the long and/or short texts as well as the notes (hints) for each line.

### Additional information

This infobox displays the total duration of the required resource for the selected row. In addition, the average unit cost of the resource and the last date of use are displayed.

## Job evaluation

This infobox presents unit costs, unit costs including the first overhead, and unit costs including the second overhead, broken down by resources and materials.

## Prices

To obtain a price, you can fill the items with items from the Business Central master data or with dummy items (items without inventory value) and enter the unit costs and up to 2 overhead rates. In addition, you can enter fixed costs, which are then independent of the quantities in the lines.

## Surcharges

If the offer contains a position with a "free quantity", it is possible to adjust the quantity. In all other cases, the quantity values are not editable. The "Distribute surcharge" function allows you to change or set the surcharges for several or all lines.

Select Distribution type="Set" on the request page of the report if you want to overwrite the old overhead value with the overhead in the Value field. Select "Change" to increase or - in case of a negative value - decrease the current overhead in the rows by the value from the Value field.

You can use the overhead field to specify whether this should affect the first or second overhead.

## Notes

The Show/Hide Hints action can be used to show or hide the notes in order to reduce the number of displayed lines and get a clear overview of the calculation.

### Multilevel calculation

## Production BOM

If you want to use production orders, select "Prod. Order" as the "Calculation Base" in the GAEB setup.

### Note

Please note that if this setting is selected, the steps in the following section can only be performed by a Microsoft Dynamics 365 Business Central Premium user.

If the item has been setup as a production item, you can set up a background structure for costing to get a more detailed overview of the costs. To do this, select the "Unfold Bill of Materials" call to open a new journal. It shows the items from the bill of materials that are linked to the current item, as well as the routing from the master data.

In this view you can select the "Insert row" function to add new rows or the "Delete" function to delete existing rows. The purpose of the book sheet is to specify the cost of the offer item in more detail.

If the journal also contains a production item, you can use the "Unfold BOM" function again to go one level deeper. This allows you to define any number of levels.

Closing the sheet takes you one level higher again.

### Note

Please note that closing the book sheet will not transfer the prices and changes to the higher level.

Run the "Transfer prices" function to transfer the prices and changes to the higher level.

Also in this book sheet you can distribute the surcharges as described in the previous section. The data maintained in this book sheet will not be included in an export, as it is only internal information that will be used for detailed costing and, if desired, for demand planning.

### GAEB Calc. BOM

If you do not use the production orders from the calculation, select in the "GAEB Setup" the "GAEB Calc. BOM" as calculation basis.

### Note

No premium user is required for this procedure. Without the setting "GAEB Calc. BOM" the steps in the following section cannot be performed.

### Manage GAEB Calc. BOM

On the item card you can create a new BOM with the call "GAEB BOM" or, if a BOM is already assigned to the item, edit an existing BOM.

To enable editing of the BOM, its status must be "Open". If this is not the case, you can use the "Reset status" function to reset the status to "Open". When you have finished editing the BOM, change its status to "Release BOM" to make it available again. When the BOM is no longer needed, you can archive it using the "Close BOM" function.

### Use GAEB BOM

If the item has a GAEB BOM, you can build a background structure for costing to get a more accurate overview of the costs. Select the "Unfold BOM" function to open a new journal. It shows the items from the BOM that are associated with the item, as well as the resources and resource groups from the master data. In this view, you can select the "Insert row" function to add new rows or the "Delete" function to delete existing rows.

The purpose of the journal is to specify the cost of the bid item in more detail. By selecting the work to be performed and the material to be used, and adding overhead (if applicable), planning can be done at a more detailed level.

If the journal also contains an item with a GAEB BOM, you can use the "Unfold BOM" function again to go one level deeper. This allows you to define any number of levels.

Closing the sheet takes you one level higher again.

Execute the "Transfer prices" function to transfer the prices and changes to the higher level.

Also in this journal you can distribute the surcharges as described in the previous section. The data maintained in this book sheet will not be included in an export, as it is only internal information that will be used for detailed costing and, if desired, for demand planning.

### Export quotation costing

To export a quotation, you must first open the map that belongs to the quotation. To do this, call up the "Calculations" via the user search and open the desired card.

Via the menu item "Actions" > "GAEB Interface" > "Export Quote" or "Export XML Quote" in the menu ribbon, you can export the offer into the GAEB90 format or into the GAEB XML format.

### Manual quotation calculation

To create a manual calculation, call up the "Calculations" via the user search. You can create a new calculation manually via "New" > "Create Calculation".

After you have created the manual price calculation, the calculation journal opens automatically. In this journal you can insert new lines with the functions "Insert line before" and "Insert line after".

You can define the line accordingly via the "Line type" field. To avoid manual numbering, execute the "Perform position numbering" function in the menu ribbon.

You can export the offer via the "Actions" > "Export" > "Export Quote" menu item in the ribbon.

### Transferred into a sales offer

To submit the calculation or the created quotation not only in GAEB format, but in a conventional commercial format, select the menu item "GAEB Interfaces" > "Transfer to Sales Quote" in the ribbon on the quotation card. The quotation lines will now be transferred to a Microsoft Dynamics 365 Business Central standard quotation.

### Confirmation of an offer for sale

There are two ways to confirm a sales offer. The first variant is used when the sales offer has been confirmed by phone or in writing and there is no order confirmation in GAEB format. To confirm the offer, open it and select the "Import Order Confirmation" function.

If the offer was confirmed by an order confirmation in GAEB format, call up the "Order confirmation" via the user search and execute the "Imported order confirmation" function via the menu ribbon.

Regardless of the variant used, the ordered lines are transferred to a Microsoft Dynamics 365 Business Central standard sales order. From the sales order, you can control its execution.

### Archiving and versioning

Sales offers are archived in the following cases:

- When preparing an offer for sale
- When confirming the offer
- When confirming an addition
- Manual according to choice
- When restoring a previous offer

Under GAEB Settings, you can enter a code in the Archiving reason field that specifies the reason for archiving.

There are two ways to restore an archived sales quote.

**Recovery from the offer:**

In the RFx, you can select the "Related" > "Information" > "Versions" function. This opens an overview with all archived versions associated with this RFx.

To restore a previous version, select the "Restore Calculation" function. During this process, the current version is archived.

**Recovery from the archive:**

Call up the GAEB → Arch. Quotations via the user search. For this overview the same function "Restore calculation" is available.

**Note**

Please note that closing the book sheet will not transfer the prices and changes to the higher level.

**What happens after the free trial**



[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).



### 1.3.11 Item Costing

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With the help of KUMAVISION Item Costing (*item costing*) you can perform the following business evaluations and calculations:

- Regular item costing with the identification of variances.
- Calculation up to the target price
- Access protection of the costing data
- Separate display of costs
- Extension by the cost types in the single-level as well as multi-level range (e.g. "material overhead costs")

#### Production costing

The production costing is primarily used to determine the production costs / cost of goods sold as well as the sales price for an article. These values can then be transferred to the corresponding price fields on the article card.

The result of this calculation can also be used for the valuation method "Standard" for the stock valuation.

#### Bearing evaluation

The material overhead costs can be entered separately with the use of the costing solution. This means that costing can now also activate the material overheads based on consumption. This makes the inventory values transparent and traceable and also ensures clarity in the balance sheet. Thus, this addition to the standard Microsoft Dynamics 365 Business Central not only makes the calculation of sales prices more comprehensible.

#### Cost types

In Microsoft Dynamics 365 Business Central, there are a wide variety of cost types. These fields are visible in several masks. The explanation of these will now take place at this point. Basically, Microsoft Dynamics 365 Business Central distinguishes between single-level costs and multi-level costs.

##### Single stage costs

Single-level costs are costs that are only incurred for the respective item. This means that only the cost price of the articles from the bill of materials or the prices and overhead costs directly from the routing are used for the calculation. No structures are exploded in the process.

##### **Example:**

An assembly in the bill of materials is displayed with the cost price in the material costs.

##### Multilevel costs

Multi-level costs, are costs that are broken down to the lowest level and then presented in the respective cost pools.

##### **Example:**

An assembly in the bill of materials, is not shown with the cost price in the material costs, but is broken down

to the purchase item. Only the purchase item is shown as a material cost. The remaining costs fall under capacity/external labor or production costs.

#### **Consumption capitalized material overhead**

The material costs can be included directly in the cost price of the raw material at the time of the stock receipt, but they can also be included in the product as consumption-capitalized material costs during production.

Overhead and Consumption Activated Costs can be mixed on the item card and in the pricing condition line.

#### **Hierarchy Consumption Activated Overhead:**

- a) Costing condition consumption activated
- b) Costing condition line
- c) Item

#### **Hierarchy Overhead:**

- a) Costing conditions not consumption activated
- b) Costing condition line
- c) Article

#### **Note**

Overhead and Consumption Activated overhead can be used in parallel. The only difference is that only either a Costing Condition or a Costing Condition Consumption Activated can be defined. Both will not work.

**Cost elements**

Below you will find an overview of the cost types that exist in Microsoft Dynamics 365 Business Central in connection with KUMAVISION Item Costing:

<b>field</b>	<b>description</b>
Single-level material cost	All costs ( <i>cost price - overhead</i> ) that come from the bill of material.
Single-level material overhead	All overhead costs that result from purchased items in the bill of material.
Single-Level Capacity Costs	All costs ( <i>Cost Price - Overhead</i> ) that come from the routing.( <i>No Outside Labor</i> )
Single-Level Capacity Overhead	All overhead costs that come from the item's routing. ( <i>No external labor operations</i> )
Single-Level Production Overhead	Production overhead costs that are associated with the item being costed.
Single-level external labor costs	All external labor costs ( <i>Cost price - Overhead</i> ) of external labor operations, from the corresponding routing.
Single-level external labor overhead costs	All external labor overhead costs ( <i>cost price - overhead</i> ) of external labor operations from the corresponding routing.
Multilevel Material Cost	All material costs ( <i>cost price - overhead</i> ) of purchased items summed across all levels.
Multilevel Material Overhead	All material overhead costs of purchased items summed over all levels.
Multilevel Capacity Costs	All capacity costs ( <i>cost price - overhead</i> ) of all routings summed over all levels.
Multilevel capacity overhead	All capacity overhead costs of all operations summed over all levels.
Multilevel production overhead	All production overhead costs of all items summed over all levels.
Multi-level external labor costs	All external labor costs ( <i>cost price - overhead</i> ) of all external labor operations summed over all levels.
Multi-level external labor overhead costs	All external labor overhead costs from all external labor operations summed over all levels.

## Note

The totals of the single-level and multi-level prices will match as long as no postings or price changes are made. As soon as bookings have taken place, these values diverge. They can then be made equal again by means of a new cost price calculation across all levels. *(Depending on the settings)*

## Setup

### Evaluation & calculation setup

In the "Valuation & Costing Facility", the basic facilities for controlling the operation of the costing facility are defined first.

**Inforegister General**

field	description
Basic Std. price calculation (make-to-stock)	<p>The selection you make here will only be used for items with the production type "make-to-stock".</p> <p>The following selection options are available:</p> <p><b>Cost price:</b> The value of the field "Cost price" from the master data of the item will be used.</p> <p><b>Cost price (newest):</b> The value of the field "Cost price (newest)" from the master data of the item will be used.</p> <p><b>Cost price (newest):</b> The value of the field "Cost price (newest)" from the master data of the item will be used.</p>
Basic Std. Price Calculation (Order Production)	<p>The selection you make here will only be used for items with the production type "Order Production".</p> <p>The following selections are available:</p> <p><b>Cost Price:</b> The value of the "Cost Price" field from the item's master data will be used.</p> <p><b>Cost Price (Latest):</b> The value of the "Cost Price (Latest)" field from the item's master data will be used.</p> <p><b>Purchase price (purchase prices):</b> If the item has the procurement method "Purchase", the purchase price valid for the vendor no. of the item is first determined from the Purchase price table and the valid line discount % from the Purchase line discount table (both best price determination according to calculation date and quantity to be calculated). The combination of both fields results in the cost price to be used.</p> <p>If the item has the procurement method "Production order", the determination of the cost price to be used is based on the option value of the field "Basis Std. Cost Price Calculation (Make-to-stock)" of the Valuation and Costing Setup.</p>
Default Transfer of cost price (fixed)/ target price Transfer proposal	<p>At this point, you can decide whether the results of these calculations are to be written back for the respective items.</p> <p>At this point, you can decide whether the results of these calculations are to</p>

field	description
	<p>be written back for the respective items. The following selection options are available:</p> <p><b>One level:</b> The cost price (fixed) is only written back for the article for which the calculation was carried out.</p> <p><b>All levels:</b> The cost prices (fixed) are written back for all assemblies / components determined by the calculation.</p>
Unit price decimal places	<p>This is where you specify the minimum and maximum number of decimal places to be specified for unit prices in the cost estimate.</p> <p><b>Example:</b> 2:5 means: minimum 2 decimal places and maximum 5 decimal places.</p> <p>For more detailed information, see <a href="#">"Decimal precision in currency and pricing"</a>.</p>
Decimal places	<p>This is where you specify the minimum and maximum number of decimal places to be specified for quantities in the cost estimate.</p> <p><b>Example:</b> 2:5 means: minimum 2 decimal places and maximum 5 decimal places.</p> <p>For more information, see <a href="#">"Decimal precision in currency and pricing"</a>.</p>
Default Cost Selection Costing Structure BOMs	<p>The costing structure BOM (<i>called up as a window or via a report</i>) is used to display the costing values of a costing proposal in condensed form.</p> <p>The selection you make in this field simply sets a default for how the costing structure BOM is called up.</p> <p>The following selection options are available:</p> <p><b>Single level:</b> Only the corresponding level 0 is exploded, all other levels are not.</p> <p><b>Multi-level:</b> All levels up to the purchasing level are exploded.</p>

\*If one assumes that consumption-controlled items (*make-to-stock production*) are procured on a regular basis, the cost price or cost price (most recent) provides a good basis for costing because the prices usually represent realistic values.

The *current price* is - except for the stock retirement method standard - an average value over all cost prices of the quantities currently in stock.

The *Current price (latest)*, on the other hand, is not an average price. It refers to the last value at which the item was added. For more information about the cost price fields on the item card, see ["About Cost Price Calculation"](#).

On the other hand, items that are procured on an order-related basis (make-to-order production) can either also be costed on the basis of the cost prices, or - and this makes particular sense for items that are procured infrequently - on the basis of the currently valid purchase prices.

#### Note

The cost prices are always "adjusted" prices, i.e. freight costs or precious metal surcharges that were entered per article surcharge/discount are added, purchase discounts or similar are deducted. The purchase price, on the other hand, is the pure purchase price without taking into account any surcharges, discounts or rebates. The final costing always calculates only with the cost prices.

#### Note

A production type must be stored for each article - also for pure purchase articles, for which the production type is irrelevant by default.

#### Infregister numbering

field	description
Calculation Condition Numbers	Enter the code of the number series to be used to assign the records of the Calculation Condition Numbers table.
Calculation Condition Numbers	Enter here the code of the number series to be used to assign the records to the Calculation Condition Numbers table.

#### Note

If you want to use more than one number series for this table, you can set up a connection between the corresponding series in the via the "Connections" call in the number series,. This way you can use one code for two or more number series.



## Inforegister Assembly

field	description
Costing Item Direct Costs (Resource Assembly)	Select a costing item from the costing item plan to which the direct costs incurred when a resource is used in an assembly order are assigned.
Description of Costing Item Direct Costs (Resource Assembly)	Indicates the description of the selection in the field "Costing Item Direct Costs (Resource Assembly)".
Costing Item Overhead (Resource Assembly)	Select a costing item from the costing item plan to which the overhead costs incurred when a resource is used in an assembly order are assigned.
Description of Costing Item Overhead (Assembly Resource)	Indicates the description of the selection in the Costing Item Overhead (Assembly Resource) field.

## Costing Components Plan

The costing components chart is the foundation of the cost estimate and is comparable to a chart of accounts. It takes over the task of standardizing and grouping the components of a cost estimate and thus ultimately making them comparable with each other.

In principle, the costing components chart is structured analogously to the chart of accounts of the financial accounting application area.

KUMAVISION Item Costing already provides you with a set up costing item plan. You can either use this directly in the form or further adapt it to the requirements of your company. Of course, you also have the option to create your own complete component plan.

## Note

If you want to use more than one number series for this table, you can set up a connection between the corresponding series in the via the call "Connections" in the number series. This way you can use one code for two or more number series.

field	description
No.	<p>The "No." field is used to identify the costing element. You can enter up to 20 characters, both numbers and letters. Each number may be assigned only once. You can set up as many costing items as you like.</p> <p><b>Note:</b> Select sufficient intervals between the numbers of each costing item. This will allow you to add more costing items later if needed. For example, you could assign only the ending digits 00 to all account groups and only the ending digits 0 to all accounts.</p>
Description	<p>You can enter any text here to describe the content of the costing item.</p>
Cost area	<p>Articles and capacities will later be assigned to the table of costing items via the costing conditions. The Cost area field specifies the application area of the respective costing item. The following selection options are available:</p> <p><b>Material costs and material overhead:</b> The costing items with these options are used in costing conditions of the type "Material" (<i>procurement method of the item = purchase</i>). Material costs describe the direct costs (from the field EK price (latest)). Material overhead describes the indirect costs (from the fields Cost %, Overhead rate, Cost % (Consumption capitalization), Overhead rate (Consumption capitalization)).</p> <p><b>Capacity costs and capacity overhead:</b> The costing items with these options are used in costing items of type "Capacity". Capacity costs describe the direct costs (field EK price of the used work center or work center group). Capacity overhead describes the indirect costs (Cost %, Overhead rate) of the work center or work center group used.</p> <p><b>External labor costs and external labor overhead:</b> The costing items with these options are used in costing items of type "Capacity" if it is an external labor work center group (or assigned external work center) (Vendor number field is not equal to "blank"). External labor costs describe the direct costs (EK price field of the external labor work center group used or the assigned external work center). External labor overhead costs describe the indirect costs (cost %, overhead rate) of the used external work center group or the assigned external work center.</p>
Cost area	<p><b>Production overhead:</b> The costing items with these options are used in costing conditions of the type "Production" (<i>procurement method of the item = production order</i>). Costing items of the cost area production overhead describe the indirect costs (<i>fields cost %, overhead rate</i>) of the item used (<i>production item or assembly</i>).</p> <p><b>Sales overhead, administrative overhead, risk/profit, commission, discount, rebate:</b> The costing items with these options are used in costing conditions of the type</p>

field	description
	<p>"markup". Costing items of these four cost areas describe the non-capitalizable costs of an item, i.e. the difference between the sales price and the cost price of the item.</p>
	<p>With this field you specify the type of record. You can choose from:</p> <p><b>Costing item:</b> This option is used for the actual costing items. Subsequent assignment will only be made using these records.</p> <p><b>Header:</b> A header for a group of costing components.</p>
Type	<p><b>Total:</b> The Total option is used when you want the application to total individual costing components. In this case, please enter a filter text in the "Sum" field to specify the costing components to be included.</p> <p><b>From-Sum/To-Sum:</b> The From-Sum option marks the beginning of a continuous series of costing components to be summed. The end of this series is a costing element of the type To-Sum. In this case, please also enter a filter text in the "Totalization" field to specify the costing items to be included.</p>
	<p>Here you can specify the interval or other filter specification of the numbers of the costing items. The results of the specified costing items will be added to a total balance.</p>
Counting up	<p>For the type "Costing item", "From-total" or "Heading", this field must remain empty.</p> <p>For the type "To-total", the field will be filled automatically when the chart of accounts is indented (<i>function in the menu ribbon</i>). Only the costing items that fall between a From-Total and a To-Total will be totaled.</p> <p>For the "Total" type, you must manually specify the costing items to be totaled.</p>
Note	

You must assign a cost range to each record in the Costing Item table with the type "Costing Item". For all other costing items (headings, totals, from-totals or to-totals), the Cost range field remains empty.

**Supplied Costing Item Schedule:**

No.	Description	Cost area	Type	Counting
1	Energy overhead	Material overhead	Costing item	
10000	manufacturing costs		from-total	
10001	Material costs		From-total	
10010	Direct material costs	Material costs	Costing element	
10011	Direct material costs 2	Material costs	Costing item	
10020	Special direct costs material	Material overhead	Costing item	
10030	Material overhead	Material overhead	Costing item	
10040	Material surcharges	Material overhead	Costing element	
10045	Freight costs	Material overhead	Costing item	
10046	handling costs	material overheads	costing element	
10049	Total material costs		To-total	10001 .. 10049
10100	Capacity costs		From-total	
10110	individual costs elm	capacity costs	costing element	
10120	Single cost worker	Capacity cost	Calculation item	
10130	individual costs machine	capacity costs	costing element	
10150	Overhead costs elm	Capacity overhead	Costing element	
10160	overhead labor	capacity overhead	costing element	
10170	machine overhead	capacity overhead	costing item	
10180	electricity/buildings	capacity overhead	costing element	
10210		External labor costs	Costing item	

<b>No.</b>	<b>Description</b>	<b>Cost area</b>	<b>Type</b>	<b>Counting</b>
	Individual costs external labor			
10250	Overhead costs external labor	External labor overhead	Costing element	
10299	Total capacity costs		To-total	10100 .. 10299
10300	Individual costs assembly res.	Capacity costs	Calculation component	
10305	Overhead assembly res.	Capacity overhead	Costing element	
10310	Tools	Production Overhead	Costing Item	
10320	Certifications	Production Overhead	Costing Item	
10400	Total cost of goods sold		To-total	10000 .. 10400
10410	Shipping	Sales overhead	Costing item	
10420	Quality Control	Sales Overhead	Costing Item	
10430	Sales	Sales overhead	Costing item	
10510	Administration	Administrative overhead	Costing item	
10520	Special direct costs of technology	Administrative overhead	Costing item	
10600	Selbstkosten		Summe	10000..10599
10610	Risk/profit surcharge	Risk/profit	Calculation component	
10620	Special direct costs other	Risk/profit	Costing item	
10700	Mindestrichtpreis		Summe	10000..10699
10710	Commission	Commission/ Discount	Calculation Item	
10720	Discounts	Commission/ Discount/Discount	Calculation Item	

No.	Description	Cost area	Type	Counting
10730	Discounts	Commission/ Discount	Calculation Item	
10800	Richtpreis		Summe	10000..10799
10810	Rounding income/costs	Commission/ discount/discount	Calculation component	
10900	Guide price (rounded)		Sum	10000 .. 10899

**Actions via the ribbon****Indentation of the component plan**

By executing the "Component plan indentation" function, the filter text in the "Totalization" field is automatically determined by the system for the costing components of the "To total" type.

**Remarks**

Date-dependent information can be stored for the respective costing element via the remarks.

**Costing conditions**

The costing conditions create the link between the master data tables such as article, work center group, etc. and the costing components and thus enable the results of a cost estimate to be assigned to an account.

In the header of a costing condition the assignment to the costing element costs and the costing element overhead costs is made. The lines of the costing condition allow the costing costs to be defined more precisely over any number of lines. This applies to both direct costs (*field EK price*) and indirect costs (*fields Cost %, Overhead rate*) of the respective master data table.

The following costing condition types are distinguished:

**Calculation condition (material)**

The calculation condition is used in the "Article calculation condition" with the calculation type "Material". This means that you define calculation conditions here which you then assign to some of your articles. The condition is taken into account in the calculation if it is the calculation of raw materials (*purchase items*).



## Inforegister General

<b>field</b>	<b>description</b>
No.	Number of the calculation condition.
Description	Description of the calculation condition.
Costing element costs	Select the appropriate costing element in the field "Costing element costs". For the costing condition "Material" this is usually the material direct costs.
Description of costing item cost	Gives the description of the selected costing item from the field "Costing item cost".
Costing item overhead	Select the appropriate costing item in the "Costing item overhead" field. For the costing condition "Material", this is usually the material overhead.
Description of costing item overhead	Indicates the description of the selected costing item from the "Costing item overhead" field.

Inforegister lines

Field	Description
Description	Please enter a description of your calculation condition line here.
Costing element	A costing element is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.
Costing Element Description	This field is filled automatically by the selection of the costing item.
Heading No.	The Heading No. field is used to relate calculation condition lines to each other to define a calculation base for percentage surcharges.
	This field is an optional field and controls the meaning of the Value field with its option value:
	<p><b>Amount</b></p> <p>If you select the "Amount" option, then the specification in the "Value" field is understood to be an absolute number entry. So here you have the option to enter fixed values that will be taken into account in the calculation. In addition, you can provide this line with a rubric number to refer to this line in another line with the setting Percent - so, for example, to take into account an additional overhead.</p>
Calculation	<p><b>Percent</b></p> <p>If you select the option "Amount", then the specification in the field "Value" is understood as a percentage number input. If the line has been assigned a heading number, then the basis of the percentage is the sum of all pricing condition lines of the same pricing condition with the same heading number and calculation amount.</p> <p><b>Note</b></p> <p>If the line has not been assigned a heading number, then the application will use as the basis for the percentage either the EK price of the origin line of the corresponding pricing value or (if available) the sum of all pricing condition lines of the same pricing condition with the calculation value. The heading numbers of these lines are then ignored.</p>
	The meaning of the field depends on the value you have selected in the Calculation field.
Value	<p><b>Amount</b></p> <p>In this case, the field contains an absolute amount. Depending on the selected costing item, this amount is part of the EK cost or part of the overhead rate.</p> <p><b>Percent</b></p> <p>In this case, the Value field contains a percentage value. The basis of the percentage value is the sum of all costing values with the same heading number. If</p>

Field	Description
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	the line has not been assigned a rubric number, the application will use as a basis either the EK price of the origin line of the corresponding costing value or ( <i>if available</i> ) the sum of all costing condition lines with calculation value and specification of any rubric number ( <i>but only if these costing condition lines have been interpreted as part of a EK price</i> ).
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KUMAVISION Item Costing provides you with predefined costing conditions (material) for use or further individual additions:

**Material (simple) and Material (simple2):**

Field	Material (simple)	Material (simple2)
No.	KK0000	KK0010
Description	Material (simple)	Material (simple2)
Costing item cost	10010	10011
Description of costing item costs	Direct material costs	Direct material costs 2
Costing item overhead	10030	10030
Description of Costing Item Overhead	Material Overhead	Material Overhead

**Material (complex) and Material (complex2):**

<b>Field</b>	<b>Material (complex)</b>	<b>Material (complex2)</b>
No.	KK0011	KK0001
Description	Material (complex)	Material (complex2)
Costing item cost	10010	10010
Description of Costing Item Costs	Direct Material Costs	Direct Material Costs
Costing item overhead costs	10030	10030
Description of Costing Item Overhead	Material Overhead	Material Overhead

<b>Field</b>	<b>Material (complex)</b>				
Description	Handling	Freight	Overhead costs	Special direct costs Material surcharges	
Calculation component	10046	10046	10046	10046	10046
Costing item description	Handling costs	Freight costs	Material overhead	Special direct material costs	Material surcharges
heading no.		R1+R2		R1	R2
calculation/value	7.00 MW	6.00 %	4.00 %	5.00 MW	2.00 MW

<b>Field</b>	<b>Material (complex2)</b>			
Description	Handling	Freight	Overhead costs	
calculation component	10046	10045	10030	
Calculation Item Description	Handling Costs	Freight Costs	Material Overhead	
heading no.				
calculation/value	1.00 MW	6.00 %	4.00 %	

**Calculation condition (Production)**

The calculation condition is used in the "Article calculation condition" with the calculation type "Production". This means that you define here calculation conditions which you then also assign to some of your articles. The condition is taken into account in the calculation when it comes to the calculation of products (*production items*).

## Inforegister General

<b>field</b>	<b>description</b>
No.	Number of the calculation condition.
Description	Description of the calculation condition.
Costing element costs	Select the appropriate costing element in the field "Costing element costs". In the case of the costing condition "Production", these are usually the direct material costs or the special direct costs of production.
Description of costing item cost	Specifies the description of the selected costing item from the field "Costing item cost".
Costing item overhead	Select the appropriate costing item in the "Costing item overhead" field. In the case of the costing condition "Production", these are usually the costs for tools, special direct costs or similar.
Description of costing item overhead	Indicates the description of the selected costing item from the field "Costing item overhead".

Inforegister lines

Field	Description
Description	Description of the calculation condition.
Costing element	Each calculation condition line is assigned a calculation component. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.
Costing Element Description	This field is filled automatically by the selection of the costing item.
Heading no.	<p>The field "Heading No." is used to relate calculation condition lines to each other in order to define a calculation base for percentage surcharges.</p> <p>The field is a choice field and controls with its option value the meaning of the field Value:</p> <p><b>Amount</b></p> <p>If you select the option "Amount", then the specification in the field "Value" is understood as an absolute number input. So here you have the option to enter fixed values that will be taken into account in the calculation. In addition, you can provide this line with a rubric number to refer to this line in another line with the setting Percent - so, for example, to consider an additional overhead.</p> <p><b>Percent</b></p> <p>If you select Amount, then the specification in the field "Value" is understood as a percentage number entry. If the line has been given a rubric number, then the basis of the percentage is the sum of all pricing condition lines of the same pricing condition with the same rubric number and calculation amount.</p> <p><b>Note</b></p> <p>If the line has not been given a rubric number, then the application uses as the basis for the percentage either the EK price of the origin line of the corresponding pricing value or (<i>if available</i>) the sum of all pricing condition lines of the same pricing condition before the current line with the calculation value. The heading numbers of these lines are then ignored.</p>
Value	<p>The meaning of the field depends on the value you have selected in the "Calculation" field.</p> <p><b>Amount</b></p> <p>In this case, the field contains an absolute amount. Depending on the selected costing element, this amount is part of the EK cost or part of the overhead rate.</p> <p><b>Percent</b></p> <p>In this case, the "Value" field contains a percentage value. The basis of the percentage value is the sum of all costing values with the same heading number. If</p>



Field	Description
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the line has not been assigned a rubric number, the application will use as a basis either the EK price of the origin line of the corresponding calculation value or *(if available)* the sum of all calculation condition lines before the current line with calculation value and specification of any rubric number *(but only if these calculation condition lines have been interpreted as part of an EK price)*.

KUMAVISION Item Costing provides you with predefined costing conditions (production) for use or further individual additions:

Field	Production (simple)	Production (complex)
No.	KK1000	KK1001
Description	Production (simple)	
Calculation item costs	10011	
Description of costing element costs	Direct material costs 2	
Costing item overhead	10310	10320
Description of costing item overhead costs	Tools	Certifications

No further information is defined in the calculation condition lines of the condition "Production (simple)".

Field	Production (complex)	
Description	Tool	Certification
calculation component	10310	10320
Calculation Component Description	Certification Tool	
Category No.		
Calculation / Value	2.00 %	5.00 MW

#### Costing condition (capacity)

The costing condition is used for the capacity costing condition. That means, you define here costing conditions which you assign afterwards to your capacities (*work center groups and work centers*). The condition is taken into account in the calculation as soon as a capacity is addressed (*e.g. because a routing is stored for a production article*).

## Inforegister General

<b>field</b>	<b>description</b>
No.	Number of the calculation condition.
Description	Description of the costing condition.
Costing element costs	Select the appropriate costing element in the field "Costing element costs". For the costing condition "Capacity" this is usually the direct production costs.
Description of costing item cost	Specifies the description of the selected costing item from the field "Costing item cost".
Costing item overhead	Select the appropriate costing item in the "Costing item overhead" field. For the costing condition "Capacity", this is usually the production overhead.
Description of costing item overhead	Indicates the description of the selected costing item from the "Costing item overhead" field.

Inforegister lines

Field	Description
Description	Please enter a description of your calculation condition line here.
Costing element	A costing element is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.
Costing Element Description	This field is filled automatically by the selection of the costing item.
Heading No.	The field "Heading No." is used to relate calculation condition lines to each other in order to define a calculation base for percentage surcharges.
Setup time	This field is only included in costing conditions of the type "Capacity" or "External labor". This field can be used to define costing elements that only refer to the setup time in their calculation.
Percentage	The content of this field is used as a percentage in the formula for calculating the "Costing price" field of the costing value.
Calculation	<p>The field is a choice field and controls with its option value the meaning of the field "Value":</p> <p><b>Amount</b></p> <p>If you select the option "Amount", then the specification in the field "Value" is understood as an absolute number input. So here you have the option to enter fixed values that will be taken into account in the calculation. In addition, you can provide this line with a rubric number to refer to this line in another line with the setting "Percent" - so, for example, to take into account an additional overhead.</p>
	<p><b>Percent</b></p> <p>If you select the option "Amount", then the specification in the field "Value" is understood as a percentage number input. If the row has been assigned a rubric number, then the basis of the percentage is the sum of all pricing condition rows of the same pricing condition with the same rubric number and calculation amount.</p>
	<p><b>Note</b></p> <p>If the row has not been assigned a rubric number, then the application uses as the basis for the percentage either the EK price of the origin row of the corresponding pricing value or (<i>if available</i>) the sum of all pricing condition rows of the same pricing condition before the current row with the calculation value. The heading numbers of these lines are then ignored.</p>
Value	The meaning of the field depends on the value you have selected in the "Calculation" field.

**Field****Description****Amount**

In this case, the field contains an absolute amount. Depending on the selected costing element, this amount is part of the EK cost or part of the overhead rate.

**Percent**

In this case, the "Value" field contains a percentage value. The basis of the percentage value is the sum of all costing values with the same heading number. If the line has not been assigned a rubric number, the application will use as a basis either the EK price of the origin line of the corresponding calculation value or *(if available)* the sum of all calculation condition lines before the current line with calculation value and specification of any rubric number *(but only if these calculation condition lines have been interpreted as part of an EK price)*.

KUMAVISION Item Costing provides you with predefined costing conditions (capacity) for use or further individual additions:

<b>Field</b>	<b>Capacity (Energy)</b>	<b>Capacity (Simple)</b>	<b>Capacity (Complex)</b>
No.	01	KK2000	KK2001
Description	Capacity (energy)	Capacity (simple)	Capacity (complex)
Calculation item cost		10130	10130
Description of Costing Component Costs	Machine Unit Cost	Machine Unit Cost	
Costing item overhead costs	1	10170	10170
Description of costing item overhead costs	Overhead costs energy	Overhead costs machine	Overhead costs machine

No further information is defined in the calculation condition lines of the conditions "Capacity (energy)" and "Capacity (simple)".

<b>Field</b>		<b>Capacity (complex)</b>				
Description	Machine	Worker	Costing component	10110	10120	10110
calculation component	10130	10120	10110	10170	10160	
Calculation Item Description	Unit Cost Machine	Unit Cost Worker	Unit Cost Elm	Unit Cost Worker	Unit Cost Machine	Unit Cost Worker
heading number	M1	A	A	M1	A	
time		Yes				
Share %	100.00	100.00	100.00	100.00	100.00	100.00
Calculation / Value	2.20 MW	1.20 MW	1.50 MW	0.90 MW	20.00 %	10.00 %

<b>Field</b>		<b>External labor (simple)</b>	<b>External labor (complex)</b>
No.		KK2050	KK2051
Description		External labor (simple)	External labor (complex)
Calculation item costs		10210	10210
Description of costing item costs		Direct costs for external labor	Direct costs for external labor
Costing item overhead costs		10250	10250
Description of Costing Item Overhead Costs		Overhead Costs External Labor	Overhead Costs External Labor

No further information is defined in the calculation condition lines of the condition "External labor (simple)".

Field	External labor (simple)	External labor (simple)
Description	Freight	Overhead costs
Calculation element	10250	10250
Costing item description	External labor overhead	External labor overhead
heading number		
setup time		
Share %	100.00 %	100.00 %
Calculation / Value	5.00 %	15.00 %

#### Calculation condition (markup)

The calculation condition is used for the "Article calculation condition (cannot be activated)" with the calculation type "markup". That means you define here calculation conditions which you assign afterwards to some of your articles. The condition will be taken into account in the calculation if it is the calculation of "end products". Here you no longer define the cost price of the article, but the markup up to the target price.

## Inforegister General

<b>field</b>	<b>description</b>
No.	Number of the calculation condition.
Description	Description of the calculation condition.
Transfer target price	<p>In an article calculation, you can transfer the target price determined from a calculation proposal to the master data of the calculated article. You indicate here, into which field of the master data the determined target price is to be transferred:</p> <p><b>None</b> There is no transfer.</p> <p><b>Target price</b> The value is transferred into the field "Target price" of the article.</p> <p><b>Sales price</b> The value is transferred into the field Sales price.</p> <p><b>Sales price</b> The value is transferred into the sales price table of the article. The entry is made taking into account the sales type and the sales code.</p> <p><b>Price + Sales Price</b> The value is transferred to both the Price field and the record of the Sales Price table.</p>
Sale Type	<p>This field is taken into account when entering the target price in the sales price table. The following selection options are available:</p> <ul style="list-style-type: none"> <li>- Customer,</li> <li>- Customer Price Group,</li> <li>- All Customers</li> <li>- Campaign</li> </ul> <p>It can only be edited if "Sales Price" or "Target Price+Sales Price" has been selected in the "Transfer Target Price" field.</p>
Sales code	<p>This field is also taken into account when entering the guide price in the sales price table. What you can select here depends on what you have specified in the "Sales type" field. For example, if you have selected customer price group there, all your customer price groups will be displayed for selection in the "Sales code" field.</p> <p>This makes it possible to define individual markup calculations for special customer groups, campaigns or even for individual customers.</p>



Inforegister lines

Field	Description
Category No.	The field "Category No." is used to relate calculation condition lines to each other in order to define a calculation basis for percentage surcharges.
Description	<p>This is where you enter a description of the content of your calculation condition line.</p> <p>The field is an optional field and controls the meaning of the "Formula/Code" field with its option value:</p> <p><b>empty</b> If the field is left "empty", the line has no influence on the execution of the calculation. For example, it can be used for a heading or explanation line.</p> <p><b>Value</b> If you select "Value", the "Formula/Code" field will contain an absolute number entry. In addition, you can assign a heading number to this line to refer to it in another line with the Percent setting.</p>
Calculation	<p><b>Formula</b> If you select the "Formula" option, the "Formula/Code" field will contain an arithmetic formula. The parts of the formula refer to the heading number of other costing condition lines.</p> <p><b>Costing component</b> If you select the "Costing component" option, the "Formula/Code" field will contain a costing component. Thus, this setting allows you to determine a markup line based on the costing values of a specific costing ingredient. This costing component can also be a to-total.</p> <p><b>Project Planned Line</b> If you select the "Project Planned Line" option, the "Formula/Code" field will contain a project task number.</p>
Formula/ Code	<p>The meaning of the field depends on the value you selected in the "Calculation" field.</p> <p><b>empty</b> In this case, the "Formula/Code" field is also empty. The calculation condition line has no influence on the execution of the calculation. For example, it can be used for a heading or explanation line.</p> <p><b>value</b> In this case, the field contains a constant (<i>decimal number</i>). You can also use this constant by assigning a rubric number to the line and referring to it in another calculation condition line with the calculation formula.</p> <p><b>Formula</b>In this case, the field contains an arithmetic formula. A rubric no. can also</p>

Field	Description
	<p>be used here to determine the calculation basis. In the arithmetic formula, the basic arithmetic operations +, -, *, /, multilevel brackets () and the two special characters % and \$ can be used.</p> <p>% stands for "percent of one hundred".</p> <p><b>Example</b></p> <p>5% A means "5 percent of the sum of all markup lines with rubric no. A". Suppose the total is 100, then the markup is 5 (<math>100/100*5</math>)</p> <p>\$ stands for "percent of one hundred".</p> <p><b>Example</b></p> <p>5 \$ B means "5 percent from the total of all markup lines with rubric no. B". Let's say the total is 100, then the markup is 4.76 (<math>100/105*5</math>).</p> <p><b>Calculation Item</b></p> <p>In this case, a calculation item is selected. If this line is used in a calculation, the application will calculate the calculated field "Multi-level amount per 1 unit". For example, the Costing Ingredient option value allows you to calculate a markup line based on the costing values of a specific costing ingredient. This costing ingredient can also be a to-total.</p>
Rounding method code	<p>This field specifies whether to round the costing price of the costing value that will result when the costing condition is applied in a costing proposal. The method of the desired rounding is controlled by a rounding method defined in the master data. This table is a standard table. You have the option to always round amounts up or down or to round them commercially (here, amounts are only rounded up if the digit to be rounded is <math>\geq 5</math>). Otherwise amounts are rounded down. For more information, see <a href="#">Rounding methods</a>.</p>
Costing element	<p>A costing element is assigned to each costing condition line. In principle, a costing item with any cost range can be assigned to a costing condition line. However, you should make sure that you use a costing item whose cost range corresponds to the intended application area of the respective costing condition.</p>
Indicative price	<p>Check this field only for the line that is to determine your indicative price.</p>
Error text	<p>If you enter an incorrect formula, the corresponding error message will appear in this field.</p>

KUMAVISION Item Costing provides you with predefined costing conditions (markup) for use or further individual additions:

Field	Impact	Impact Calculation
Surcharge	Surcharge Calculation	
Description	Surcharge	Surcharge calculation
guideline price	guideline price	guideline price
sales code	customer	customer
sales code		

No further details are defined in the calculation condition lines of the condition "Surcharge".

Rubric no.	Description	Calculation	Formula/ Code	Rounding Code	Calcul. Component
HK	Manufacturing costs	Calc. cost	10400		
	Shipping	Formula	HK * 0,5/100		10410
Quality Control	Formula	00.70 % HK		10420	Quality Control
	Sales Overhead	Formula	03.00 % HK		10430
Administration formula	02.50 % HK		10510	Administration	
SEK d. Technic	Calculationb.	10520			
SK	Self-cost	Calc.	10600		
risk	formula	02.00 % SK		10610	risk/profit surcharge
profit	formula	30.00 % SK		10610	risk/profit surcharge
MRP	Minimum Reference Price	Calculationb.	10700		
	commission 1	formula	03,00 \$ MRP		10710
	Commission 2	Formula	01,00 \$ MRP		10710
Saccount	Formula	03,00 \$ MRP		10720	Skonti
Discount	Formula	10.00 \$ MRP		10730	Discounts
RP	Guide price	Calculation	10800		
RPG	Rounded target price	Calculation item	10800	PRICE	
	Rounding	Formula	RPG-RP		10810

Rubric no.	Description	Calculation	Formula/ Code	Rounding Code	Calcul. Component
Guideline price (incl. rounding)	Calculation item	10900			

Heading no.	Description	Calculation	Formula / Code	Rounding code	Lime. Component
HK	Manufacturing costs	Calculation cost	10400		
Shipping	Formula	HK * 0,5/100		10410	Shipping
Quality Control	Formula	00.70 % HK		10420	Quality Control
	Sales Overhead	Formula	03.00 % HK		10430
Administration formula	02.50 % HK		10510	Administration	
SEK d. Technic	Calculationb.	10520			
SK	Self-cost	Calc.	10600		
risk	formula	02.00 % SK		10610	risk/profit surcharge
profit	formula	30.00 % SK		10610	risk/profit surcharge
MRP	Minimum Reference Price	Calculationb.	10700		
	commission 1	formula	03,00 \$ MRP		10710
	Commission 2	Formula	01,00 \$ MRP		10710
Saccount	Formula	03,00 \$ MRP		10720	Skonti
Discount	Formula	10.00 \$ MRP		10730	Discounts
RP	Guide price	Calculation	10800		
RPG	Rounded target price	Calculation item	10800	PRICE	
	Rounding	Formula	RPG-RP		10810
		10900			



Heading no.	Description	Calculation	Formula / Code	Rounding code	Lime. Component
Guideline price (incl. rounding)	Calculation item				

#### Calculation scheme

The application area "Costing" allows you to evaluate the results of the article costing and the order costing in so-called costing sheets. Costing schemas have the form of a matrix with a freely definable row layout and a freely definable column layout and are comparable to the account schemas (*Microsoft Dynamics 365 Business Central Standard*).

A costing sheet can be basically the same as the structure of the costing sheet, but it is usually presented in slightly less detail by grouping certain items together. For example, you can display total material costs in the chart of accounts; without subdividing them into direct material costs and material overhead costs. This is possible because when you create a costing proposal, the application automatically assigns each costing value to a costing item.

Any number of costing sheets can be created. Two costing sheets are already included in the basic costing setup - namely the standard costing sheet and the overview sheet. Of course, these schemes can be further customized according to your requirements.

Via the search term "Calculation schema names" you can call up the overview.

Via "New" in the menu ribbon you can define a new scheme with the help of the table below.

field	description
Name	In this field, enter a name for the calculation schema.
Description	In this field, enter a description for the calculation schema.
Standard column layout	In the field "Standard column layout" you can define the criteria for the calculation in the column view. The column layout stored there will always be used as the basis for the calculation.

Via "Calc. Edit scheme" in the ribbon you have the possibility to define the scheme in detail.

field	description
CategoryNo.	Give a category number to describe the row uniquely or to be able to use this row for a calculation later on.
Description	<p>Enter a description for the row.</p> <p>The Summary Type field is a choice field. It determines which records will be included:</p> <p><b>Ingredient Total</b></p> <p>The total is made up of the amounts taking into account the costing ingredients of the Costing Ingredient type. To do this, specify an expression in the "Totaling" field to filter the costing components to be used.</p> <p><b>Example</b></p> <p>The "Totaling" field contains the expression 10100..10299. Specifying this causes the costing sheet row to display amounts resulting from the costing components in the range 10100 to 10299. Only costing items of the type costing item are taken into account.</p> <p><b>Total</b></p> <p>The total is formed from the amounts taking into account the costing item of the type "Total" or "To total". To do this, specify an expression in the "Sum Total" field to filter the costing items to be used.</p> <p><b>Example</b></p> <p>The "Sum Total" field contains the expression 10100..10299. Specifying this causes the costing sheet row to display amounts resulting from the costing items in the range 10100 to 10299. Only costing items of the type "Total" or "To total" are taken into account.</p> <p><b>Formula</b></p> <p>The total is formed from the calculated amounts in other lines of the same costing sheet. To do this, specify an arithmetic formula in the "Total" field. When doing so, use the "Heading No." field to refer to the other lines in the schema in the formula.</p> <p><b>Example</b></p> <p>The "Add Up" field contains the expression A+B. The amounts from all other calculation schema rows of the same schema, which have the value A or B in the "Rubric no." field, are added together.</p>
Summary Type and Summary Count	
Display	<p>This field is relevant for the "Calculation schema" report. You have the following choices:</p> <p><b>Yes</b></p> <p>The row will be printed in the report.</p>

field	description
	<p><b>No</b></p> <p>The row will not appear in the report. For example, you can use this option to define a calculation scheme row that contains subtotals of a longer calculation scheme.</p> <p><b>If a column is not 0:</b></p> <p>The row will only be printed in the report if it is not 0. Thus, rows with no amount will not be printed at all.</p>
New Page	If you mark the calculation scheme row with a check mark, the report will make a page turn at this point.
Bold	If you mark the calculation schema line with a check mark, the line will be displayed in bold in the report.
Italic	If you mark the calculation schema line with a check mark, the line will be displayed in italics in the report.
Underlined	If you mark the calculation schema row with a check mark, the row will be underlined in the report.
Invert sign.	If you mark the field of the calculation scheme row with a check mark, all calculated amounts of the row will be displayed with reversed sign in the "Calculation scheme matrix".

#### Delete

You can delete the calculation schema using the "Delete" menu item.

#### Print

With the menu item "Print" you have the possibility to print the calculation schema considering a defined column layout and the specification of at least one calculation proposal line.

#### Set up account

The "Insert accounts" function transfers the records of the Costing item table to the present book sheet, creating exactly one costing item row for each costing item. The number of the costing item is then placed in the "Total" field of the costing sheet row.

You can select the costing elements to be transferred individually after starting the function. All costing elements are displayed in an overview. Select the data records you want and then click OK to start the transfer.

#### Set up column layouts

The menu item "Set up column layouts" allows you to define a column layout for the defined calculation schema.

KUMAVISION Item Costing already provides you with two predefined calculation schemes for use or further individual additions:

**Calculation scheme standard:**

Heading no.	Description	Counting type	Counting	Advertisements
10010	Direct material cost	Component total	10010	Yes
10011	Direct material costs 2	Inventory total	10011	Yes
10020	Special direct material costs	Inventory subtotal	10020	Yes
10030	Material overhead	Inventory total	10030	Yes
10040	Material surcharges	Inventory sum	10040	Yes
10045	Freight costs	Inventory sum	10045	Yes
10046	Handling costs	Inventory sum	10046	Yes
10049	Sum of material costs	Sum total	10049	Yes
	Components total		Yes	
10110	Individual cost of elm	Component total	10110	Yes
10120	Single cost worker	Component total	10120	Yes
10130	Individual costs machine	Component total	10130	Yes
10150	Overhead cost elm	Component total	10150	Yes
10160	Overhead Costs Workers	Component Total	10160	Yes
10170	Machine overhead	Component total	10170	Yes
10180	Electricity/ Building	ComponentSum	10180	Yes
10210	External labor costs	Component total	10210	Yes

<b>Heading no.</b>	<b>Description</b>	<b>Counting type</b>	<b>Counting</b>	<b>Advertisements</b>
10250	Overhead costs external labor	Component total	10250	Yes
10299	Total capacity costs	Grand total	10299	Yes
	Component sum		Yes	
10300	Individual costs assembly res.	Component total	10300	Yes
10305	Overhead cost of assembly Res.	Component total	10305	Yes
Component sum		Yes		
10310	Tools	Component Sum	10310	Yes
10320	Certifications	ComponentSum	10320	Yes
	Components total		Yes	
10400	Cost of goods sold	Grand total	10400	Yes
	Components		Yes	
10410	Shipping	Inventory	Total	10410
10420	Quality control	Component total	10420	Yes
10430	Distribution	ComponentSum	10430	Yes
10510	Administration	ComponentSum	10510	Yes
10520	Special direct costs for technology	Inventory subtotal	10520	Yes
	(Sales overhead)	Inventory subtotal	10400..10499	Yes



Heading no.	Description	Counting type	Counting	Advertisements
	(Administrative overhead)	Component total	10500..10599	Yes
10600	Self-costs	Sum total	10600	Yes
10610	Risk/profit surcharge	Components sum	10610	Yes
10700	Minimum reference price	Sum total	10700	Yes
10710	Commission	Component sum	10710	Yes
10720	Discounts	Cumulative total	10720	Yes
10730	Discounts	Cumulative total	10730	Yes
	(commission/discount/discounts)	Cumulative total	10710..10799;10810	Yes
10800	Direct price	Sum total	10800	Yes
10900	Guideline price (rounded)	Sum total	10900	Yes
	Component sum		Yes	
	Component sum		Yes	
	Total markup	Component total	10401..10499 10501..10599 10601..10699 10701..10799 10810	Yes

**Calculation scheme overview:**

Heading no.	Description	Counting type	Counting	Advertisements
MAT	Sum of material costs	Sum of components	10010..10048	Yes
KAP	Sum of capacity costs	Sum of components	10110..10199	Yes
FREMD	Sum External Labor Costs	Inventory Sum	10210..10298	Yes
PROD	Sum Production Overhead	Inventory Sum	10300..10399	Yes
	Total material costs	Sum total	10049	Yes
Component sum	Yes			
10410	Shipping	Component sum	10410	Yes
10420	Quality control	Component total	10420	Yes
10430	Distribution	ComponentSum	10010	Yes
10510	Administration	ComponentSum	10010	Yes
10520	Special direct costs for technology	Inventory subtotal	10010	Yes
10600	Self-costs	Sum total	10600	Yes
10610	Risk/profit surcharge	Sum total	10610	Yes
10700	Minimum reference price	Sum total	10700	Yes
10720	Discounts	Component sum	10720	Yes
10730	Discounts	Component sum	10730	Yes
10900	Price (rounded)	Grand total	10900	Yes
	Component sum	10010	Yes	
	Sum of markups	Component total	10401..10499 10501..10599 10601..10699	Yes

Heading no.	Description	Counting type	Counting	Advertisements
			10701..10799 10810	

#### Item card

#### Item Calculation Conditions

You can call up the article calculation conditions via the article card. Here you can define the calculation conditions specifically for a certain article or a species group for later calculation.

In the "General" area of the article calculation conditions, you will first find filters that you can use to control your view. When you open the mask, the filters are initially always preset to the article from which you have called up the mask.

Field	Description
Sales type filter	Using the sales type filter, you can restrict your view to lines of a specific calculation type or none.  The following selection options are available: - Material - Production - None
Type filter	Use the type filter to limit your view to rows of a specific type.  The following selections are available:  - Item - Item category - Product posting group - Stock posting group - All items - None
Code Filter	Use the code filter to further narrow your view in addition to the type filter on a specific item or similar .
Start Date Filter	Using the start date filter, you can narrow your view to specific validity lines.

Via the lines you can directly define the calculation conditions with the help of the table below.

Field	Description
	In this field you define for which costing type you want to define the line. You can choose from:
Costing type	<p><b>Material:</b> The condition will be considered in the calculation, if it is the calculation of raw materials (purchase items).</p> <p><b>Production:</b> The condition will be considered in the calculation, if it is the calculation of products (production items).</p>
Type	<p>Using the "Type" field, you have the option of defining the condition line for an item or for faster entry of a type group. The following options are available:</p> <ul style="list-style-type: none"> <li>- Item</li> <li>- Item category</li> <li>- Product posting group</li> <li>- Stock posting group</li> <li>- All items</li> </ul>
Code	You can limit each selection in the "Type" field to a specific item number or type group number in this field.
Indirect Cost %	<p>Enter the indirect cost of the item as an absolute amount at this point.</p> <p><b>Note</b> If you are working with costing, it is recommended that you do not maintain the default field on the item card.</p>
Indirect Cost %	<p>Indicate the indirect cost of the item as a percentage value at this point.</p> <p><b>Note</b> This field is identical to the field on the item card. However, if you are working with costing, it is recommended that you do not maintain the default field on the item card, and instead maintain only this one.</p>
Overhead Cost Rate (Consumption Capitalization)	<p>Enter the consumption capitalized overhead as an absolute amount at this point.</p> <p><b>Note</b> Overhead and consumption capitalized overhead can be used in parallel. The only difference is that only either a Costing Condition or a Costing Condition Consumption Activated can be defined. Both will not work</p>
Cost % (Consumption Activated)	Enter the consumption activated costs as a percentage value at this point.

Field	Description
Calculation Condition No.	Enter the corresponding calculation condition.
Start Date	Indicates the date from which the calculation line is valid.
End date	Specify the date until when the calculation line is valid.

Via "Manage" > "Delete" you can delete a selected calculation row.

#### Article calculation conditions (cannot be activated)

The article costing conditions (cannot be activated) are called up via the article card. This allows you to specify the non-activatable costs (*costs that are not included in the cost price*) specifically for a particular article or species group for later costing.

In the "General" area of the article calculation conditions (cannot be activated) mask, there are initially filters that you can use to control your view. When you open the mask, the filters are initially always preset to the article from which you have called up the mask.

Field	Description
Sales Type Filter	Use the sales type filter to limit your view to lines of a specific costing type or none. The following selections are available: - markup - special direct cost - none
Type Filter	Use the type filter to limit your view to lines of a specific type. The following selections are available: - Item - Item category - Product posting group - Stock posting group - All items - None
Code Filter	Use the code filter to further narrow your view in addition to the type filter on a specific item or similar .
Start date filter	Using the start date filter you can limit your view to certain validity lines.

Using the rows you can directly define the calculation conditions with the help of the table below.



Field	Description
	<p>In this field you define for which calculation type you want to define the line. You can choose from:</p> <p><b>Surcharge</b></p> <p>The condition is taken into account in the calculation if it is the calculation of "end products". Here you no longer define the cost price of the item, but the markup up to the target price.</p> <p><b>Special direct costs</b></p> <p>The condition is defined for the costs that are incurred for a product, but are not quantity-dependent.</p>
Calculation type	
Type	<p>Using the "Type" field, you have the option of defining the condition line for an item or for faster entry of a type group. The following options are available:</p> <ul style="list-style-type: none"> <li>- Item</li> <li>- Item category</li> <li>- Product posting group</li> <li>- Stock posting group</li> <li>- All items</li> </ul>
Code	You can narrow down each selection in the "Type" field to a specific item number or type group number in this field.
Calculation condition number	Indicates the corresponding calculation condition.
Calculation Condition Description	Gives the description for the calculation condition selected in the "Calculation Condition No." field.
Start Date	Indicates the date from which the calculation line is valid.
End date	Indicates the date until when the costing line is valid.
Special direct costs	Indicates possible special direct cost values.
Quantity per unit	Indicates the quantity per unit.
Special direct costs per unit	Indicates the special direct costs per unit.
Costing Item No.	Specifies the costing item for the special direct costs.
Costing Item Description	Specifies the description for the costing item selected in the "Costing Item No." field.

Field	Description
Project No.	Indicates a possible project number.

Via "Manage" > "Delete" you can delete a selected calculation row.

#### Calculation specifications

You can use the "Costing specifications" to specify different lot sizes in advance for the cost of goods manufactured simulations, which will be taken into account in the subsequent costing.

Field	Description
No.	This number is automatically assigned on the basis of a stored number series.
ArticleNo.	This is automatically assigned with the article number from which you started the call.
Description	Corresponds to the article description.
Start date	From when should this calculation specification be valid.
End date	To when should this costing specification be valid.
Lot Size	Indicates the lot size number.
	This field is queried when calculating the cost price.
Standard	If this field is set and also in the function "Calculate cost price (fixed)/Directive price for item" the switch "Only standard costing specifications" is set, then only lot sizes are used that have the check mark set in the costing specifications.

#### Capacity costing conditions

You call up the "Capacity costing conditions" via the work center group card. Via this screen you can define the costing conditions you want to assign to your capacities (work center groups and work centers). The condition is taken into account during costing as soon as a capacity is addressed (e.g. because a routing is stored with a production article).

In the area "General" of the capacity calculation conditions you will find filters that you can use to control your view. When you open the mask, the filters are always preset to the work center group from which you have called the mask.

Field	Description
Type filter	<p>Using the type filter, you can limit your view to lines of a specific type or none. The following selections are available:</p> <ul style="list-style-type: none"> <li>- Department</li> <li>- Workstation group</li> <li>- Workstation</li> <li>- Workstation line</li> <li>- None</li> </ul>
Start date filter	Using the start date filter, you can limit your view to certain validity lines.

Via the lines you can directly define the calculation conditions using the table below.

Field	Description
Type	<p>Using the "Type" field, you have the option of defining the condition line for a workstation group or similar. The following options are available:</p> <ul style="list-style-type: none"> <li>- Department</li> <li>- Workstation group</li> <li>- Workstation</li> <li>- Work plan lines</li> </ul>
Code	You can limit each selection in the "Type" field to a specific workstation group or similar in this field.
Version Code	Indicate the corresponding version code.
Work operation no.	Indicate a corresponding work operation.
Indirect Cost %	Enter the indirect costs as an absolute amount here.
Indirect costs %	Enter the indirect costs as a percentage value here.
Calculation Condition No.	Enter the corresponding calculation condition.
Calculation Condition Description	Give the description for the calculation condition selected in the "Calculation Condition No." field.
Start Date	Indicates the date from which the calculation line is valid.
End Date	Indicates the date until when the calculation line is valid.

Via "Manage" > "Delete" you can delete a selected calculation row.

### **Article costing**

The costing proposal is used for the cost of goods manufactured calculation. You can call this up directly from the respective article card via the menu ribbon.

### **Calculation proposal**

In the costing proposal lines, *(if available)* historically previous costings are displayed.

In the calculation proposal lines (*if available*) historically already previous calculations are displayed.

Field	Description
Warning	<b>blank</b> The proposal line does not contain any errors and can be accepted if required.
	<b>Errors</b> The proposal line contains errors which can be viewed and corrected via the error log. After correction, the proposal must be run through again.
Calculation Run Ref. No.	Indicates a sequential number per proposal line. For proposal lines that contain different article costing specifications (lot sizes), these are displayed with the same sequential number.
Costing Run Description	Gives the description that has been specified for the respective costing run.
Item No.	Indicates the item number for which the suggestion line has been calculated.
Description	Specifies the description of the item.
Procurement method	Indicates the stored procurement method of the item.
Status	Indicates the status of the suggestion line. Here it is distinguished in: <ul style="list-style-type: none"> <li>- empty</li> <li>- Preferred</li> <li>- Rejected</li> <li>- Accepted</li> </ul> For further information, please refer to the section "Change status"
Lot Size	Indicates the lot size on which the proposal line was costed.  <b>Note</b> Please note that the lot sizes on the item card as well as in the costing specifications can be used for costing.
Calculation Date	Indicates the date on which the proposal line was costed.
Cost price (fixed)	Indicates the stored "Cost price (fixed)" on the article card.
New cost price (fixed)	Displays the new cost price (fixed) of the suggestion line.
Cost % (Consumption Activation)	Displays, <i>(if available)</i> the "Cost % (Consumption Activation)" determined from the costing definitions.
	Gives, <i>(if available)</i> the "Overhead Rate (Consumption Activation)" calculated from the costing definitions.

Field	Description
Overhead Rate (Consumption Activation)	
Target price	Gives the previous target price.
New target price	Displays the newly calculated target price.

**Calculate set price (fixed)/direct price for article**

When this function is executed, the cost price for the corresponding items is calculated.

Field	Description
Calculation date	Specifies the calculation date. This is used to take into account the start and end date of purchase prices, costing conditions or even parts lists and routings for the costing.
Costing Run Description	This entry is a mandatory entry and defines what kind of costing it is.
Standard calculation specifications only	Here you can define whether the lot size of the article to be calculated should be taken from the article card or the calculation specification.
	If the switch is not activated, ( <i>if available</i> ) the stored lot size of the calculation specification is treated with priority than that of the article card.
	If the switch is set, ( <i>if available</i> ) only the deposited lot size with the identifier=standard is treated with priority than that of the article card.
	<b>Note</b> This applies only to the first level, i.e. the article to be costed.
Costing Proposal Name (Plan)	Indication of the costing proposal (plan) if simulations are carried out.  <b>Note</b> In order to determine the correct cost price based on the structure, which is then also written back to the item card, this field must not be filled in.

**Change status**

With this function you can set the status of the costing proposal line in the "Status" field according to the selection (Preferred or Rejected).

The status is relevant for the function execution "Adopt costing proposal (preferred)". Only costing proposal lines with the "Preferred" status are adopted.

If the price has been adopted, the "Status" field is set to "Adopted".

#### Adopt costing proposal (preferred)

With this function, the values from the calculation proposal lines with the status=Preferred are used and transferred to the article card.

When executing the function, it is also possible to carry out a revaluation at the recalculated price for the article items that are still open.

Field	Description
Posting Date	Required for the revaluation ledger sheet. Corresponds to the valuation date.
	Will be selected if you want to revalue the currently still open article items.
Fill revaluation book.sheet	Depending on the selection of the field "Transferred from" either the whole structure can be revaluated or only the article from the calculation proposal.  The revaluation book sheet can still be controlled afterwards. It must always be posted manually.
Voucher No.	Indicates which voucher number is to be written into the revaluation ledger sheet.<br
Article book. sheet template	Indication of the revaluation book sheet.
Article Book Sheet Name	Specify the revaluation book sheet name.
Transfer from	<b>One level</b> Only the prices from the article from the calculation proposal line will be updated. The items in lower levels will not be updated.
	<b>All levels</b> All prices and price fields of all items that occur in the structure will be updated.

#### Article costing specifications

The "Article costing specifications" can be used to carry out manufacturing cost simulations with different batch sizes. As a rule, these defaults are already defined in advance in the "Costing defaults" on the respective article card and displayed accordingly at this point. If necessary, changes and/or entries can be made here.



### Note

This always only affects the article that is currently being costed. If also costing defaults are defined for assemblies in subset levels, these are not considered. Here always the lot size is drawn from the article card.

Field	Description
No.	This is automatically assigned based on a stored number series.
Item No.	This is automatically assigned with the article number from the data record of the calculation proposal line.
Description	Corresponds to the article description.
Start date	From when this calculation default should apply. Reference date is the "Calculation date" when executing the function "Calculate set price (fixed)/Directive price for article".
End date	To when should this calculation specification be valid. Reference date is the "Calculation date" when executing the function "Initial price (fixed)/Calculate target price for article".
Default	<p>This field is requested when calculating the cost price. If this is set and also in the function "Calculate cost price (fixed)/Price for article" the hook "Only standard costing specifications" is set, then only lot sizes are used, which have the hook set in the costing specifications.</p> <p><b>Note</b> Lot size from the article is not used, if valid costing specifications were found.</p>
Remark	Indicates whether a remark exists for this calculation specification. Remarks can also be entered here.
Corrected on	Set by the system when the record is created or corrected.

### Note

If there are several valid entries, the system automatically creates a separate calculation for each valid entry.

### Retrieve error log

The error log lists all errors that occurred during the calculation. By clicking on the integrated lookups or calling up "Display" in the menu ribbon, the errors can be edited directly from the mask.

### Note

Please note that you have to recalculate the calculation after fixing the errors.

**Calculation values (matrix)**

In this view the rows of the account scheme are superimposed with the columns of the column layout. According to the filters entered, the values are displayed. By selecting a predefined column layout for comparison, a comparison of two calculation proposals is possible at this point.

**Costing values (structure)**

In this view you can see all considered costing values in a structure detailed on cost type level. Thereby you have the possibility to view the origin documents on row level via the call of the same name.

**Structure list**

The structure list allows you to view a costing proposal aggregated over all costed levels and their costs.

<b>Field</b>	<b>Description</b>
Costing proposal 1 Filter	Select a costing proposal you want to have displayed.
Include overhead	Activate the check box if you want to consider the overhead costs included in the respective costs.
Material only	Activate the check box if you want to view only the material costs.
Cost selection	Use the cost selection, you can specify the BOM depth over which you want to display the costs.
	<b>Single level</b> Displays the costs of the top level of the BOMs.
	<b>Multi-level</b> Displays the costs multi-level, broken down to the last assembly/component.
	<b>Single level</b> Displays the costs of the top level of the BOMs.

## Structure list comparison

With the help of the structure list comparison you can directly compare two costing proposals. This structure list comparison allows you to see at a glance, through visualized representation in the "Symbol Deviation" fields, at which level a change to the previous proposal has taken place.

Field	Description
Calculation Proposal 1 Filter	Select a calculation proposal that you want to compare with another proposal.
Costing Proposal 2 Filter	Select another costing proposal that you want to compare with the one already selected from the Costing Proposal 1 Filter field.
Include overhead	Activate the checkbox if you want to include overhead in the respective costs in the comparisons.
Material only	Activate the check box if you only want to compare the material costs.
Cost selection	Use the cost selection, you can specify the BOM depth over which you want to display the costs.
	<b>Single-level</b> Displays the costs of the top level of the BOMs.
	<b>Multi-level</b> Displays the costs multi-level, broken down to the last assembly/component.

After your selection, you then execute the "Compare" function in the ribbon to compare the values in the row display.

### 1.3.12 KUMAcconnect

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#### General

With the APPs "KUMAcconnect" and "KUMAcconnect Output Link" you have an integration interface that connects the DMS/ECM of [ELO Digital Office GmbH \(professional and enterprise\)](#) directly with Microsoft Dynamics 365 Business Central.

For this purpose, an ELO client, the "ELO Integration Client", is directly integrated into numerous fact boxes and / or page parts of Microsoft Dynamics 365 Business Central. This allows working directly in Microsoft Dynamics 365 Business Central with the ELO DMS/ECM. Files and documents can be archived by drag & drop.

With the "KUMAcconnect Output Link", documents created in Microsoft Dynamics 365 Business Central, e.g. order confirmations, invoices, etc. can be archived directly in ELO DMS/ECM without further intervention. All files and documents are automatically tagged with appropriate metadata. For a business process or a transaction in Microsoft Dynamics 365 Business Central, these are then displayed by the Integration Client directly in the filing structure in ELO.

The app communicates with an ELO DMS/ECM system using modern web services. For this purpose, a KUMAcconnect APP is also installed in ELO DMS/ECM so that the two systems can communicate directly with each other.

In addition, standard templates are provided that contain a complete configuration of the Integration Client, the outgoing documents, the metadata and the archive structure including the reference structure. An authorization concept rounds off the templates. The functional scope and operation of the ELO Integration Client can be accessed via the link.

Facilities for ELO are set up in the ELO Admin Console. Here the metadata is defined, the storage paths and reference paths. Please contact your ELO partner for this.

## Setup

### DMS Setup

Before the Integration Client is displayed in the Fact Box or in the Page Part, the app requires the following settings in order to be able to communicate with the ELO archive. This setting is first made in the "DMS General Setup" page.

field	description
ELO Rest API URI	<p>Here the URI of the REST API of the connected ELO system is stored. The rest API is used to archive documents in the background in ELO.</p> <p><b>Example:</b> http&lt;s&gt;://&lt;server&gt;:&lt;port&gt;/rest-&lt;archive name&gt;/</p>
ELO username	name of the ELO service user through which the Rest API is allowed to communicate.
ELO Password	Password for the ELO service user
KUMAcconnect Fact Box activated	This switch activates or deactivates the KUMAcconnect interface. If it is active, the Integration Client is displayed in the Fact Boxes or the Page Parts
Display of the client in lists	<p>The Integration Client can also be displayed in many list pages.</p> <p>Here it should be noted, however, that scrolling within the list may be somewhat delayed if the Integration Client is active in the list pages.</p> <p>This can be turned off across the board using this switch</p>
Use Single Sign On	With this switch the Windows credentials are transferred to ELO for automatic login when the Integration Client is called.
ELO Integration Client URI	<p>The base URI of the ELO Integration Client is stored here.</p> <p><b>Example:</b> http&lt;s&gt;://&lt;SERVER&gt;:&lt;PORT&gt;/ix-&lt;ARCHIV&gt;/plugin/en.elo.ix.plugin.proxy/wf/apps/app/elo.integration.Client/</p>
Auth with oAuth2	Logging in to ELO can also be done via OAuth, this can be enabled here.
ELO oAuth2 URI	<p>Here URI of the OAuth authorization point is stored.</p> <p><b>Example:</b> login.microsoft.com/common/oauth2/v2.0/authorize?</p>
Fact Box Height	<p>What height should the fact box be in all pages or page parts?</p> <p>Default: 500px</p> <p>Info: the width cannot be configured.</p>

field	description
KUMAcconnect archiving of outgoing documents activated	Here you generally activate whether documents created in Business Central should also be transferred to the ELO DMS/ECM. Which documents these are is set in the following "Document setup".

!!! note "Note If you have KUMAVISION medTech365 in use, you have further setup options and functions available at this point. You can find more information about this topic [here](#)."

#### User setup

Users who are to use KUMAcconnect must be assigned an ELO profile in the "User setup". The profile is configured in the ELO archive. Here, for example, it can be configured that the ELO web client and not the ELO full client is called up for the function "Open in ELO". Or that the function "Edit in Office" is available to the user. So open the "User Setup" in Microsoft Dynamics 365 Business Central and go to the row of the corresponding user. If the user does not already exist in this setup, simply add him/her.

In the column "ELO Profile" (*often on the far right of the table*) you can then select the ensptechende user profile. If no "ELO profile" is entered in the cell, this user cannot use KUMAcconnect and the integration client is not displayed.

#### Note

If the column "ELO profile" is not displayed, the general setup is not yet complete.

#### DMS Document setup

You can open the DMS Document Setup via the call "Configuration of Report Archiving" in the menu ribbon of the DMS Setup. Via the "DMS Document Setup" you can control at which event the source document should be uploaded to the ELO archive in the background. The events are taken into account, if the archiving of the source documents is activated in the "DMS General Setup".

## Note

Please note that the call is only available to you if the switch "Use report ID to identify documents in ELO" is deactivated. This function switch is available from KUMAVISION KUMAcconnect version 2.1 or higher on ELO side.

Validity area	<p>The department can be set here. Depending on the department, other outgoing documents can be configured.</p> <p>Possible validity areas:</p> <ul style="list-style-type: none"> <li>- Warehouse</li> <li>- Purchasing</li> <li>- Sales</li> <li>- Service</li> <li>- Reminder</li> <li>.</li> </ul>
Table of records	<p>A record is related to an outgoing document.</p> <p>For each output document, the field "Archiving on event" can be used to control when and whether it should be archived.</p> <p>Possible values are:</p> <ul style="list-style-type: none"> <li>- Do not archive</li> <li>- Processing outside of KUMAcconnect</li> <li><i>(Only relevant for Special Industry Solutions)</i></li> <li>- When printing</li> <li>- When sending e-mail</li> <li>- When printing or sending e-mail</li> <li>- When releasing</li> <li>- When posting</li> </ul>



The following output documents are configurable:

Range	Table ID	Table name	Document type
Sale	36	Sales header	Offer
Sale	36	Sales header	Order
Sale	36	Sale header	Invoice
sale	36	sales header	credit
sale	36	sales header	Blanket order
sale	36	sales header	complaint
Sale	36	Sales header	Draft Invoice
Sale	36	Sales header	Proforma invoice
Sale	110	Sales delivery header	Output
Sale	112	sales invoice header	invoice
Sale	114	Sales credit memo header	Credit memo
sale	6660	returns header	returns
Purchase	38	Purchase header	Inquiry
Purchase	38	Purchase Header	Order
Purchase	38	Purchase header	Invoice
purchase	38	purchase header	credit note
purchase	38	purchase order header	framework order
Purchase	38	Purchasing header	Complaint
purchase	120	purchase delivery header	receipt
purchase	122	purchase invoice header	invoice
purchase	124	purchase credit memo header	credit memo
purchase	6650	return delivery header	return delivery
Service	5900	Service header	Quotation
Service	5900	Service header	Order
Service	5900	Service header	Invoice
Service	5900	Service header	Credit note

Range	Table ID	Table name	Document type
Service	5900	Service header	Output
Service	5965	Service Contract Header	Contract Offer
Service	5965	Service Contract Header	Contract
Service	5992	Service Invoice Header	Invoice
Service	5994	Service credit memo header	Credit memo
warehouse	7316	goods receipt header	goods receipt
warehouse	7318	goods receipt header	goods receipt posted
Warehouse	7320	Goods issue header	Delivery
Warehouse	7322	Goods issue header	Posted delivery
Dunning notice	295	Dunning notice header	Dunning notice
Dunning notice	297	Registered dunning header	Dunning notice

#### DMS Report setup

You can open the "DMS report setup" by calling "Configure report archiving" in the DMS setup menu. The DMS report setup can be used to control which event should cause a report to be uploaded to the ELO archive in the background. The events are taken into account if in the "DMS Setup" the switches "Archive outgoing documents" and "Use report ID to identify documents in ELO" are activated.

## Note

Please note that the call is only available if the switch "Use report ID to identify documents in ELO" is activated. This functionality is available from KUMAVISION KUMaconnect version 2.1 or higher on ELO side.

A record is related to a report.

For each report you can control when and if it should be archived via the field "Archiving on event".

Possible values are:

- do not archive
- processing outside of KUMaconnect  
(Only relevant for special industry solutions)
- when printing
- when emailing
- when printing or emailing
- when releasing
- when posting
- when posting asynchronously.

Table with  
records

After installing the app, all reports supported by KUMaconnect by default are already preconfigured. Further reports can be added individually. It should be noted that these must also be configured on the ELO side.

## Integration Client Activation

In this setup you can select whether the ELO Integration Client should be displayed in the Fact Box or in the Page area or not at all on this page.

## Note

In pages of type List the ELO Integration Client can only be displayed as Fact Box.

field	description
Page ID	ID of the page where the ELO Integration Client should be embedded
Page Name	Name of the page on which the ELO Integration Client should be embedded
Enabled	<p>The following selections are available:</p> <ul style="list-style-type: none"> <li>- Disabled</li> <li>- Factbox</li> <li>- Page Party</li> <li>- Factbox and Page Part</li> </ul>

The Integration Client can be activated on the following pages:

<b>Pages ID</b>	<b>Pages Name</b>
20	Personal account
21	Accounts Receivable
26	Accounts Payable Card
30	Article card
39	Fibu book.sheets
41	Sales quotation
42	Sales order
43	Sales Invoice
44	Sales credit note
49	Purchase request
50	Purchase order
51	Purchase Invoice
52	Purchase credit note
88	Project card
130	Sales delivery charge
132	Sales invoice
134	Sales credit note
136	purchase delivery charge
138	purchase invoice
140	Purchase credit memo
254	Purchase ledger sheets
434	Reminder
438	Registered Reminders
507	Frame order
509	Frame order
1171	User task

<b>Pages ID</b>	<b>Pages Name</b>
5050	Contact card
5159	Sales order archive
5162	Sales quotation archive
5164	Purchase request archive
5167	Purchase order archive
5600	Purchase order archive
5768	Goods Receipt
5900	Service order
5933	Service Invoice
5935	Service credit note
5964	Service quotation
5972	Posted service credit note
5975	Posted service delivery
5978	Posted service invoice
6050	Service contract
6053	Service contract quotation
6620	Frame order archive
6623	Frame order archive
6630	Sales complaint
6640	Purchase complaint
6650	Posted return delivery
6660	Posted return delivery
7330	Posted goods receipt
7335	Goods issue
7337	Posted goods issue

!!! note "Note If you have KUMAVISION medTech365 in use, you have further setup options and functions available. You can find more information about this topic [here](#).

## Document buffer

If an error occurs during the transfer of documents created in Microsoft Dynamics 365 Business Central, this document is temporarily stored in the "Document Buffer" table.

Possible causes are that the ELO system is not accessible, e.g. it is being maintained, or there is an error in the configuration of the archive structure in ELO. If the transfer event "on release" is used for a document, this document is always stored temporarily in this table. The background is a locking behavior of Microsoft Dynamics 365 Business Central.

Normally, the table should be empty. If this is not the case, the background job that performs the processing may not have been activated. This table will be filled if there was an error or a block during the transfer of the source documents to the ELO.

field	description
Mode	Type of record
No.	consecutive number
Number of errors	Number of attempts to resend the faulty document to ELO using the task queue. If there is always a 1 here, the task queue is probably not set up for this. (See Setup background job)
Last Error	<p>which error occurred during the last transmission. Here can be for example the following messages:</p> <ul style="list-style-type: none"> <li>- getArchivingSubFolder ...</li> <li>"the ELO filing structure is missing in the ELO software"</li> <li>- preparePrintout ...</li> <li>"data record for the structure could not be determined by ODATA"</li> <li>- no document service found ...</li> <li>"no document was defined for the usage in the document service in ELO KUMAcconnect"</li> </ul>
Table ID	Transfer came from table
Record ID	Transfer was made for the record with the ID
Page ID	Transfer came from the page with the ID
Parameter string	<p>What other parameters were used in the transfer to enable archiving in ELO.</p> <p><b>Example:</b></p> <pre>{ "tenant": "kumaconnectqs", "company": "CRONUS AG", "systemId": "Warehouse Shipment Header:{B95B9BD8-33FD-EC11-9949-9087C1D55CB9}", "objectId": "Table Warehouse Shipment Header", "referenceId": "Page 7335", "usage": "KVSDMS Whse. Shipment", "keys":{"No":"AUSG000005"}}}</pre>



**Setting up a background job for the document buffer**

The background job to be set up via the task queue items monitors the DMS document buffer. If there are entries here and the background job performs a new processing.

The following settings must be entered for the new job:

<b>field</b>	<b>description</b>
Type of object to be executed	Please select code unit
ID of the object to be executed	Please select here the code unit with the number 5593405
Label of the object to be executed	KVSDMSSendFaultedDocuments
Description	A free description can be entered here
... further fields	Further fields are described in the help of <a href="#">Microsoft Dynamics 365 Business Central Online Help</a>

### 1.3.13 Power BI SALES activator

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*Turn the wealth of sales data from Microsoft Dynamics 365 Business Central into valuable KIPs.*

Increase the success of your sales! Structured sales work requires valid data in real time. Activate previously unused potential of your employees and organization.

With the "Power BI SALES activator" from KUMAVISION and EOS, you can collect, structure and visualize data from your Microsoft Dynamics 365 Business Central at the touch of a button. Score points in the next meeting in front of the management with resilient and graphically prepared data. This way you create transparency for your employees and colleagues!

#### General

The "Power BI SALES activator" provides answers to your essential questions:

- Which items are my top sellers?
- Which salespeople generate the most revenue?
- How does incoming orders compare to the previous month/year?
- In which countries and regions are which articles selling particularly well?
- Which articles and article groups have an above-average contribution margin?
- Which customers generate which sales?
- Where are the opportunities? Where are risks hidden?
- How can I optimally deploy my sales staff?

#### Your advantages:

Put an end to time-consuming research in your ERP system, error-prone calculations in Excel and outdated data. With the "Power BI SALES activator" you make sure that all data is always and at any time up-to-date at your disposal. This enables you to better analyze, control and plan sales activities.

#### Target group:

Sales, Management, Controlling

#### Installation "EOS PowerBI connector"

1. Navigate to the "Extension Marketplace" in Microsoft Dynamics 365 Business Central.
2. Search for "EOS PowerBI connector" and click on "Get it now"  
[Directlink to Microsoft AppSource](#)
3. Complete the Microsoft basic profile form and click the "Continue" button
4. Select your language and click on the "Install" button

### Installation "KUMAVISION Power BI SALES Activator"

After the installation of the "EOS PowerBI connector" in Business Central you can install the "Power BI SALES activator" from KUMAVISION.

1. Go to the Power BI service, navigate to the app menu, and click the button "Get Apps" to go the Power BI Marketplace
2. Search for the "Power BI SALES activator"
3. Click the button "Get It Now" and install the Power BI app
4. After that you have a new app named "Power BI SALES activator"

### Connect the "Power BI SALES activator" with your own data

After the installation of the apps "EOS PowerBI connector" in Business Central and the "Power BI SALES activator" you can connect the Power BI SALES activator with your own data. 1. Open the app "Power BI SALES activator" and click on the link "Connect your data" 2. Now you are prompted to enter the required parameters:

Field	Description
Company	Is the company you want to connect to your Microsoft Dynamics 365 Business Central instance. This must be the company name and not the display name. You can find the name of the company in Microsoft Dynamics 365 Business Central in the "Companies" list. Microsoft Dynamics 365 Business Central
Environment	Is the environment name of your Microsoft Dynamics 365 Business Central instance. Normally, the environment of the production instance is "Production", however, you can look up the exact name in the Microsoft Dynamics 365 Business Central Admin Center.

1. After entering the parameters, you need to click the button "Next"
2. Now you have to choose the authentication method to connect to your Business Central. Set it to "OAuth2" and the privacy level to "Organizational".
3. Click the button "Sign in and connect" and sign into your work Microsoft account.
4. After this check the refresh of the dataset and set up a refresh schedule to keep your data up to date.
5. After refreshing the dataset, you can use the reports of the "Power BI SALES activator" from KUMAVISION with your own data and validate the data.

## 1.3.14 Quality Management

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### General

The Quality Management Module (QM) is integrated with the base modules of Microsoft Dynamics 365 Business Central. It supports manufacturing, warehouse, and batch tracking processes as well as financials.

The following section of the online help is intended to assist you in completing quality assurance tasks using the QM module.

. QM allows you to manage test equipment and its calibration. With the help of defined inspection plans, you can perform and document inspections via incoming, intermediate and final inspections. Furthermore, the quality assurance module gives you the possibility to create a supplier evaluation taking into account the performed quality inspection.

#### Note

The use of this module can be set up only for storage locations that do not work with controlled putaway and picking. (*Field "Controlled storage and picking" in the storage location card*).

#### Note

The module does not support project related procurement. I.e. goods, which are procured in connection with a project number, do not trigger test orders. The background is that in the context of the project procurement the receipt is debited directly as project consumption / project sales. As a result, there is no stock in the system that can be inspected in the inspection order.

### Establishment

#### Quality assurance facility

Before you can use the QM quality assurance module in Dynamics 365 Business Central, you must go to QM - Quality Assurance > Administration > Quality Assurance Setup make basic settings.

## Inforegister General

Field	Description
Print exams automatically	This is used to specify whether a test order is to be printed out directly when it is created.
Do not show in availability	Use this field to control whether item stocks that are in check should not be considered as "Available" in the availability check. This affects the availability check in the sales document or stock transfer order, as well as the display in the "Sales line details" info box.
Envelope Book Sheet Template Name	<p>You define the stock transfers to and from the QA test storage bin that are carried out in the background using a separate article ledger sheet template of the type Stock transfer.</p> <p><b>Note:</b> In the background, the system automatically uses the article book. sheet name "QK (Auto)". Because of this, no book. sheet name with the same name may be created in the system.</p>
Obligation to check for release	If the inspection requirement for release is set to "Yes", all specified inspections must be recorded in accordance with the number of samples in the inspection results matrix or in the inspection data when an inspection order is released. If the inspection obligation is set up with "No", a finding can also be set without recording inspection data.
Testing with locked test equipment	<p>This field is used to define how to proceed with locked test equipment in test orders. The following options are available:</p> <p><b>-&gt; Display warning and decide with special release</b> If the test equipment in the test order is not exchanged for a released test equipment, the test order can only be released via a special release.</p> <p><b>-&gt; Display faults and replace test equipment</b> If the test equipment in the test order is not exchanged for a released test equipment, the test order cannot be released, not even via a special release.</p>
Minor error factor Main error factor Critical error factor	These fields are used to set up the weighting factor of the defect classes for the calculation of the quality score. The sum of the factors must be 100.

## Inforegister numbering

Field	Description
Test order numbers, Test plan numbers, Test equipment numbers, Test Equipment Group Numbers, Sample numbers	The number series for the documents and master data are set up in these fields.

## Inforegister Vendor Rating Connection

If the module for vendor rating (KUMAVISION Vendor Rating Management) is installed in parallel to the Quality Management module, these two applications can be set up in such a way that entries from the quality management automatically flow into the vendor rating. The communication between both modules is done via an API connection, where an authentication of the API calls is generally done via a service-to-service authentication. Only in an on-premise environment can a basic authentication by means of user ID and web service access key take place as an alternative.

## Note

For general setup of Service-to-Service (S2S) authentication for API access, please refer to [Microsoft Dynamics 365 Business Central standard guidance](#). However, when assigning user permissions in the Business Central page (*Azure Active Directory Application card*), additively add the user permission set **KVSVRMSETUP!**

To activate the interface to the Vendor Rating Management, the following settings must be made:

Field	Description
Vendor Rating Authentication Type	<i>This field is only visible for On-Premise environments!</i> Using this field you can decide, whether to use <b>OAuth2</b> -Authentication or <b>Basic Authentication</b> for API connection.
Vendor Rating User ID	<i>This field is only visible for On-Premise environments!</i> This field must be used to enter the user through which the API interface passes data to the vendor rating module.
Password	<i>This field is only visible for On-Premise environments!</i> The password of the selected user must be entered in this field to secure the connection via the API interface.
Vendor Rating AAD-Application	<i>This field is only visible in SaaS environments or when selecting the Vendor Rating Authentication Type OAuth2!</i> In this field, select the "Azure Active Directory Application" to be used for authentication against the API.
Vendor Rating Connection Client Secret	<i>This field is only visible in SaaS environments or when selecting Supplier Rating Authentication Type OAuth2!</i> The "secret key" (Client Secret) of the Azure AD App registration must be stored in this field.
Use Vendor Rating Connection	<p>This field controls whether to establish an API connection to the Vendor Rating Management (VRM) module. This field contains the following options:</p> <p><b>Undecided:</b> No decision has been made yet whether to establish a connection between the QM module and the VRM module. This value is the initial value of the setup.</p> <p><b>Yes:</b> A connection between the QM and VRM module is to be established. In this case, the other fields in the interface setup must be filled in.</p> <p><b>No:</b> The interface between the QM and VRM modules should not be used.</p>
Vendor Rating Type Code	<p>This field is used to set the evaluation type from the supplier evaluation module for quality evaluation.</p> <p>The "Assist" button for this field can be used to reference an existing evaluation type of the "Quality" evaluation group. If no corresponding evaluation type exists yet, it will be created automatically.</p> <p><b>Notice:</b> If there is not yet an evaluation type for the quality evaluation, it must be created via the Assist button. A corresponding evaluation type for quality is necessary to pass the information between the QM module and the VRM module.</p>



### Action "Test vendor rating API connection"

This action can be used to test the API connection to the Vendor Rating Management (VRM) module. The system issues a corresponding message here whether the connection could be established or not.

#### Functionality

Through the API interface between the Quality Management (QM) and Vendor Rating (VRM) modules, vendor rating items are formed based on the inspection orders, which can be processed by the vendor rating functionality.

The basis for the supplier evaluation item is the "Quality score" field in the header of the inspection order. This quality score reflects the points that are written to the supplier evaluation item when the inspection order is completed.

#### Note

As part of the interface between the modules for quality management and supplier evaluation, a supplier evaluation item is generated for each inspection order.

The interface to the Vendor Evaluation module (VRM) only takes into account the inspection order types that have a reference to the vendor. These are the following inspection order types:

- Receipt check vendor
- Intermediate examination for external work
- Final inspection (with external work as the last operation)

#### Storage locations

For those storage locations in which quality inspections are to be carried out, the necessary facilities must be provided. The basic prerequisite for storage locations with quality inspection is the setup and use of storage bins at the storage location. It is therefore only possible to set up the fields in the Quality Assurance tab if the Storage bin necessary field is set up with Yes in the Logistics tab.

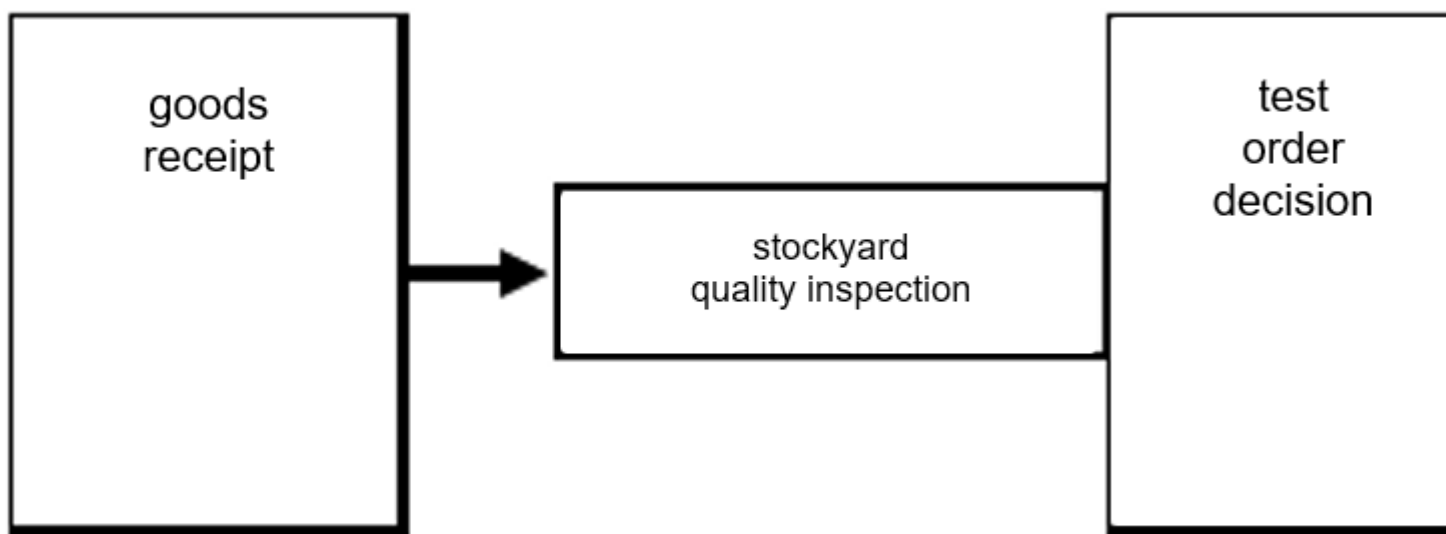
## Storage Location Setup in Inforegister Quality Assurance for Single-Level Logistics

Field	Description
Perform quality inspection from purchasing	This field indicates whether incoming inspection for vendors is possible in the storage location.
Perform quality check out of sale	This field indicates whether incoming inspection for customers is possible in the storage location.
Perform quality inspection from production	This field specifies whether intermediate and final inspections are possible in the storage location during production.
Perform manual inspection	This field specifies whether the storage location allows manual inspections.
Storage bin quality inspection	<p>Enter the storage bin for quality inspection in this field. An automatic posting is made to this storage bin for processes that are relevant for inspection.</p> <ul style="list-style-type: none"> <li>- Goods receipt (<i>purchase / sales</i>)</li> <li>- Actual message from production</li> <li>- Manual inspection</li> </ul> <p>On completion of the inspection, the debit from this storage bin.</p>
Blocked storage location	<p>In this field, enter the storage location to which blocked goods are to be automatically transferred during inspections. This storage location can be different from the storage location to be set up at the moment</p> <p>.</p>
Blocked storage bin	Enter the storage bin for the blocked storage bin in this field.
Write off destroyed items	Select Yes to set up this field if you want to write off destroyed items directly in a check. In this case, the fields Storage location destroyed articles and Storage location destroyed articles will remain empty.
storage location destroyed articles	In this field, enter the storage location to which goods destroyed during an inspection are to be automatically transferred. This storage location can differ from the storage location to be set up at the moment.

**Storage Location Setup in Inforegister Quality Assurance for Two-Stage Logistics**

If the two-step logistics for goods receipt is set up in the storage location, i.e. if the fields Goods receipt required and Putaway required in the Logistics tab are set to Yes, additional facilities must be taken into account and are necessary.

It is mandatory that the storage location to be set up is also used as storage location blocked storage and storage location destroyed articles. In the case of an inspection decision in a goods receipt inspection, the stock transfer from the inspection storage bin initially takes place in total to the goods receipt storage bin (inspected). Depending on the inspection result, the stock placement from this storage bin takes place to the storage bin blocked storage and storage bin destroyed articles as well as to the putaway bin for the released inspection quantity via a putaway document.



For storage locations with two-tier logistics in goods receipt, the following fields must also be set up in the Quality Assurance tab:

Field	Description
Goods receipt storage bin (checked)	<p>This field defines the storage bin to which the items in incoming inspection are automatically transferred after the inspection decision.</p> <p>This transfer takes place independently of the test decision and the quantities to be released, blocked and destroyed. From this storage place subsequently takes place the storage:</p> <ul style="list-style-type: none"> <li>-&gt; Quantity to be released Goods storage bins-&gt;</li> <li>-&gt; Quantity to be blocked-&gt;Storage place Blocking storage according to facility</li> <li>-&gt; Quantity-&gt;destroyed Storage location destroyed articles acc. to facility</li> </ul>
Automatic storage	<p>This field is used to set up which actions are to be preset in the dialog mask in the event of an inspection decision:</p> <p>Option value &lt;empty&gt; In the dialog mask in the event of an inspection decision, the two values ...</p> <ul style="list-style-type: none"> <li>- Create storage = No</li> <li>- Display document = No</li> </ul> <p>are displayed. These can be set in the dialog mask if necessary on Yes</p> <p>.</p> <p>Option value "Create": If this value is set, an option value must be set in the field Autom. storage at Test result. In the dialog mask are the two values ...</p> <ul style="list-style-type: none"> <li>- Create storage = Yes</li> <li>- Register storage = No</li> </ul> <p>shown. These can be changed in the dialog mask if necessary</p> <p>.</p> <p>Create &amp; Register option value: An option value must be set in the "Autom. putaway on check result" field so that an option can be selected in this field.</p> <p>For the quantities (<i>Blocked, Destroyed or Blocked &amp; Destroyed</i>) that are set in the "Autom. putaway on check result" field. Putaway on Check Result", this field is used to set up the option on how to proceed with the putaways:</p> <ul style="list-style-type: none"> <li>- Create (<i>A separate putaway will be created for the defined quantities</i>)</li> <li>- Create &amp; Register: (<i>A separate putaway will be created for the defined quantities and registered automatically</i>)</li> </ul>
Automatic storage in case of test result	<p>This option value is empty if the automatic storage is empty. This option value must not be empty if the automatic storage is not empty. This parameter is used to define the quantities for which direct storage lines are created from the test</p>

Field	Description
	decision.
	<b>Option value &lt;empty&gt;</b> A putaway line is automatically created for each of the released, blocked and destroyed quantities
	<b>Option value Locked</b> The automatic putaway is applied only to the quantity to be blocked.
	<b>Option value Destroyed</b> The automatic storage is applied only to the quantity destroyed.
	<b>Option value Locked &amp; Destroyed</b> The automatic storage is applied to lock the quantity and destroy the quantity.

Storage bin type code with the property

Goods	receipt	Outgoing goods	Storage	Picking
Storage bin Quality inspection	YES	NO	NO	NO
Goods receipt storage bin (checked)	YES	NO	NO	NO
Storage place blocking storage	NO	NO	YES	NO (optional YES)
Storage place destroyed items	NO	NO	YES	NO (optional YES)

#### Use of the storage bins for quality assurance in logistics processes

The setup of the storage bins for quality assurance on the storage location map is strongly influenced by the selected logistics level for the storage location. The selected logistics level also determines what the QA process looks like when an item is received. Basically, two types of QA process are distinguished here:

- QA process for no warehouse logistics / single-stage warehouse logistics
- QA process for two-stage warehouse logistics The following sections describe the two QA processes and explain how the QA storage bins are set up and used in each process.

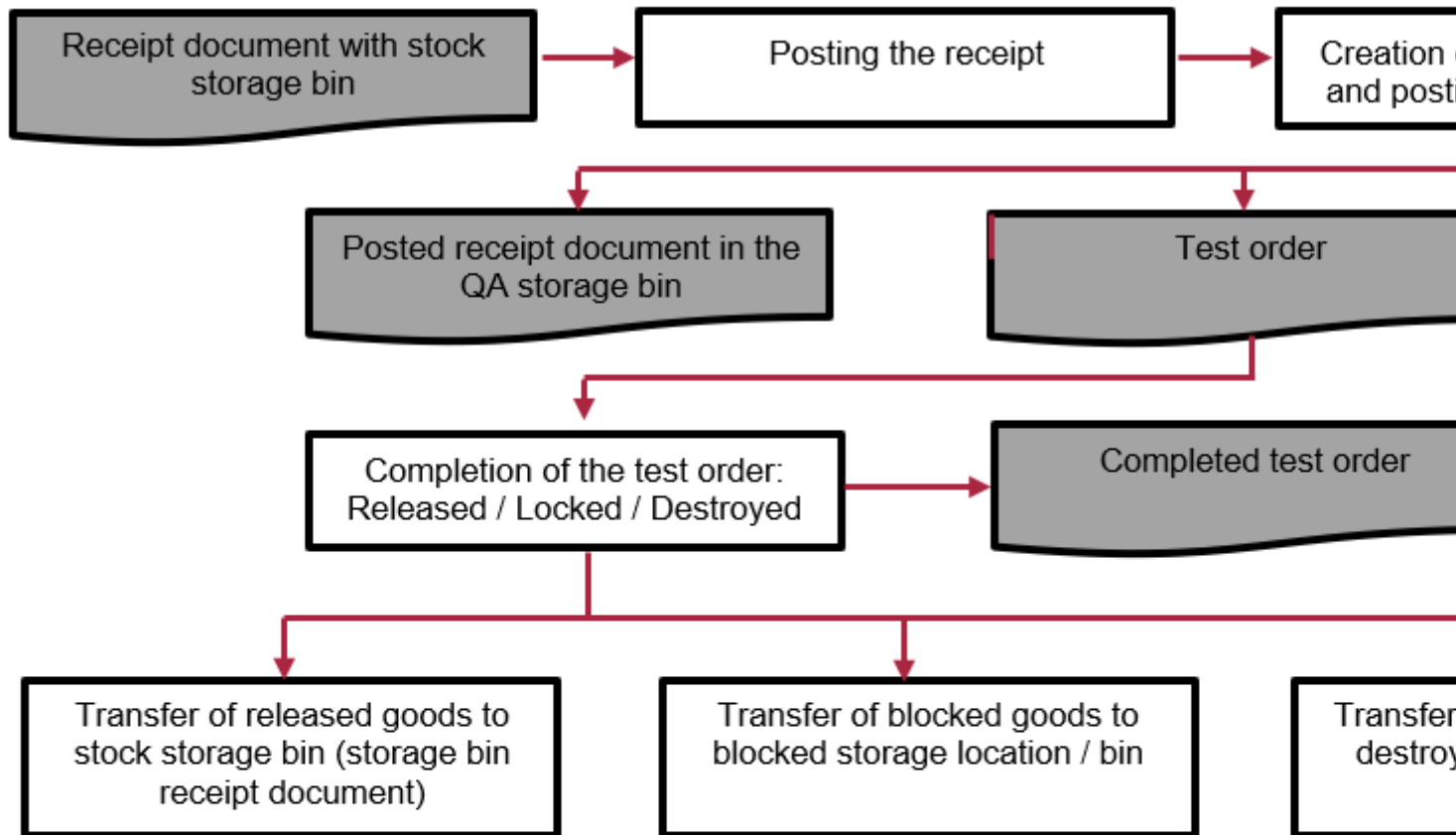
#### QA process for no warehouse logistics / single-stage warehouse logistics

Here we show the setup and use of the QA storage bins, which come into play in the case of single-level logistics, as well as bookings without warehouse logistics.

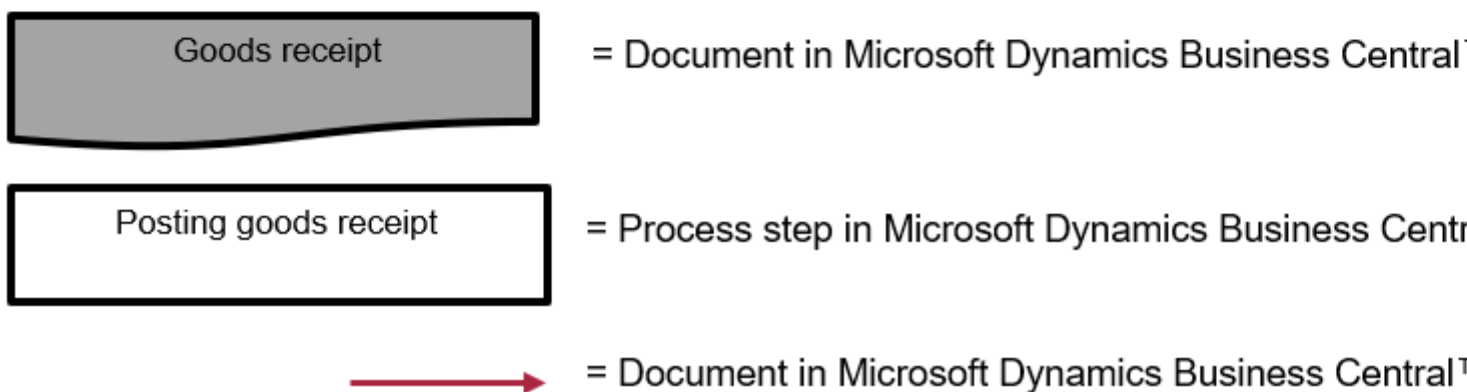
"No warehouse logistics" is defined by not using warehouse documents such as goods receipt, putaway, etc.

"Single-level warehouse logistics" is defined by the fact that only the warehouse documents of the first level are used. In this case, only the goods receipt without putaway and goods issue without picking.

If no warehouse logistics or only single-stage warehouse logistics are used, the receiving process for items that must undergo QA inspection looks like this:



### Legend:



Therefore, the following setup of QA storage bins is recommended for the two storage logistics options mentioned above:

<b>Establishment</b>	<b>Description</b>
Storage bin Quality inspection	A specific storage place within the storage location, which is used only for the inspection of the goods.
Storage location blocking storage	Here it is recommended to determine a separate storage location so that blocked goods do not flow into the stock of the main storage location.
Storage place blocking storage	When using the QM app, even if a separate storage location for blocked goods is used, it is mandatory to specify a corresponding storage location for blocked goods in this storage location.
Storage location destroyed items	Here it is recommended to determine a separate storage location, so that destroyed goods do not flow into the stock of the main storage location. Alternatively, the "Debit destroyed items" option can be used.
Storage place destroyed items	When using the QM module, even if a separate storage location for destroyed goods is used, it is mandatory to specify a corresponding storage location for destroyed goods in this storage location. Alternatively, the "Debit destroyed items" option can be used.

!!! "Note" If no storage logistics is used or only single-level logistics is applied, then the following setup fields of quality assurance must not be used in the storage location map: -Goods receipt storage bin (checked) - Automatic storage system -Autom. storage at test result

!!! "Note" The storage bin for quality inspection must not be used in incoming and outgoing documents. If the storage bins for destroyed items and blocked items are created in the same storage location as the storage bin for quality inspection, they also run into the inventory quantity of the item in this storage location. These storage bins can be used in the inbound and outbound documents. No further inspection is performed for this purpose.

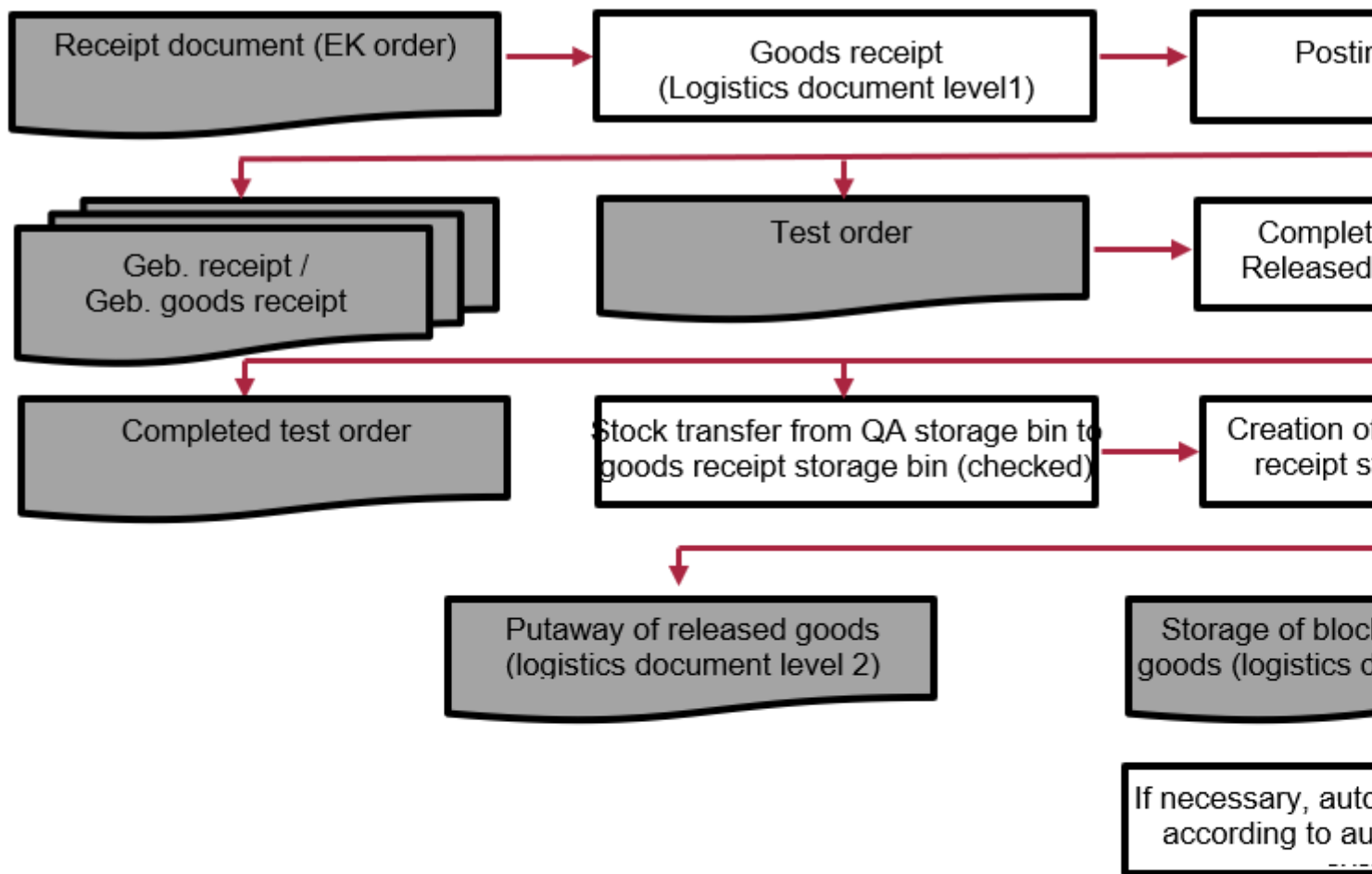
#### QA process for two-stage warehouse logistics

Here we show the setup and use of QA storage bins when using two-tier logistics.

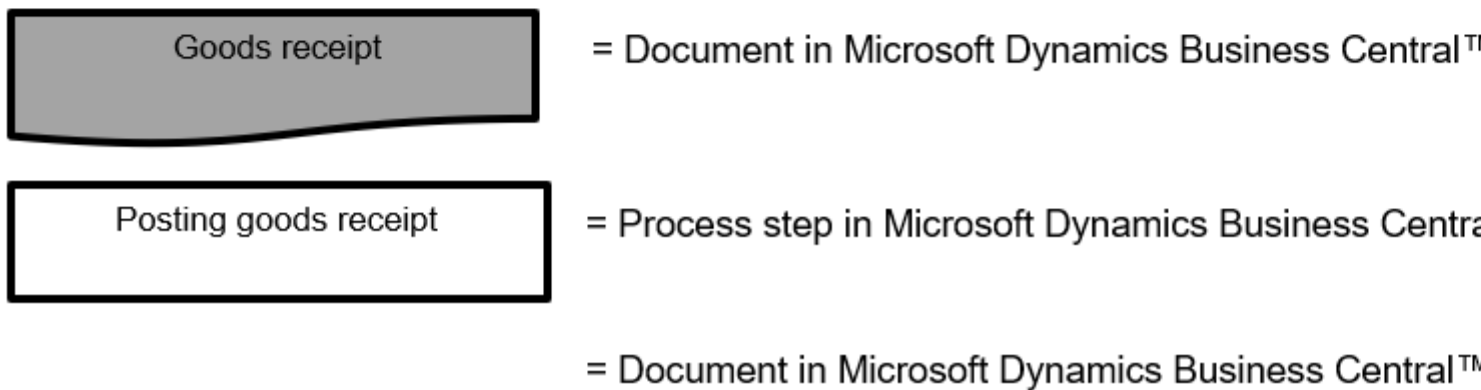
Two-level warehouse logistics is characterized by the fact that both the documents of the first storage level, such as goods receipt and goods issue, are used, and the documents of the second level, such as putaway and picking, are used.

The receiving process for items that need to go through QA inspection is as follows:





### Legend:



### Notes General setup

If the parameters of the QM app are set for a storage location with two-level logistics (See QM setup in the storage location map), all storage bins set there must refer to the same storage location. This is important because the inspected goods from an inspection order can be moved to respective storage bins within the warehouse by means of putaway (logistics document level 2). These include the stock storage bins for released goods, the blocked storage bin for blocked goods, and the destroyed storage bin for destroyed goods.

Furthermore, it is necessary to define the "Goods receipt storage bin (inspected)", as this is the storage bin in which the goods will be transferred after the inspection has been completed and will be ready for withdrawal for corresponding stock transfers.

#### Notes Handling of QA storage bins in logistics documents

The QA storage bins (storage bins for the QA inspection itself, for inspected goods, and for blocked and destroyed goods) are all components of one and the same storage location. However, since these storage bins are not intended to manage available stock, but rather to support the processes in quality assurance, the following restrictions apply to these storage bins in connection with two-level logistics:

##### *"QS" storage bin (field "Storage bin quality check"):*

It is the storage bin where goods are moved for inspection. The goods are checked in this storage bin. This bin must not be used in the logistics documents (putaway, picking, etc.).

##### *"QA checked" storage bin (field "Goods receipt storage bin (checked)"):*

It is a storage yard used as part of two-stage logistics in test orders. The goods from the QA inspection are moved to this storage bin when the inspection is completed. This storage bin is then used as a transit storage bin to store the inspected goods in accordance with the inspection result, in which it serves as a withdrawal storage bin for the stock placements from the inspection order. In connection with logistics documents, this storage bin may only be used for stock placements as a withdrawal bin (take) in order to place the goods into stock storage bins and the blocked/destroyed bin.

##### *"QS Blocked" storage bin (field "Blocked storage bin"):*

It is the storage bin to which the blocked goods are transferred when the inspection order is completed. In connection with logistics documents, this storage bin may only be used in a putaway as a putaway bin (place) if the blocked goods are put away in the blocked storage bin after an inspection order.

##### *"QS Destroyed" storage bin (field "Storage bin destroyed items"):*

It is the storage bin to which the destroyed goods are transferred upon completion of the inspection order. In connection with logistics documents, this storage bin may only be used in a putaway as a putaway bin (place) if the destroyed goods are transferred to the destroyed bin after an inspection order.

These storage bins may also not be used in other logistics documents. They are also not taken into account when creating a picking. On the one hand, these storage bins are excluded from the creation of the picking (picking lines of a picking), on the other hand, these storage bins may also not be used in the putaway lines of a picking as target storage bins.

Although the QA storage bins are not intended for managing the available stock, they are also not excluded from the available stock of the storage location. Therefore, it is important to check the blocked and destroyed stocks from the QA inspections regularly and, if necessary, to remove them to a separate storage location.

#### Notes Management of blocked / destroyed stocks in two-tier logistics.

Stocks in the "Destroyed goods" and "Blocked goods" storage bins should be transferred to a separate storage location using a stock transfer ledger sheet.

This is a manual process. (For this, it is recommended to use the "Get bin contents in stock transfer journal" function). This corrects the stock in the main storage location by removing the unusable stock in the "Blocked" and "Destroyed" storage bins to a separate storage location. Return documents for the blocked goods can then be triggered from this separate storage location. This is not possible in the main warehouse because the QA storage bins are ignored when using two-level logistics in the creation of a pick.

The QA storage bins (including the storage bin for blocked goods and storage bin for destroyed goods) are ignored during picking so that in normal operation only inspected/released goods from the stock storage bins are used during picking.

#### Notes Automatic return creation with two-stage outbound logistics

Automatic returns creation for two-tier logistics in the goods issue area is not supported.

In this case, the stock must be transferred from the blocked storage bin to a separate storage location (the "Get storage bin contents in stock transfer journal" function is recommended for this). A return document can then be created manually from this separate blocked storage location.

The direct creation of a return for the blocked storage bin from a storage location with two-level outbound logistics is not possible, since the goods issue here also requires picking and the blocked storage bin is not taken into account during picking.

#### Notes on the creation of putaways for two-stage logistics

The Quality Management module limits the standard Microsoft Dynamics 365 Business Central functionality for creating putaways.

Putaways for a posted goods receipt can only be created for lines whose goods are not in an open inspection order. You can view this in the posted goods receipt line via the "Quantity to be inspected (base)" and "Open inspection order no." fields.

For goods that are in inspection, putaways are automatically created when the inspection order is completed.

This restriction ensures that goods in inspection are not transferred from the QA storage bin to an inventory storage bin by a separate putaway.

It also prevents the inspection order from not being completed due to a lack of the appropriate stock of goods to create putaways from the inspection order.

In such cases, if a putaway created from the test order is accidentally deleted by the user, the following should be noted:

If the quantity of the posted goods receipt line has been completely checked and there is no longer an open inspection order for this line, a corresponding putaway can be created using the standard functionality for creating putaways. However, it must be taken into account that in this putaway the quantities of the goods are not differentiated according to released goods or blocked goods and are therefore not distributed to the corresponding storage bins. This differentiation must be done manually. If there is still an open inspection order for the posted goods receipt line, because only a partial quantity was released from the inspection, the standard functionality for creating a putaway can only be used when the open inspection order has also been completed.

### Note on working with putaway worksheets

When using putaway worksheets for a storage location, it is possible that a posted goods receipt is displayed during the action "Get logistics document", even if all items in this posted goods receipt have a link to the open inspection order. This is due to the fact that the standard "Get logistics document" functionality takes into account all posted goods receipts whose items have not yet been completely put away. Since a putaway is not created for items subject to inspection until the inspection order is completed, the corresponding posted goods receipt is also displayed in the logistics document overview. However, items from a posted goods receipt that are linked to an "open" inspection order cannot be dragged into the putaway worksheet lines. At this point, a message may appear stating that no putaway worksheet lines could be created. This ensures that for goods in inspection, putaways can only be created by completing the inspection order.

### Report selection

In the "Report selection", the corresponding report must be set up for the respective use (inspections). Report 5483763 - "Inspection order" is available in the QM and can be used for all inspections. Report usages for which customized reports can be created and assigned if required are:

- Incoming inspection
- Intermediate inspection operation
- Intermediate examination external work course
- Final inspection
- Manual test

### Exams facility

#### Test characteristics

Recurring inspection characteristics can be set up via the "Inspection characteristics overview". These inspection characteristics form the basis for creating inspection plan lines. The Code and Description fields identify and describe the inspection characteristic. The Attribute field defines whether the characteristic is to be inspected attributively or whether it is a characteristic with measured values to be recorded.

Field	Description
Code	Assignment of the unique code of the inspection characteristic
Description	The description of the inspection characteristic
Attribute	<p>Setup of the type of inspection characteristic  <b>-&gt; Yes</b></p> <p>For an attributive inspection characteristic, the inspection result is to be recorded as Yes (attribute fulfilled) or No (attribute not fulfilled).  <b>-&gt; No</b></p> <p>A measured value is to be recorded for a non-attributive inspection characteristic</p>

Additional lines with a further description of the inspection characteristic can be created for an inspection characteristic. If an inspection characteristic is specified in an inspection plan line, these additional description

lines of the inspection characteristic are transferred to the inspection plan lines below the selected inspection characteristic.

Via Further options > Navigate > ActionGroup2 > Translations, a translation for the required language codes can be set up for each inspection characteristic. The translations are accessed when an inspection order is printed for a vendor with the corresponding language code.

#### Error category

Error categories can be assigned to the detailed test errors and serve as a grouping element of the test errors. To create a defect category, first call up the "Defect categories" via the user search. Via "New" in the menu ribbon, you can define a new defect category with the help of the table below.

Field	Description
Code	Assignment of the unique code of the error category
Description	The description for the error category

Via Further options > Navigate > Translations, a translation for the required language codes can be set up for each error category. The translations are accessed when a check order is printed for a vendor with the corresponding language code.

#### Test error

When recording the test data of a test order, a defined test defect can be assigned if defects are detected. Test errors are used to evaluate and group the test data. To define the test errors, call up the "Test errors" via the user search. Via "New" in the menu ribbon, you can define a new test error with the aid of the table below.

Field	Description
Code	Assignment of the unique code of the test error
Description	The description of the test error
Error category code	Assignment of a defect category as grouping element for test defects

Via Further options > Navigate > Translations, a translation for the required language codes can be set up for each check error. The translations are accessed when a check order is printed for a vendor with the corresponding language code.

**Test Equipment Group**

A test equipment group can be assigned to a test equipment. To define a test equipment group, call up the "Test equipment group overview" via the user search. Via "New" in the menu ribbon, you can create a new test equipment group using the table below.

<b>Field</b>	<b>Description</b>
No.	Assignment of the unique number of the test equipment group. The number series for the test equipment groups must be set up in the quality assurance facility.
Description	The description of the test equipment group. The value from Description is automatically transferred to the Search term field.
Description 2	The description 2 to the test equipment group.
Search Keyword	The search term for the test equipment group
Built on Built by	These non-editable fields show when and by which user the record was created.
Modified on Modified	These non-editable fields show when and by which user the record was last modified.

Via the test equipment group list, remarks can be stored for a test equipment group via further options > Navigate > Test equipment groups > Remarks.

**Sampling regulations**

Both standardized and freely defined regulations can be set up as sampling regulations. A sampling regulation is a basic element of the inspection plan. For each inspection plan, 3 sampling regulations must be assigned: \* Sampling rule Code (Normal) \* Sampling requirement code (Tightened)  
-> Sampling rule Code (reduced)

Therefore, it makes sense to set up three sampling rules with the respective inspection severity for a basic sampling rule.

To set up the sampling regulations, call up the sampling regulation overview via the user search. You can define a new sampling regulation via "New" in the menu ribbon.

Sampling regulations consist of a header (info tab "General") and the sampling regulation lines (info tab "Lines").

## Inforegister General

Field	Description
Code	Assignment of the unique code of the sample. The number series for the samples is to be set up in the quality assurance facility.
Description	The description to the sampling rule.
Test severity	<p>This field is used to set up the inspection severity of the sampling requirement. Possible option values are:</p> <ul style="list-style-type: none"> <li>• Normal</li> <li>• Reduces</li> <li>• Tightened</li> </ul> <p>In a goods receipt inspection, a skip instruction can be set up for an inspection plan. This is used to dynamically determine the inspection severity. Therefore, it can make sense to set up three sampling instructions for a basic sample such as AQL 25 II:</p> <ul style="list-style-type: none"> <li>• AQL 0.25-II normal test</li> <li>• AQL 0.25-II reduced test</li> <li>• AQL 0.25-II tightened test</li> </ul>
Skip lot number	The Skip lot number field is used to specify how many tests are to be skipped after a test has been performed and ended with a "Release" test decision

## Inforegister lines

Field	Description
From batch size	This field is used to set up the lot size (delivery or production quantity) for which the subsequent parameters are used.
Sample size in %	This field specifies what percentage of the delivery or production quantity is used for sampling. The system calculates the
Sample size	This field is to be filled with a fixed value that will be used as the sample size. If this field is filled, no entries are allowed in the Sample size % and Skip item count fields.
Skip item quantity	This field is used to control how many test items are to be skipped within the sample. If every 5 <sup>th</sup> part is to be inspected, 4 parts of the batch size are to be skipped. In this case, the skip item number must be set to 4.
Assumption %	The acceptance number is the maximum number of defective specimens in the sample at which the inspection may be released. This value can be specified as a % value in relation to the sample size. This value is purely informative. It is not checked by the system in the inspection decision.
Acceptance number	The acceptance number is the maximum number of defective specimens in the sample at which the inspection may be released. As an alternative to the acceptance %, an absolute acceptance number can also be set up. This value is purely informative in the inspection order. It is not checked by the system in the inspection decision.

**Jump instructions**

The jump instructions can be used to set up dynamic modification of the sample size for goods receipt inspections. The jump instructions can be set up ...

**1) ... for a specific item and vendor**

The Article no. field is filled with the respective article no. The Vendor no. field is filled to the respective vendor

**2) ... for a specific vendor - regardless of the item.**

The Item no. field remains empty The Vendor no. field is filled to the respective vendor

**3) ... for a specific item - regardless of the respective vendor.**

The Article no. field is filled with the respective article no. The Vendor No. field remains empty

**4) ... for generally valid for all articles and creditors**

The fields Item no. and Vendor no. remain empty

The system checks in the sequence listed above whether a jump instruction is set up for the combination of article and vendor and accesses the first set up found. According to the jump instruction found and the previous inspection decisions in the goods receipt inspections, the current goods receipt inspection is created with the corresponding sample size. The history of the goods receipt inspections can be found in the skip lot history overview.

In the jump instructions, the test decisions "Release" and "Special release" are treated in the same way.

When an incoming inspection is first created for a specific supplier and specific item, an incoming inspection is always created with the Normal sampling rule.



To define the jump instructions, call them up via the user search. Via "New" in the menu ribbon you can set up a new jump instruction with the help of the table below.

Field	Description
Item no.	Enter the article no. for which a jump instruction is to be made in this field. If the field remains empty, the condition applies to all articles.
Creditor no.	Enter a vendor in this field for which a jump instruction is to be made. If the field remains empty, the condition applies to all vendors
Tightened to Normal	Enter in this field the number after how many consecutive released inspections the sampling requirement should change from Tightened to Normal.
Normal to Reduced	Enter in this field the number after how many consecutive released inspections the sampling rule should change from Normal to Reduced.
Reduced to Normal	Enter in this field after how many consecutive blocked inspections the sampling rule should change from Normal to Reduced.
Normal to Tightened	Enter in this field after how many consecutive blocked inspections the sampling rule should change from Normal to Tightened.
Max, number of reduced tests	Enter in this field the maximum number of inspections with reduced sampling requirement before an inspection with the normal sampling requirement is to be created again. To be able to use inspection orders with reduced sample size, a value $\neq 0$ must be set up in this field.

#### Tolerance classes

The tolerance classes are used to create the individual dimensional categories for the free size tolerances. Common tolerance classes are: \* f (fine) \* m (medium) \* c (coarse) \* v (very coarse)

To define the tolerance classes, call them up via the user search. Via "New" in the menu ribbon you can create a new tolerance class with the help of the table below.

Field	Description
Code	The unique code of the tolerance class is created in this field
Description	The description of the tolerance class is created in this field

#### Tolerances of free dimensions

Via the free size tolerances, the free size tolerance  $\pm$  is set up for the respective tolerance class and the nominal dimension range above ... / to ... . Tolerances are used in inspection plan lines. The minimum nominal value and the maximum nominal value of the inspection characteristic are automatically calculated from the nominal value of the inspection characteristic and the tolerance of the inspection characteristic. Nominal value of the inspection characteristic.

To set up the tolerance, call up the "Tolerances" via the user search. Via "New" in the menu ribbon you can define a new free size tolerance with the help of the table below.

Field	Description
Tolerance class Code	This field is used to specify the tolerance class code.
Nominal dimension above	This field indicates the lower nominal dimension
Until nominal dimension	This field indicates the upper nominal dimension
Tolerance $\pm$	In this field, the permissible tolerance of the tolerance class and the nominal dimension range is specified

The table for limit dimensions for linear dimensions ...

Limit dimensions in mm for nominal dimension range in mm

Tolerance class	over 0.5 to 3	over 3 to 6	over 6 till 30	over 30 till 120	over 120 till 400	over 400 till 1000	over 1000 till 2000	over 2000 till 4000	over 4000 till 8000
f (fine)	$\pm$ 0,05	$\pm$ 0,05	$\pm$ 0,10	$\pm$ 0,15	$\pm$ 0,2	$\pm$ 0,3	$\pm$ 0,5	-	-
m (medium)	$\pm$ 0,10	$\pm$ 0,10	$\pm$ 0,20	$\pm$ 0,30	$\pm$ 0,5	$\pm$ 0,8	$\pm$ 1,2	$\pm$ 2	$\pm$ 3
c (coarse)	$\pm$ 0,20	$\pm$ 0,30	$\pm$ 0,50	$\pm$ 0,80	$\pm$ 1,2	$\pm$ 2,0	$\pm$ 3,0	$\pm$ 4	$\pm$ 5

... are to be set up in the table of free size tolerances as follows as an example:

#### Fit tolerances

To set up the fit tolerances, call them up via the user search. Fit tolerances are used in inspection plan lines. The nominal value of the inspection characteristic and the fit tolerance of the inspection characteristic automatically result in the min. nominal value and the max. nominal value of the inspection characteristic. Nominal value of the inspection characteristic.

Fit tolerances can only be created with the tolerance abbreviations for outer dimensions (lower case) and inner dimensions (upper case) if a distinction between upper and lower case is technically activated in the database for primary key fields. If this is not the case, no distinction is made between a fit tolerance h13 and H13 and the creation of the second fit tolerance leads to an error:

"The record already exists in the Fit Tolerance table. Identifying fields and values: Fit='H13'.

In such a constellation, the fit tolerances must be created with unique code, such as:

H13 (A) ... for outside dimension fit tolerance H13 (I) ... for inside dimension fit tolerance

<b>Field</b>	<b>Description</b>
Fit	This field is used to specify the fit code
Nominal dimension above	This field indicates the lower nominal dimension
Until nominal dimension	This field indicates the upper nominal dimension
Lower tolerance in $\mu\text{m}$	In this field, the lower tolerance of the fit and nominal dimension range is specified. The value must be specified as a negative value
Upper tolerance in $\mu\text{m}$	In this field, the upper tolerance of the fit and nominal dimension range is specified. The value must be specified as a positive value

The table of fit tolerances (example: h6) must be created as follows

External dimensions (shafts): Limiting dimensions in  $\mu\text{m}$  (1  $\mu\text{m}$  = 0.001 mm)

<b>Nominal dimension range in mm</b>	<b>f6</b>	<b>f7</b>	<b>g6</b>	<b>h3</b>	<b>h4</b>	<b>h5</b>	<b>h6</b>	<b>h8</b>	<b>h9</b>	<b>h15</b>
from 1	-6	-6	-2	0	0	0	0	0	0	0
Until 3	-12	-16	-8	-2	-3	-4 -6	-14	-25	-400	
over 3	-10	-10	-4	0	0	0	0	0	0	0
to 6	-18	-22	-12	-2,5	-4	-5	-8	-18	-30	-480
over 6	-13	-13	-5	0	0	0	0	0	0	0
Until 10	-22	-28	-14	-2,5	-4	-6	-9	-22	-36	-580
over 10	-16	-16	-6	0	0	0	0	0	0	0
Until 18	-27	-34	-17	-3	-5	-8	-11	-27	-43	-700
over 18	-20	-20	-7	0	0	0	0	0	0	0
Until 30	-33	-41	-20	-4	-6	-9	-13	-33	-52	-840
over 30	-25	-25	-9	0	0	0	0	0	0	0
up to 50	-41	-50	-25	-4	-7	-11		-16	-39	-62
over 50	-30	-30	-10	0	0	0	0	0	0	0
up to 80	-49	-60	-29	-5	-8	-13	-19	-46	-74	-1200
over 80	-36	-36	-12	0	0	0	0	0	0	0
up to 120	-58	-71	-34	-6	-10	-15	-22	-54	-87	-1400

Example setup of the fit tolerance h6

### Testing equipment

Call up the "Test equipment overview" via the user search to access the test equipment list. Test equipment is the equipment that is used in the test to determine measured values. A piece of test equipment can be assigned to the respective test plan line with which the characteristic in question is to be measured. Within the inspection plans and inspection orders, a check is performed to determine whether the specified test equipment has the status Released or Not subject to calibration in order to be used in the inspection line. However, there is no check whether the technical specifications in the test equipment card, such as unit code, reading accuracy or measuring range, match the characteristic and value range to be measured.

**Test equipment card**

The TEST EQUIPMENT CARD consists of the GENERAL, USE, CALIBRATION and CALIBRATION LINES tabs. These are explained in more detail below.

**Inforegister General**

In the GENERAL INFO tab, enter the master data of the test equipment.

Field	Description
No.	This field contains the unique number of the test equipment. The number series for test equipment must be set up in the quality assurance facility.
Description	The description of the test equipment
Units code	This field is used to enter which unit of measurement the test equipment measures. This field accesses the Units table. If necessary, suitable units must first be created in this master data table.
Test equipment group no.	This field is used to set up the assignment of the test equipment to a test equipment group.
Reading accuracy	The smallest distinguishable reading value of the test equipment is entered in this field.
Measuring range	The measuring range of the test equipment is entered in this field.
Search Keyword	This field contains the search term for alternative selection next to the number. The entry in the Description field appears here as the default.
Manufacturer no.	The manufacturer no. of the test equipment is entered in this field.
Serial no.	The serial number of the test equipment is entered in this field
Date of receipt	The date of receipt of the test equipment is entered in this field
Status	<p>This field displays the current status of the test equipment. The option values for Status are:</p> <p><b>Locked</b></p> <p>Locked test equipment cannot be used in the test order line or can only be used to a limited extent. If necessary, the test equipment specified in the test plan must be replaced in the test order by an unlocked test equipment. See also Quality assurance setup, Inspection with locked test equipment field.</p> <p><b>Under test</b></p> <p>This status indicates that the gage is currently in inspection. When a new piece of test equipment is created, the status is automatically In test.</p> <p><b>Release</b></p> <p>This status indicates that the test equipment can be used for tests. In this status, the test equipment cannot be edited</p> <p><b>Not subject to calibration</b></p> <p>This status indicates that the test equipment does not need to be calibrated. It is available for quality tests.</p>
Created on	

Field	Description
	This field is filled automatically. It indicates when this test equipment was created.
Created by	This field is filled automatically. It indicates which user has created this test equipment.
Corrected on	This field is filled automatically. It indicates when this test equipment was last processed.
Corrected from	This field is filled automatically. It indicates which user last processed this test equipment.
Number of test plan lines	This field shows how many inspection plan lines the gage is assigned to. If the Released status of a piece of test equipment must be reset, the affected test plans can be displayed via the drilldown of this field and opened for revision in order to exchange the current test equipment for a released piece of test equipment.
Number of open test order lines	This field shows how many open test order lines the gage is assigned to. If the Released status of a piece of test equipment has to be reset, the affected test orders can be displayed via the drill-down of this field and opened for revision in order to exchange the current test equipment for a released piece of test equipment.

**Info register Use**

In the USAGE info tab, you can additionally specify which persons are responsible for the test equipment and to which department of the company the test equipment is assigned.

Field	Description
Responsible	This field can be used to assign an employee responsible for this test equipment from the Employees table.
Deputy	This field can be used to assign a deputy responsible for this test equipment from the Employees table.
Department code	This field can be used to assign a department from the Departments table



## Inforegister Calibration

In the Calibration tab, you can store the regulation, location, cycle, etc. according to which the calibration takes place.

Field	Description
Calibration specification	A calibration specification can be entered in this field.
Calibration location	<p>This option value is used to set up the calibration location. Option values are:</p> <p><b>&lt;empty&gt;</b> Calibration location is not defined or the test equipment does not require calibration</p> <p><b>Internal</b> Calibration takes place in the company</p> <p><b>External</b> The calibration takes place outside the company. With this radio button a vendor can be entered in the following field</p>
Calibration Vendor no.	If the calibration location is External, the vendor who performs the calibration of the test equipment as a service provider can be entered in this field.
Calibration cycle	This field is used to set up the calibration cycle using a date formula.
Next calibration date	This field is calculated automatically and is not editable. After the completion of a calibration, the next calibration date is calculated based on the calibration cycle.

## Inforegister Calibration Lines

The calibrations performed are documented in the calibration lines. The calibration lines are created automatically from the calibration specifications when a new calibration is created. See Calibrating test equipment.

Right-click in the Calibration Date column heading to expand or collapse all rows. Click on a Calibration Date value to collapse or expand just those calibration rows.

Field	Description
Calibration date	This field is filled with the current date when the calibration was created.
Calibration type	This field contains the measured variable that is to be calibrated.
Feature	This field describes the calibration type.
Attribute	This field indicates whether the characteristic is qualitative or not.
All right	Check this field if the actual value is within the setpoint specifications.
Set point	This field contains the nominal value if it is a quantitative characteristic.
Min. set point	This field contains the smallest permissible measurement if it is a quantitative characteristic.
Max. Set point	This field contains the largest permissible measurement if it is a quantitative characteristic.
Actual value	In this field you enter the actual value for calibration.
Units code	This field contains the unit of the measurand.

#### Test equipment Remarks and translations

Additional data can be maintained via the menu ribbon using Further options > Associated > Test equipment:

#### Comments

This form can be used to record internal remarks about a piece of test equipment

#### Translations

In this form, a translation for the required language codes can be set up for each piece of test equipment. The translations are accessed when an inspection order is printed for a vendor with the corresponding language code.

#### Calibrate test equipment

The module enables you to schedule necessary calibrations and to record and thus document calibrations that have been performed.

#### Note

When you create a new piece of test equipment that requires calibration, you should record an initial calibration in order to have the next calibration date calculated after the test equipment has been released.

**Create calibration presets**

Before you can document a calibration for a piece of test equipment, you must enter calibration specifications. To do this, go to the Calibration specifications call in the test equipment CARD IN the menu ribbon. In the CALIBRATION SPECIFICATIONS form that opens, you can enter the measured quantities and conditions to be inspected for the test equipment. The following table describes the fields of the CALIBRATION SPECIFICATIONS FORM.

<b>Field</b>	<b>Description</b>
Calibration type	In this field you define the method of calibration.
Feature	In this field you define the characteristic to be checked
Attribute	If the characteristic is to be tested purely attributively, mark the line with Yes. If, on the other hand, a measured value is to be recorded for this characteristic during calibration, mark this line No.
Set point	If the characteristic is not to be assessed attributively, the nominal value of the calibration specification is specified in this field.
Min. set point	If the characteristic is not to be assessed attributively, the minimum target value of the calibration specification up to which the result is OK is specified in this field.
Max. Set point	If the characteristic is not to be assessed attributively, the maximum target value of the calibration specification up to which the result is OK is specified in this field.
Units code	The unit code of the characteristic to be assessed is entered in this field

**Document calibration**

To perform a new calibration, you must first set the status of the test equipment to "In test". Note that test equipment with the status "In test" cannot be used in test orders, or can only be used to a limited extent.

A new calibration is created via the "Create new calibration" function. Here, the current calibration specifications are copied into the calibration lines. The working date is used as the calibration date. The calibration date can be changed manually if required.

For calibration lines to be measured, enter the respective measured value in the Actual value field. If the actual value is within the limits specified in the calibration specification, Min. Setpoint, the indicator OK is automatically set. No actual value can be entered for attributive calibration lines. In these lines, the OK indicator must be set manually.

Once all calibration lines are acquired, the overall result must be set on the calibration date line.

Finally, the status of the test equipment must be set. If all lines including the overall result line are marked with OK, the status of the test equipment can be set to Released. By setting the status, the next calibration date is automatically calculated using the calibration date of the calibration line and the date formula from the Calibration cycle field.

If not all lines are marked with OK, the status of the test equipment must be set to Locked.

### Copy test equipment

To create similar test equipment, an existing test equipment can be used as a copy template. Proceed as follows when copying a piece of test equipment:

First create a new empty data set. Then call up the Copy from function from the menu ribbon of the test equipment card. Select the test equipment that you want to use as a template from the test equipment overview that opens. Confirm the selection with OK. The copy function copies all fields from the test equipment selected as the source as well as the calibration specifications. The Next calibration date field is also copied. If you create a new gage that requires calibration, you should record an initial calibration in order to have the next calibration date calculated after the gage has been released.

### Test plans

Call up the "Test plan overview" via the user search to access the test plan list. The test plan is the basis from which test orders are created. The test plan contains the parameters relevant for the test order. The characteristics to be inspected are also defined in the inspection plan. Which inspection plan is to be used in which process by the system is defined in the inspection plan usage.

Via "New" in the menu ribbon you can define a new test plan using the tables below.

When a new inspection plan is created, it initially receives the status New. The status can be changed to In development, Certified or Expired using the functions in the test order header menu. Only with the status Certified can an inspection plan be used as a default for creating inspection orders. In the Certified status, no changes can be made in an inspection plan. To change a certified inspection plan, the status must be reset to In development. Changes are also possible in the New or Expired status.

## Create test plans

### Inforegister General

In the GENERAL info tab you will find general information such as description, status and version.

Field	Description
No.	This field contains the unique number of the test plan. The number series for test plans must be set up in the quality assurance facility.
Description Description 2	A description of the test plan can be set up in these fields. The description is transferred to the test order.
Test type	If the test plan includes destructive tests, select the Destructive option value for the test type. This option value is transferred to the inspection order. Only in the case of inspection orders with the Destructive inspection type is it possible to specify a destroyed quantity in the inspection and to transfer or clear it during the inspection.
Search Keyword	You can use the Search term field to search for a specific test plan whose test plan no. you do not have present. The entry from the Description field appears as the default.
Drawing	This field can be used to import a file, such as a drawing, for the item to be inspected. Unlike file links, the specified file is imported into the inspection plan. The file is transferred to the inspection order.
Status	<p>This option value defines the status of the test plan</p> <p><b>New</b></p> <p>This status is set automatically when a new test plan is created. With this status, changes can be made in the test plan.</p> <p><b>In development</b></p> <p>This status is set via the Reset status function. With this status, changes can be made in the test plan.</p> <p><b>Certified</b></p> <p>This status is set via the Certify function. With this status, no changes can be made in the inspection plan. Only with this status can inspection orders be created from the inspection plan.</p> <p><b>Expired</b></p> <p>This status is set via the Exit function. This status indicates that the test plan has expired and is no longer used for test orders.</p>
Version numbers	A test plan can be versioned. If this is intended, the number series for the version numbers must be stored in this field. For more information on versioning the test plan, please refer to the corresponding chapter.
Active version	In this field you can see the active certified version of the test plan depending on the working date. If you have not created a certified version, this field remains empty.

**Inforegister lines**

The Lines info tab lists the characteristics to be inspected with detailed information such as description, inspection equipment, nominal values and inspection notes, etc.

Field	Description
Position	An item number must be entered in this code field. The way you assign position numbers is up to you. This field is mandatory for the certification of an inspection plan.
Inspection feature code	<p>The inspection characteristic to be inspected in the inspection order must be entered in this field. The Lookup button can be used to select an inspection characteristic from the inspection characteristic overview. After selection, the description and the value of the Attribute field are transferred to the inspection plan lines.</p> <p>For certification of an inspection plan, there must be at least one line with inspection characteristic code.</p>
Attribute	After selecting the inspection characteristic code, the Attribute Yes/No indicator is taken from the inspection characteristic. The indicator can be changed in the inspection plan line.
Description	After selecting the inspection characteristic code, the description of the inspection characteristic is transferred to the inspection plan line. The description can be changed in the inspection plan line.
Test equipment groups No.	In this field, a test equipment group can be selected from the test equipment group overview using the Lookup button. The use of a test equipment group no. is not mandatory in the test plan line and in the test order.
Test equipment no.	In this field, a test equipment can be selected via the Lookup button. All test equipment within the test equipment group specified in the previous field is displayed here. If you have not entered a test equipment group, all available test equipment that has been created without a test equipment group no. will be displayed via the lookup button. The use of a test equipment no. is not mandatory in the test plan line and in the test order.
Test equipment designation	After selecting the test equipment no., the description is automatically transferred to this field. You can change the description individually.
Manual free size tolerance class	Here you can select the free size tolerance class from the previously set tolerance classes via the Lookup button. The minimum setpoint value and the maximum setpoint value are then automatically calculated from the tolerance class and the setpoint value to be specified for the characteristic. Nominal value. Only one free size tolerance class or one fit can be specified in the line.
Fit	Here you can select a previously set up fit via the Assist button. The min. setpoint and the max. setpoint are then automatically calculated via the fit and the setpoint to be specified for the characteristic. Target value. You can only ever enter either a free size tolerance class or a fit in the line.
Min. set point	If the inspection position has a quantitative size, then you can enter a value for the smallest permissible dimension here. If a free size tolerance class or a fit is entered in the line, this value is automatically calculated from the nominal value.



Field	Description
Set point	If the test position has a quantitative value, you can enter a nominal value here. If a free size tolerance class or a fit is entered in the line, the min. nominal value and the max. nominal value are automatically calculated from this value. Nominal value are calculated.
Max. Set point	If the test position has a quantitative size, then you can enter a value for the largest permissible dimension here. If a free dimension tolerance class or a fit is entered in the line, this value is automatically calculated from the nominal value.
Units code	In this field, specify the reference unit for the entered dimensions.
Test note	You can enter an additional test note as free text in this field.
Specification	In this field, a file, such as a specification for the characteristic to be inspected, can be imported. Unlike file links, the specified file is imported into the inspection plan line. The file is transferred to the inspection order line.

#### Inforegister sampling requirement

The SAMPLING REGULATION info tab contains the sampling regulations to be used in general if no other sampling definitions are shown in the rows.

Field	Description
Sampling rule Code (Normal)	In this field, you store the sampling specification for the normal inspection severity. The inspection quantity is calculated on the basis of this sampling specification as soon as the system classifies an inspection as a normal inspection severity by means of jump instructions.
Sampling pres. Code (Tightened)	In this field, you store the sampling specification for the tightened inspection. The inspection quantity is calculated on the basis of this sampling specification as soon as the system classifies an inspection as tightened by means of jump instructions.
Sampling pres. Code (Reduced)	In this field, you store the sampling specification for the reduced inspection severity. The inspection quantity is calculated on the basis of this sampling specification as soon as the system classifies an inspection as a reduced inspection severity by means of jump instructions.

A sampling specification must be entered in the Sampling specification field, otherwise the inspection plan cannot be released and a corresponding message is issued.

#### Note

Sampling rules used must have at least one row with "Sample Size">0, "Sample Size %">0 or "Skip Item Count">0.

**Inforegister Management**

In the ADMINISTRATION tab, you will find information about who created or modified the test plan and when.

<b>Field</b>	<b>Description</b>
Built on	Date of the test plan installation
Built by	User of the test plan system
Modified on	Date of last change
Modified from	User of the last change

**Test plan remarks / test plan notes****Test plan remarks**

You can store any number of remarks for each test plan. Click on the test plan card in the "Related>Test plan>Remarks" menu band. The "Remarks" window opens in which you can enter your remarks.

The remarks can be viewed and also changed via the same path.

**Test plan notes**

The test equipment notes are recorded in the "Notes" info box and are also displayed there with date and user name after "Save".

**Test plan uses**

Call up the "Inspection plan usages" via the user search. In the inspection plan usage, you must set up in which processes which inspection plans are to be accessed in order to create the process-relevant inspection orders.

The "Inspection plan usage" can also be opened directly from the inspection plan map or the inspection plan overview. Furthermore, this can also be called up in the vendor, customer, article, work center groups, work centers, operation filtered to the respective data record.

The USAGE TEST PLAN page is divided into a header and a row area. The header area is used to filter the usage lines.

**Test plan Use filter area**

You can perform the following filtering for the test plan usage lines:

Field	Description
Origin type filter / Origin code	<p>filter This can be used to set a filter on one of the origin type options. If a unique data source is defined by the origin type filter, such as vendor, an additional origin code filter can be set. In this case, a specific vendor can be selected from the list of vendors as the origin code filter, or an origin code filter can be entered manually. In this case, a filter string such as &lt;&gt;" or 1* etc. can also be used.</p> <p>If no unique data source is defined by the origin type filter, no additional origin code filter can be set.</p> <p>Selecting the Origin type filter None will remove the filtering on a specific origin type. All origin types are displayed.</p>
Routing version filter	This can be used to set a filter on the version of a routing for production.
Working aisle filter	If you have selected an intermediate inspection operation as the origin type and the routing in the Origin code field in the next step, you can finally filter to the specific operation.
Type filters / Item no. Filter	Here a filter can be set on the option value article. If this type of filter is set, an article no. filter can also be set. A certain article can be selected from the list of articles as article no. filter or an article no. filter can be entered manually. In this case also a filter string like <>" or 1* etc. can be used. Likewise, a kind of filter on All articles can be selected. This filters the use of the test plan to those lines that are generally valid for all articles. Selecting the Type Filter None will remove the filtering on the type.
Test plan filter	In this field, a test plan can be selected from the selection list of test plans to which the usage list is to be filtered. Likewise, a filter on the test plan can be entered manually. In this case, a filter string such as <>" or 1* etc. can also be used.
Start date filter	The Start Date Filter can be used to set a filter on the usage lines with a specific start date In this field, in addition to an exact date, a date filter string, such as a period, can also be used.

#### Test plan use lines

The test plan usage is set up in the lines described below. Mandatory fields for the complete setup of a test plan usage are:

#### -> Type of origin

Depending on the selected origin type, further fields are to be filled differently.

#### -> Type

Depending on the selected type, further fields are to be filled differently

#### -> Test plan

The inspection plan to be used for the combination of origin type and species, which is used to create the respective inspection order.

Field	Description
Type of origin	<p>Enter here for which tests the test plan is to be used. The following options are available:</p> <p><b>Receipt check vendor</b> Here, an incoming inspection for goods of the creditors takes place.</p> <p><b>Receipt check customer</b> An incoming inspection for goods from the debtors takes place here.</p> <p><b>Incoming inspection Both</b> Here, an incoming inspection for goods from creditors and debtors takes place.</p> <p><b>Intermediate examination workplace</b> Here, an intermediate inspection takes place in the manufacturing process for a specific workstation (KVS Manufacturing Quality Control).</p> <p><b>Intermediate examination workplace group</b> Here, an intermediate inspection takes place in the manufacturing process for a specific workstation group (KVS Manufacturing Quality Control).</p> <p><b>Intermediate exam Both</b> Here, an intermediate inspection takes place in the manufacturing process for specific workstations and workstation groups (KVS Manufacturing Quality Control).</p> <p><b>Final inspection</b> Here, a final inspection is performed after the actual message of the last operation (KVS Production Quality Control).</p> <p><b>Manual test</b> Here, manual inspection takes place independently of the business and manufacturing process.</p> <p><b>Intermediate inspection operation</b> Here, an intermediate inspection takes place in the manufacturing process for certain operations (KVS Manufacturing Quality Control). Note: An intermediate inspection at the last operation is not possible (see final inspection).</p>
Origin code	If a unique data source is defined by the origin type filter, such as Vendor, an additional origin code filter can be set. In this case, a specific vendor can be selected from the list of vendors as the origin code filter or an origin code filter can be entered manually. In this case, a filter string such as <>" or 1* etc. can also be used. If no unique data source is defined by the origin type filter, no additional origin code filter can be set.
Working aisle no.	If you have selected an intermediate inspection operation as the origin type and the routing in the Origin code field in the next step, you can finally determine the specific operation.
Type	In this field you can enter whether the inspection plan should be applied to one item or all items.
Code	If you have entered the Article option in the Type field, you must select an Article No. in this field.
Test plan	

Field	Description
	Here you enter the inspection plan no. to be used for the specified origin type and species. If the TEST PLAN USES form is called up via a test plan, this field is preassigned with the test plan no..
Start date/ End date	Here you enter the date values for which the test plan usage is active/valid. This is not a mandatory field for the system to create checks.
Work plan version code	If checks are to be used in production and routings with versions are maintained, this field shows the active version.

#### Test plan

Inspection plan usages can be set up for the following processes. Which inspection plan is used to create the inspection order depends on the following hierarchy:

Incoming inspection use priorities{ #incoming-inspection-testplan-use-priorities }

Example: A goods receipt is posted for vendor 10000 and item 70011. The inspection plan usage is run through in the following hierarchical order to determine the valid inspection plan for creating the inspection order:

Priority	Type of origin	Origin code	Type	Code
1	Receipt check vendor	10000	Article	70011
2	Receipt check vendor		Article	70011
3	Receipt check vendor	10000	All articles	
4	Receipt check vendor		All articles	
5	Incoming inspection Both		Article	70011
6	Incoming inspection Both		All articles	

If the test plan usages are managed with start date and end date, the entry with the most recent start date is used within the same priority. The sorting is therefore ascending within the priority level according to the start date. The last entry of the test plan usage is accessed.

If test plans are managed with versions, the version with the most recent start date is used within the same priority.

#### Intermediate exam

**Example:** A routing 1001 is available for the article 1000 "Touring bike" to be produced. In operation 40 at work center 110, an intermediate inspection is to be set up before the touring bike is packed.

In the inspection plan usage, the trigger for creating the intermediate inspection with the required inspection plan can be set up in different ways. The priority rule is "from the most accurate assignment to the most general assignment":

Priority	Type of origin	Origin code	Operation	Type	Code
1	Intermediate inspection operation	1000	40	Article	1000
2	Intermediate inspection operation	1000	40	All articles	
3	Intermediate examination workplace	110		Article	1000
4	Intermediate examination workplace	110		All articles	

If the test plan usages are managed with start date and end date, the entry with the most recent start date is used within the same priority. The sorting is therefore ascending within the priority level according to the start date. The last entry of the test plan usage is accessed.

If test plans are managed with versions, the version with the most recent start date is used within the same priority.

#### Test plan usage Incomplete data records in the test plan usage

An incomplete data record in the test plan usage is ignored by the system. Mandatory fields are marked with a red star depending on the line type.

#### Incoming inspection

##### Example:

A data record exists in the inspection plan usage for the vendor 01254796 and the article 70000. This data record does not contain an assigned inspection plan. A goods receipt is posted for vendor 01254796 and item 70000.

In this case, the goods receipt is posted without creating an incoming inspection or issuing an error message.

#### Intermediate exam

##### Example:

A work plan with the following operations is available for item 1000:

# 1000 · Tourenrad

Arbeitsplan kopieren... Versionen Verwendung | Aktionen Navigieren

## Allgemein >

Zeilen	Verwalten	Arbeitsgang	Weniger Optionen	
Arbeitsgan... ↑		Art	Nr.	Beschreibung
10		Arbeitsplatzgruppe	100	Radmontage
→ 20	⋮	Arbeitsplatz	120	Kettenmontage
30		Arbeitsplatz	130	Endmontage
40		Arbeitsplatz	110	Kontrolle
50		Arbeitsplatz	210	Packtisch 1

Intermediate tests for article 1000 are set up in the test plan usage with

- Intermediate inspection Operation with operation no. 20 without inspection plan assignment
- Intermediate test workstation 120 with test plan PP-00004

When the production order is released, the first line of the inspection plan usage is ignored, an intermediate inspection is created according to the (less relevant) second line for work center 120 via the stored inspection plan PP-00004.

### Copy test plan

You have the possibility to copy an existing test plan. To do this, proceed as follows:

- 1.) Create a new test plan with a new test plan number under Planning > Test plans using the New button.
- 2.) Click the Copy test plan function in the ribbon.
- 3.) In the TEST PLANS form, select the test plan to be copied.
- 4.) The header and row information of the selected test plan will be copied to the current test plan.

The newly created inspection plan must be assigned in the inspection plan usage to the business transactions in which the inspection orders are to be created from it. (See also Inspection plan usage)

### Versioning the test plan

You can create any number of versions for an existing test plan when making changes to the test plan. A prerequisite for the versioning of inspection plans is the assignment of a number series in the inspection plan header in the Version numbers field. To avoid working with a consecutive version number for all inspection plans and their versions, create a number series with purely manual number assignment. This number series



can be used in every inspection plan. When creating a new test plan version, you can now manually assign the respective version number of the test plan version (V-001, V-002, V-003 ...).

An inspection plan version does not have to be set up in the inspection plan usage. The test plan usage accesses the stored test plan and the latest certified version available for it. (See Test plan usage)

To create a new version for an existing test plan, proceed as follows: 1. From the test plan list or from the test plan map, you can call up the test plan version overview using the Versions function. 2. In the test plan version overview, call up the New function. 3. Depending on the setup of the number series in the test plan header for the version numbers, a new test plan version number is assigned automatically or must be assigned manually by the user. 4. You can manually fill all header and row fields in the new test plan version as described above. Likewise, you can use the inspection plan header as the basis for a new version or use an existing inspection plan version as the basis for a new version. To do this, use the Copy test plan or Copy test plan version function. The header and line information will be copied from the selected source to the new test plan version. 5. Use the Start date field in the test plan version to specify from which working date this version should be automatically used by the system. The most recent certified version of a test plan is always accessed. 6. Finally, you use the functions to define the status of the current test plan version:

**-Certify**

The version receives the status Certified. From the inspection plan usage, the most current inspection plan version according to the work date is accessed for creating inspection orders.

**-Reset status**

The version receives the status In development. In this status, changes can be made to the version. The test plan usage does not access this version when creating test orders.

**-Exit**

The version receives the status Expired. The test plan usage does not access this version when creating test orders.

## Quality checks

The QM module creates quality inspections in the various business and manufacturing processes. The chapter describes how quality inspections are created on the basis of inspection plans and sampling regulations. The quality inspections can be subdivided as follows: \* Incoming inspection \* Intermediate exam \* Intermediate examination external work course \* Final inspection \* Manual test

QM also supports quality inspections in production in interaction with external work (intermediate inspections and final inspections).

### Incoming inspection

Receiving inspection is provided for both the purchasing and sales processes.

The incoming inspection in purchasing is intended for the inspection of purchase deliveries. Purchasing deliveries can be posted directly via the purchase order or the goods receipt, depending on the setup of the storage location. If "Perform quality inspection from purchasing" is activated for the storage location in question and an inspection plan has been set up in the inspection plan usage for the combination of article and vendor, the system automatically creates an incoming inspection for the posted purchasing delivery.

Receipt check in sales is intended for checking incoming postings from posted returns due to a sales complaint. Returns can be posted directly from the complaint or the goods receipt, depending on the setup of the storage location. If "Perform quality inspection from sales" is activated for the storage location in question

and an inspection plan has been set up in the inspection plan usage for the combination of article and customer, the system automatically creates an incoming inspection for the posted return.

The list of incoming inspections to be processed from purchasing deliveries or sales complaints can be called up in the Quality Management (QM) Assurance role center directly via the corresponding tile. You can also open the list of incoming inspections to be processed from the role center menu via Tasks > Inspection orders > Incoming inspection.

From the purchase order, the list of incoming inspections to be processed can be opened via the relevant document line and the call Line > Inspection orders. In this case, the list is filtered to ... \* the origin number (order number) \* the origin type (purchase line) \* the line number of origin

By showing the filter area and unfiltering the origin line number, the list view can be expanded to list all the incoming inspections to be performed on that particular purchase order.

From the sales complaint, the list of incoming inspections to be processed can be opened via the relevant document line and the call Line > Inspection orders. In this case, the list is filtered to ... \* the origin number (sales complaint number) \* the origin type (sales line) \* the line number of origin

By showing the filter area and unfiltering the origin line number, the list view can be expanded to list all incoming inspections to be performed for the sales complaint in question.

#### **Intermediate exam**

Intermediate inspections are created automatically when production orders are processed. If "Perform quality inspection from production" is activated for the storage location in question and if an inspection plan has been set up in the inspection plan usage for a combination of article and work center, work center group or operation in the routing, the system creates the respective inspection order for the intermediate inspection. This means that several intermediate inspections can exist for different work steps in a production order.

Intermediate checks are created automatically when a simulated or firmly planned production order is transferred to a released production order via the status change.

If a released production order is created directly, the execution of the function Update production order triggers the creation of the intermediate inspections. If changes are made to a released production order for which interim inspections already exist, executing the Update production order function again causes existing interim inspections to be deleted and new interim inspections to be performed based on the current data of the released production order.

The list of interim inspections to be processed can be called up directly in the role center QM - Quality Assurance via the corresponding tiles. There are two tiles, one tile for intermediate inspections from in-house production operations and one tile for intermediate inspection of external operations. You can also open the respective list of interim inspections to be processed from the role center ribbon via Tasks > Inspection orders > Interim inspection or Interim inspection (external).

From the production order, the list of intermediate inspections to be processed can be opened by calling Line > Inspection order.

#### **Final inspection**

The final inspection for a production order is created automatically if "Perform quality inspection from production" is activated for the storage location of the production order and an inspection plan is set up in the

inspection plan usage for the origin type final inspection for the article to be produced. A final inspection is created automatically when the last operation is posted via the production ledger sheet or the actual message ledger sheet.

If the last operation is an external work, the final inspection is generated by posting the delivery of the external work order.

The list of final inspections to be processed can be opened in the QM - Quality Assurance role center directly via the corresponding Final inspections tile. You can also open the list of final inspections to be processed from the role center menu via Tasks > Inspection orders > Final inspection.

#### Manual test

The QM quality assurance module allows you to create manual checks.

To do this, go to the menu Departments > Quality assurance > Manual inspection and select the menu item Create manual inspection.

By means of the Stock transfer book sheet you can transfer an article to the storage location or storage bin of the quality inspection. The stock transfer creates a manual inspection.

The following table describes the fields of the CREATE MANUAL CHECK form.

Field	Description
Book. sheet name	Use Lookup to select the book sheet you want to use.
Item no.	Enter in this field the item no. for which the bin contents are to be retrieved.
Article variant	If there is an article variant, you can enter it here.
Storage location	In this field, enter the storage location from which you want to retrieve the content.

To fill the Book. sheet and create a manual check, proceed as follows on the CREATE MANUAL CHECK form:

1. Navigate to the function Get bin contents in the menu.
2. Enter a posting date and document number.
3. In the request window you can make further restrictions so that only the desired items appear.
4. After you have executed the Get bin contents function, the book.sheet will be filled automatically.
5. For the New storage location code and New storage bin code fields, make sure that the storage location has been set up for quality inspections and that the new storage bin code corresponds to the set up QA storage bin on the storage location map.
6. You can use the Post & Create Check Orders function to create a Manual Check for the generated rows.

Via Departments > Quality assurance > Manual inspection > Manual inspections, you can perform the generated manual inspection.

## Note

For the treatment of the dimensions: When fetching the bin contents, the dimensions are NOT written to the rows. This is a known limitation of the Microsoft Dynamics 365 Business Central standard, not of the product. If you go via "Select item" the dimensions are taken over correctly.

When creating a manual inspection, it can basically come to the state that the quantity to be inspected is fetched from several different item items, each of which can have its own dimensions. However, because this is not clear, no dimensions are seen on the inspection order. If dimensions are stored at the test order, only these are written to the incoming article items, the outgoing dimensions compensate for the old items. Important: The check order does not add any dimensions to the article item, but replaces them, if they exist. However, if no dimensions are stored in the check order, then the dimensions of the existing item are passed on to the new item.

## Test order

Test orders have an identical structure, regardless of their origin. A test order is divided into a test order header and the associated test order lines. The basis for the test order is the test plan described in the basic setup.

**Inforegister General**

Field	Description
No.	The unique number of a test order. The assignment of the number is defined to the quality assurance facility via the number series in the Test order numbers field
Test plan no.	This non-editable field contains the test plan number of the test plan that was accessed to create this test order.
Test plan version no.	If test plan versions exist for the test plan, this non-editable field shows the test plan version number that was accessed to create this test order.
Inspection plan description/ Inspection plan description 2	These non-editable fields are automatically filled with the test plan descriptions.
Test severity	<p>Depending on the sampling rule and the jump instructions, the field is automatically filled by the system. The field is not editable.</p> <p>Possible test severities are</p> <ul style="list-style-type: none"> <li>• Normal</li> <li>• Reduces</li> <li>• Tightened</li> </ul> <p>The inspection severity was used to determine the relevant sampling requirement in the inspection order and the required inspection quantity was calculated based on the document quantity.</p>
Test type	If the test plan used allows destructive testing, this is indicated here. The field is not editable.
Drawing	If a drawing (file) has been stored in the test plan, it is available here in the test order and can be opened. The field cannot be edited.
Item no.	This field contains the article number of the item to be checked. Depending on the origin type, this is the item from the goods receipt, from the production order or from the manual inspection.
Article description/ Article description 2 Search Keyword	These fields are taken from the article master. The fields are not editable.
Document quantity	This field is filled with the document quantity. This is either the total goods receipt quantity, the total production quantity or the selected total stock of a manual inspection. This field is not editable.
Required test quantity	

Field	Description
	The document quantity and the sampling requirement result in the required inspection quantity, i.e. the number of inspection items to be inspected in the inspection order according to the rules and regulations. This field is not editable.
Quantity to check	This field indicates the actual quantity to be checked. For items without item tracking, this quantity is preset with the required check quantity. For items with item tracking, the quantity to check must be defined by assigning corresponding serial and/or batch numbers. The quantity to check can be reduced to the required check quantity. Likewise, the quantity to check can be increased up to a maximum of the document quantity. Since the "Quantity to check" determines the number of checks in the check matrix, a whole number without decimal places must always be entered here. If the document quantity contains decimal places and a check of the total quantity is required, the document quantity rounded up to a whole number can be entered in the "Quantity to check" field. (See <a href="#">"Perform check"</a> )
Quantity to lock	The quantity to be blocked must be entered in this field before the check is completed. (See <a href="#">"Perform check"</a> )
Quantity destroyed	The quantity destroyed during the test must be entered in this field before the test is completed. (See <a href="#">"Perform check"</a> )
Storage location release	This field displays the storage location used from the origin document and is not editable.
Storage bin release	This field shows the used bin from the origin document. The field is editable.
Storage location blocking storage	This field is filled with the default from the Storage Location Setup Quality Assurance tab and is not editable.
Storage place blocking storage	This field is filled with the default from the Storage Location Setup Quality Assurance tab and is not editable.
Storage location destroyed items	This field is filled with the default from the Storage Location Setup Quality Assurance tab and is not editable.
Storage place destroyed items	This field is filled with the default from the Storage Location Setup Quality Assurance tab and is not editable.
Justification special release	A reason must be entered in this field in the case of a special release (See <a href="#">"Perform check"</a> ).

Field	Description
Quality number	<p>This field is calculated from the number of inspections, the number of deviations and the findings of the inspection plan line (OK, minor defect, major defect, critical defect) and defect factors (weighting) stored in the quality inspection setup according to the following formula:</p> $\text{Quality number} = \frac{101 - (\text{Total number of exams} + \text{Weighted minor error deviations} + \text{Weighted main error deviations} + \text{Weighted Critical Error Deviations})}{\text{Total number of tests}}$ <p>(see example for the calculation of the quality number)</p> <p>The quality number can assume a value between 0 and 100.</p> <p>This field is not editable. The value of the quality number of an incoming inspection is included in the supplier rating.</p>
Built on	This field is automatically filled with the date once the test has been set up.
Built by	This field is automatically filled by the system with the logged-in user who triggered the check.
Modified on	This field is automatically created by the system when entries or changes are made in the test order.
Modified from	This field is automatically filled in with the user logged in to the system as soon as a field is changed.
Employee no.	In this field, a responsible employee for this check can be selected from the previously set up employee table.
Employee first name	Displays the first name of the employee from the employee table. The field is not editable.
Employee name	Displays the name of the employee from the employee table. The field is not editable.



**Inforegister origin**

Field	Description
Origin reference area	In the "Origin reference" group, fields are displayed that represent the document / operation from which an inspection order was created. Clicking on the Assist button in the "Document type" field will take you to the corresponding reference.
Document type	<p>The document type of the document that caused the test order is displayed here. Following options are possible:</p> <ul style="list-style-type: none"> <li>• Purchasing / Order</li> <li>• Sale / Complaint</li> <li>• FA line (This type is used for final checks)</li> <li>• Routing line (This type is used for intermediate checks)</li> <li>• Article book. Sheet</li> </ul> <p><b>Note:</b> With the origin reference "Article-book.sheet", no document can be displayed via the Assist button, since the book sheet was only used to generate a manual check and does not represent an independent document.</p>
Document no.	This field contains the number of the document of origin.
Document line no.	This field contains the line number of the origin document.
Work plan no.	This field is used only for intermediate checks. The number of the task list that caused the intermediate check is entered here.
Working aisle no.	This field is used only for intermediate checks. The number of the operation that caused the intermediate check is entered here.
Booking limit area	<p>In the "Posting reference" group, fields are displayed that form a reference to the posted document. However, the posting reference is filled only if there is a corresponding posting transaction in the system that caused the check order. This happens in the following cases:</p> <ul style="list-style-type: none"> <li>• Receipt inspection from posted purchase delivery</li> <li>• Receipt check from posted sales return</li> <li>• Final inspection from a production order</li> </ul> <p><b>Note:</b> The posting reference remains empty for manual checks and checks for operations, since no posted document is stored by the system for these check types.</p>
Document type	<p>Specifies the type of document of the posting reference. The following options are possible:</p> <ul style="list-style-type: none"> <li>• Booked purchase delivery</li> <li>• Booked return</li> <li>• Article journal (for actual messages from the production order)</li> </ul>

Field	Description
	Clicking on the Assist button in the "Document type" field will take you to the corresponding reference
Document no.	Specifies the number of the posting reference document.
Document line no.	Specifies the line number of the item in the referenced posting document. For the document type "item journal", the field remains empty, since the item journal is already uniquely determined by the document number.
Logistics reference area	In the group "Logistics reference" fields are displayed that form a reference to the posted goods receipt. In the area "Logistics reference" only the reference to a posted goods receipt is displayed. This is only managed if the underlying storage location has been set up in such a way that putaways have to be created as part of the goods receipt. Only then does the logistics reference also make sense in an inspection order, because only in this case are putaways created from the inspection order that must have a reference to the posted goods receipt.
Document type	Indicates the type of document of the logistics reference. Here always a posted goods receipt. Clicking on the Assist button in the "Document type" field takes you to the corresponding reference.
Document no.	Indicates the number of the logistics reference document.
Document line no.	Specifies the line number of the item in the referenced logistics document.

#### Note

The documents caused by the external work (purchase order / delivery) are not kept in an inspection order. Even in the case of external work, the production order for which the external work was requested is the primary document for the inspection order. The reference to the corresponding ACTUAL message (final inspection) or to the operation (intermediate inspection) is then kept in the inspection order.

#### Info register lines

The test order lines are filled from the specifications of the test plan when the test order is created. In addition, the results of the individual tests are displayed in the test order lines. A final test result must be set in each test plan line. The following table describes the fields of the test order line.

## Default fields

Field	Description
Position	The item number according to the inspection plan line.
Inspection feature code	The inspection characteristic code according to the inspection plan line.
Attribute	The inspection type according to the inspection characteristic or inspection plan line.
Description	The description of the inspection characteristic.
Test equipment groups No.	The test equipment group number according to the test plan line.
Test equipment no.	The test equipment number according to the test plan line.
Test equipment status	The status of the test equipment existing at the time of creation of the test order.
Test equipment designation	The designation of the test equipment group or test equipment according to the test plan line.
Manual free size tolerance class	The manual clearance tolerance class according to the test plan line
Fit	The fit according to the test plan line.
Min. set point	The minimum target value of the characteristic according to the inspection plan line
Set point	The setpoint according to the test plan line.
Max. Set point	The maximum setpoint according to the test plan line
Units code	The reference unit for the entered dimensions according to the test plan line.
Test note	The inspection note according to the inspection plan line.
Specification	The file attachment, taken from the test plan line.
Required test quantity	The calculated inspection quantity. This is calculated from the sampling specification and the document quantity.

Fields filled when performing the check

Field	Description
Number of exams	This field displays the number of recorded tests for the test order line.
Actual value (min.)	This field displays the smallest measured value of the test order line.
Actual value (average)	This field displays the average value of all measurements of the test order line.
Actual value (Max.)	This field displays the largest measured value of the test order line.
Quantity Deviating	This field shows how many measurements are outside the tolerance of Min. Set point value lie
Test result	Finally, the inspector must enter the inspection result for the inspection order line in this field.

#### Example for the calculation of the quality number

With the setup for the weighting of the defect findings shown above and the adjacent illustration of the test results, the formula ...

Quality number = 101 - (Total number of tests  
 + Weighted minor error deviations  
 + Weighted main error deviations  
 + Weighted Critical Error Deviations)  
 / Total number of tests

Quality number = 101 - ( 15 + ( 2 x 10) + (0 x 30) + (1 x 60) ) / 15 = 94.67

#### Perform quality check

The following sections explain how a quality inspection is performed. The execution of an inspection is identical for all inspection order types. Completed quality inspections of the type incoming inspection (vendor) are included in the supplier evaluation. The inspection result can be made available as a document to the supplier in the event of justified complaints. Within production, the intermediate inspections performed and the final inspection performed can be used as proof of quality for documenting the production process.

#### Set quantity to check

In the inspection order header, the required inspection quantity has been calculated via the sampling specification and the document quantity. The quantity to be inspected defines the actual quantity to be inspected. In principle, the quantity to be inspected can be kept different from the calculated required inspection quantity. You can set the quantity to be inspected lower and you can also increase the quantity to be inspected up to a maximum of the total document quantity.

#### Item without article tracking

For items without item tracking, the required check quantity is automatically written to the Quantity to check field.

### Item with article tracking

For articles with article tracking, it is mandatory that the indicator "Batch no. warehouse" or "Serial no. warehouse" is set to Yes for the article tracking codes used. The item tracking information must also be carried across storage bins.

For items with item tracking, the required inspection quantity is automatically written to the Quantity to inspect field only in the intermediate inspections of production. In incoming inspections, final inspections or manual inspections, the quantity to inspect must be defined via the item tracking lines assigned to the inspection order. To do this, use the Assist button of the Quantity to check field. In the page opened by this, all posted batch numbers with movement quantity (base) or all posted serial numbers with movement quantity (base) = 1 are displayed. In the Quantity to check column, enter the required check quantity for the respective batch number. For serial numbers, you must enter the quantity to check = 1 for the respective serial number to be checked until you have reached the required quantity to check.

### Record test results

The inspection results for the individual inspection order lines can be recorded in two different ways:

#### Recording in the test result matrix

The test result matrix is called up via the Test result matrix button in the menu ribbon of the test order.

In the inspection result matrix, all inspection order lines are displayed one below the other. Behind the information from the inspection order lines (position, inspection characteristic code, unit code, attribute, min. nominal value, nominal value and max. nominal value), the fields for recording the inspection results are displayed in the following numbered columns. Target value), the fields for recording the inspection results are displayed in the following numbered columns. The number of columns corresponds to the quantity to be inspected defined in the inspection order. A maximum of 32 columns for recording the results can be displayed on one page of the test results matrix. If the "Quantity to check" is larger, you can scroll to the next recording record using the "Next record" button. The "Previous record" button is used to return to the previous record of test results. In the test results matrix, no more results can be recorded than have been defined via the quantity to be tested.

General information from the test order is displayed in the header of the test result matrix. Filters of the test result matrix are displayed in the Display options area. These display options can be changed. According to the display options set, it is possible to switch to the test result matrices of other test orders without having to leave the test order itself. The buttons on the left and right of the test result matrix page are used for this purpose.

#### Acquisition via test data

The test data is called up via the Lines > Test data button. In the test data page, the individual test results are recorded line by line for the test order line from which the call was made. No number of lines is predefined based on the quantity to be inspected. If test results have already been recorded via the test result matrix, they are displayed line by line on the test data page. The test data can be used to record other values in addition to the pure test result.

## Fields of the Test Data table

Field	Description
Test specimen no.	You can enter a number in this field for each specimen to be inspected. If the data was recorded via the test results matrix, the test data is already available. The test data lines are numbered chronologically starting with 1. If the data is recorded via the test data, the test specimen no. can also be assigned manually. Test data is only displayed in the test results matrix if the manual test specimen no. is assigned chronologically starting with 1.
Actual value	If the characteristic is not attributive, the Actual value column is displayed. The measured actual value must be entered in this field.
Attribute fulfilled	If the attribute is an attributive characteristic, the Attribute fulfilled column is displayed. In this field it is to be indicated whether the attribute is fulfilled or not.
Deviation	If the characteristic is not attributive, the Deviation column is displayed. The value displayed is the deviation of the actual value from the minimum setpoint or the deviation of the actual value from the maximum setpoint. Setpoint resulting from the actual value. A deviation of 0 means that the actual value is within the min. and max. setpoint. The field is not editable.
Deviation present	<p>Non-attributive characteristic</p> <p>The Deviation present field is displayed with Yes if the actual value is outside the min. and max. setpoints. Setpoint.</p> <p>Attributive characteristic</p> <p>The field Deviation present is displayed with Yes if attribute fulfilled was entered with No. The field is not editable.</p>
Check error code	A check error code can be entered in this field
Error category code	In this field the error category code of the test error is automatically taken over. This field can also be filled manually
Test error description	In this field the description of the test error is automatically taken over. A test error description can also be entered as free text in this field.

## Test feature Test result

After an inspection has been performed and recorded for all test items, the "Inspection data" window or the "Inspection results matrix" can be closed. The entered data is transferred to the lines of the test order. From the input of the actual values, the minimum and maximum actual values are determined and an average is calculated. These values are entered by the system in the Actual value (min.), Actual value (average) and Actual value (max.) fields. The number of your test data per test order line is displayed in the Number of tests field. Via Drilldown you can display the respective test data.

On the basis of the test data entered and the min., max. and average values determined from them, you must carry out a test result for each test item. To do this, select your assessment in the "Test result" field. The following options are available: \* **blank**

No check result set \* **in order**

The inspection characteristic is free of defects. This result can only be set, if there are no deviations. \* **Minor defect**

The inspection characteristic is not free of defects. The error is classified as a minor error \* **Main error**

The inspection characteristic is not error-free. The error is classified as a main error \* **critical error**

The inspection characteristic is not free of errors. The error is classified as a minor error

The definition of a minor, major and the critical error must be defined internally. A minor defect is not of great importance, while a major defect restricts the use of the item and a critical defect could have serious consequences. If you leave the field blank, you have not recorded a valuation for this inspection item and cannot complete the inspection order. The characteristic of the result is subject to the subjective assessment of the user and can be fixed per inspection characteristic, but not per inspection item.

#### Test decision for a test order

An inspection order is completed via an inspection decision. Depending on whether the Inspection requirement on release field is activated, the inspection can only be completed if you have entered the specified quantity to be inspected in the inspection data for each inspection order line. Once you have recorded all the prescribed tests and assigned a test result to each test order line, you can use the menu with the respective buttons to complete the test order as follows:

- Release document quantity
- Release
- Special release
- Document quantity locks



The following table illustrates which inspection decision is possible depending on which recorded inspection data and quantity fields.

<b>Field</b>	<b>Release document quantity</b>	<b>Release</b>	<b>Special release</b>	<b>Document quantity locks</b>
"Test result" field in test order lines	All test order lines must be "in order".	All test order lines must be "in order".	At least one test order line must be unequal to "in order".	At least one test order line must be unequal to "in order".
Quantity to be released" field in the test order header	The complete document quantity is automatically released. Entries are not taken into account.	Inputs are processed.	Inputs are processed.	Inputs are not processed; an error message occurs when the action is executed
Quantity to block" field in the test order header	Inputs are not processed; an error message occurs when the action is executed	Inputs are processed	Inputs are processed	The complete document quantity is automatically blocked. Entries are not taken into account.
Quantity destroyed" field in the test order header	Entries are only possible for the Destructive test type. Inputs are not processed; an error message occurs when the action is executed	Inputs are only possible with Destructive test type. Inputs are processed.	Entries are only possible for the Destructive test type. Inputs are processed	Entries are only possible for the Destructive check type. Inputs are not processed; an error message is displayed when the action is executed.
Which quantity check takes place in the background?	The reference quantity for the quantity check is always the total document quantity	Sum of quantity to be released, blocked and destroyed may be max. the document quantity	Sum of quantity to be released, blocked and destroyed may be max. the document quantity	The reference quantity for the quantity check is always the total document quantity

<b>Field</b>	<b>Release document quantity</b>	<b>Release</b>	<b>Special release</b>	<b>Document quantity locks</b>
What quantities are booked?	Always the entire document quantity	maximum the document quantity, or less	maximum the document quantity, or less	Always the entire document quantity
Is a follow-up test order possible?	no	yes, with the remaining quantity	yes, with the remaining quantity	no
Feature	none	none	Field Reason special release becomes mandatory field	none

#### Change inspection plan for inspection order

Via "Action>Function>Change test plan" you have the possibility to manually use another test plan for the test order instead of the test plan set up in the test plan usages.

### 1.3.15 Replenishment and Kanban Bin

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#### Overview

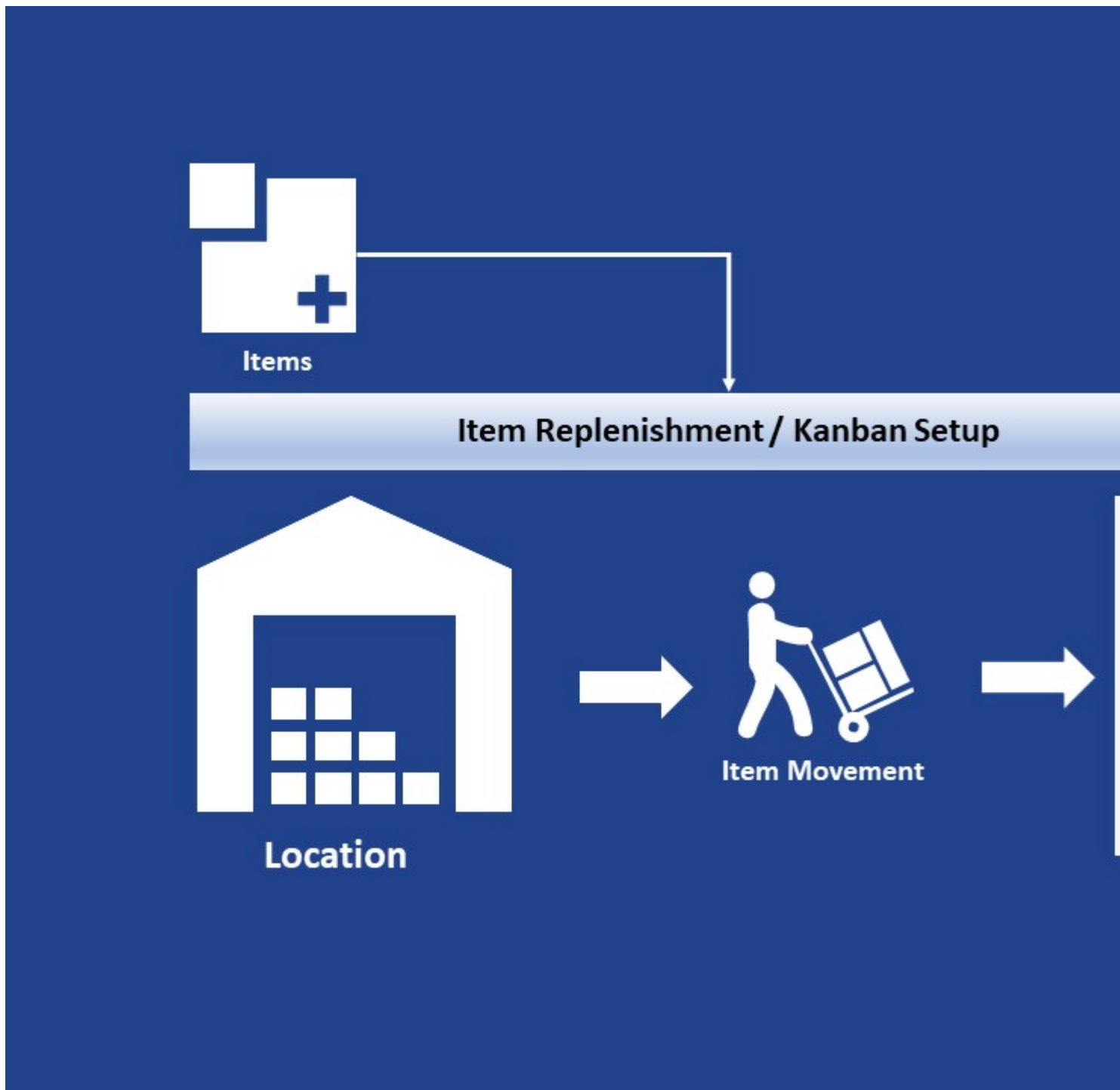
The app "Replenishment and Kanban Bin" supports you in the consumption-based bins transfer of material. Defined location areas can thus be replenished automatically - even without a "controlled warehouse".

In doing so, the app offers you the following advantages:

- Optimization of warehouse processes
- Efficient organization of your warehouse
- Fast and flexible setup of the location areas
- Demand-driven determination of stock transfer quantities
- Time saving in the snacking area

The standard Microsoft Dynamics 365 Business Central process supports the user in stock transfers from bin to bin based on stockkeeping units and the request or planning lines.

The Replenishment and Kanban Bin App is designed to assist the user with a consumption-based bin transfer of material within a non-controlled location during putaway and picking.



#### Note

In order to obtain a meaningful result for the bin relocation, the execution must take place in the "off-peak hours" in the warehouse / logistics area.

Location bin transfers during operating hours, e.g. parallel picking and goods receipt / putaway, are not advisable as picking / putaway could have an unfavorable effect on the contents of the storage bin.

Introduction Replenishment and Kanban Bin

[Replenishment & Kanban Bin | KUMAVISION App](#) from [KUMAVISION](#) on [Vimeo](#).  
[Link to Microsoft App Source "KUMAVISION Replenishment and Kanban Bin"](#)

Setup

User authorization

To assign the user the necessary authorizations for the replenishment and Kanban storage bin functionality, first call up the "Users" via the user search.

On the desired user card, you then have the option of assigning the intended authorization set "KVSKANRead" / "KVSKANSetup" to the user on the "User authorization sets" info tab.

Location

- The following points should be considered when setting up the storage location:
- You should configure locations directly with bins.
  - These storage locations must not be configured as "Direct putaway and picking".
  - The warehouse has two areas: Preferred picking area and replenishment area.
  - Within these areas, the warehouse can be organized arbitrarily or with fixed storage locations.

This application is not suitable for a completely chaotic warehouse or a completely "directed storage and retrieval warehouse".

On the corresponding location map, the following setups must be made for the replenishment and kanban location functionality on the "Warehouse" info tab:

Field	Description
Default KANBAN Item Reclass. Journal Template Name	In this field, enter from the item book. sheet templates List the stock transfer ledger sheet template for Kanban functionality.
Default KANBAN Item Reclass. Journal Batch Name	Enter in this field from the assigned item book.sheet templates the item book.sheet batch  If this has not yet been created for the Kanban functionality, you can define it from the list via "New".

Bins

In the bins, the "Replenishment and Kanban Area" (Supply Area) is defined via the "Transfer Type" field.

To do this, call up the bins via the menu ribbon and set up the corresponding bin via the "Transfer Type" field.

Option	Description
Replenishment and Kanban Area	Indicates the bins to which the stock is transferred, i.e. which are filled.
Supply Area	Indicates the storage bins from which stock is transferred.
Empty	For all bins that are neither "kanban area" nor "supply area", f.e. special bins like goods receipt bin code, goods issue bin code. For these bins it is also explicitly checked if the stock transfer type is "empty".

#### Note

Please note that you define at least one bin as "Supply Area" and one bin as "Replenishment and Kanban Area".

#### Replenishment and Kanban setup list

In a chaotic warehouse, an item can be located in any bin. There can also be several items in one bin. Therefore, the rules for the "Replenishment and Kanban bin" functionality are not located directly in the bin, but in a separate table.

The following should be noted here:

- Items maintenance is always performed manually
- Items that are not to be transferred do not receive inventory data
- Data maintenance is mandatory here

The calculation is based on the content of the bin in combination with the "Transfer type" of the bin. Only bins with the "Transfer type" = Kanban area are taken into account.

You can configure replenishment for the items in the "Replenishment and Kanban Setup List". To do this, call up the "Replenishment and Kanban Setup List" via the user search. Via "New" you can define a new data record with the help of the table below.

Field	Description
Location Code	Specifies the storage location code.
Item no.	Specifies the item number.
Variant Code	Indicates the variant of the item (if any).
Item Description	Indicates the item description of the item.
Minimum Quantity (Base)	Specifies the minimum quantity (base).
	If the minimum quantity per item is fallen short of (sum of all storage bins with "transfer type" = picking area), a refill / stock transfer is triggered.
Replenishment Quantity (Base)	Specifies the replenishment quantity (base).
	Suggested replenishment quantity calculated for all storage bins with "Stock transfer type" = supply area.  The replenishment logic corresponds to the "fixed order quantity" replenishment procedure for the external procurement of an item.
Auto. Change Qty per Batch	Check the box if you want to allow automatic change of the quantity per batch.
	For the calculation of the two fields Minimum Quantity (Base) and Replenishment Quantity (Base), a function is available for the regular revision of these data.

#### Note

Please note that at least one item is set up with a "Minimum Quantity (Base)" and one item is set up with the "Replenishment Quantity (Base)".

#### Recalculation of quantities in replenishment and Kanban storage bins

A function for the initial creation and regular revision of the above data structure or the "Minimum Quantity (Base)" and "Replenishment Quantity (Base)" fields is available for maintaining the kanban stock data.

The function is called up via the user search using the search term "Calc. SKU Replenishment Kanban Setup Quantities".

The "Minimum Quantity (Base)" field is calculated on the basis of monthly values. All expenses for the location, bins of the "Transfer Type" = Kanban area for the respective item (and variant) in the corresponding period are taken into account.



The replenishment quantity (base) is calculated from the field Minimum quantity (base) \* Factor for replenishment quantity.

## Process

Essentially, there are two procedures for the bin transfer proposal:

- Manual call of the function from the Item Reclassification Journals
- Periodic call of the function ("Calculate bin replenishment") in the task queue items.

In the following, these two function options will be explained to you in more detail.

### Manual filling via the Item Reclassification Journals

Call up the "Item Reclassification Journals" via the user search and execute the "Cal. Bin Replenishment" function via the menu ribbon.

After executing the function, the journal for the item transfer is filled accordingly. With the function "Cal. Bin Replenishment", only locations are taken into account where the items has already been posted once and the minimum quantity is not reached. The journal can be modified and deleted manually. The function can be executed any number of times.

### Periodic automatic filling of the Item Reclassification Journals

The "Job Queue Entries" can be used to automatically refill during the night, for example.

The fields on the "General" info tab can be filled as follows:

Field	Description
Status	Wait and see
User ID	"ADMIN"
Object Type to Run	Report
Object ID to Run	70260117

You can use the "Report request page options" filter to use the filters of the report. Moreover, they will be saved and used automatically when the report is run automatically.

Field	Description
Delete existing lines	Deletes the already existing lines of the report
Storage bin code	Filters according to the bin code
Location code	Filters by the storage location code
Item no.	Filters according to the item no.
Variants code	Filters by variant code

Print

The print view of the book sheet can be used as a picking document to perform the stock transfer in the warehouse.

Book

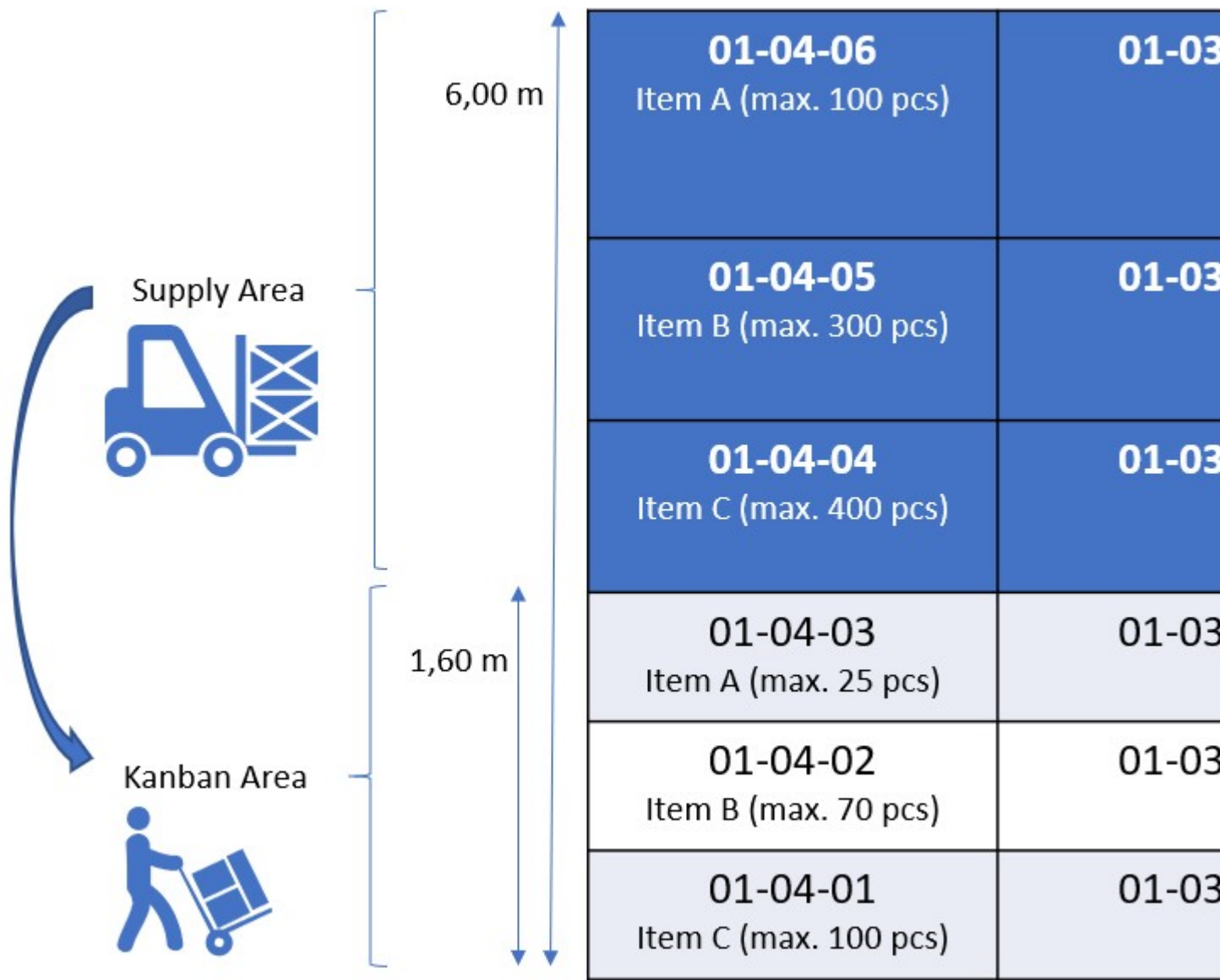
The "Post" or "Post and Print" calls post the book sheet after the physical stock transfer.

Application examples

Application in trade

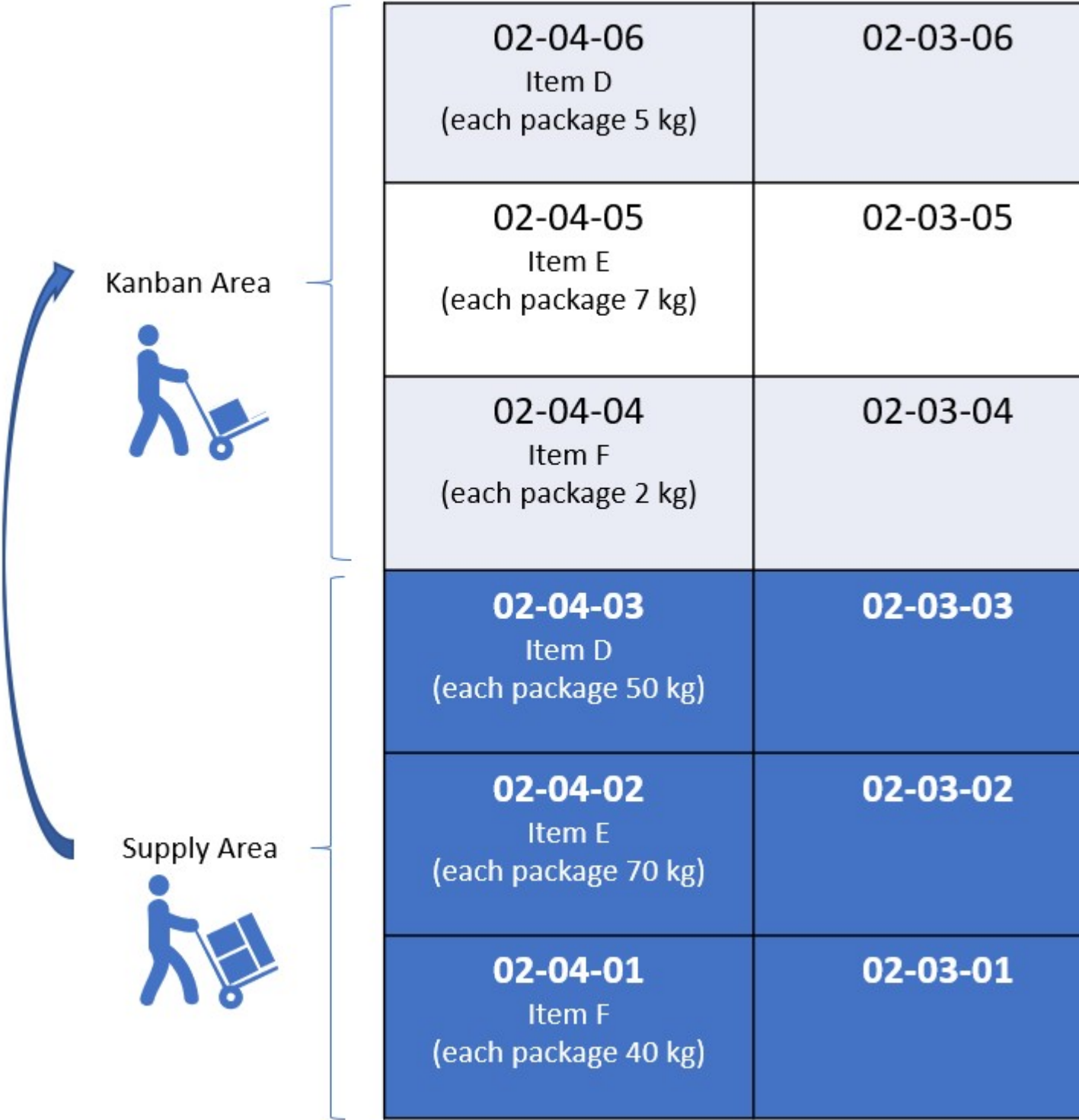
Example 1

Stock transfer in high-bay warehouses - the goods are transferred to the lower storage bins by forklift, for example, to enable consistent picking by employees without forklifts.



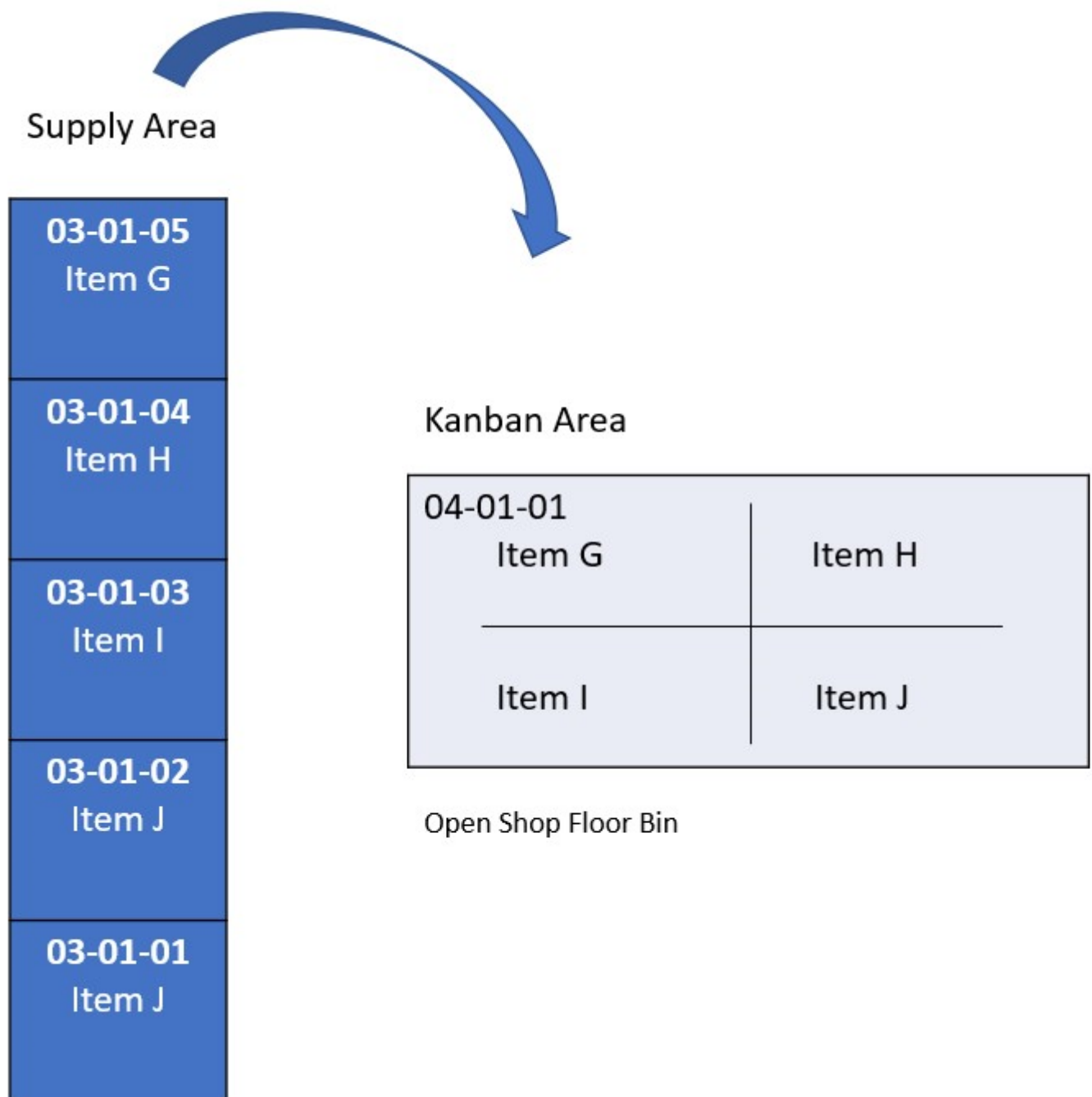
Example 2

Redistribution of heavy goods present in the picking area (Kanban area) into smaller containers and thus reduced in weight.



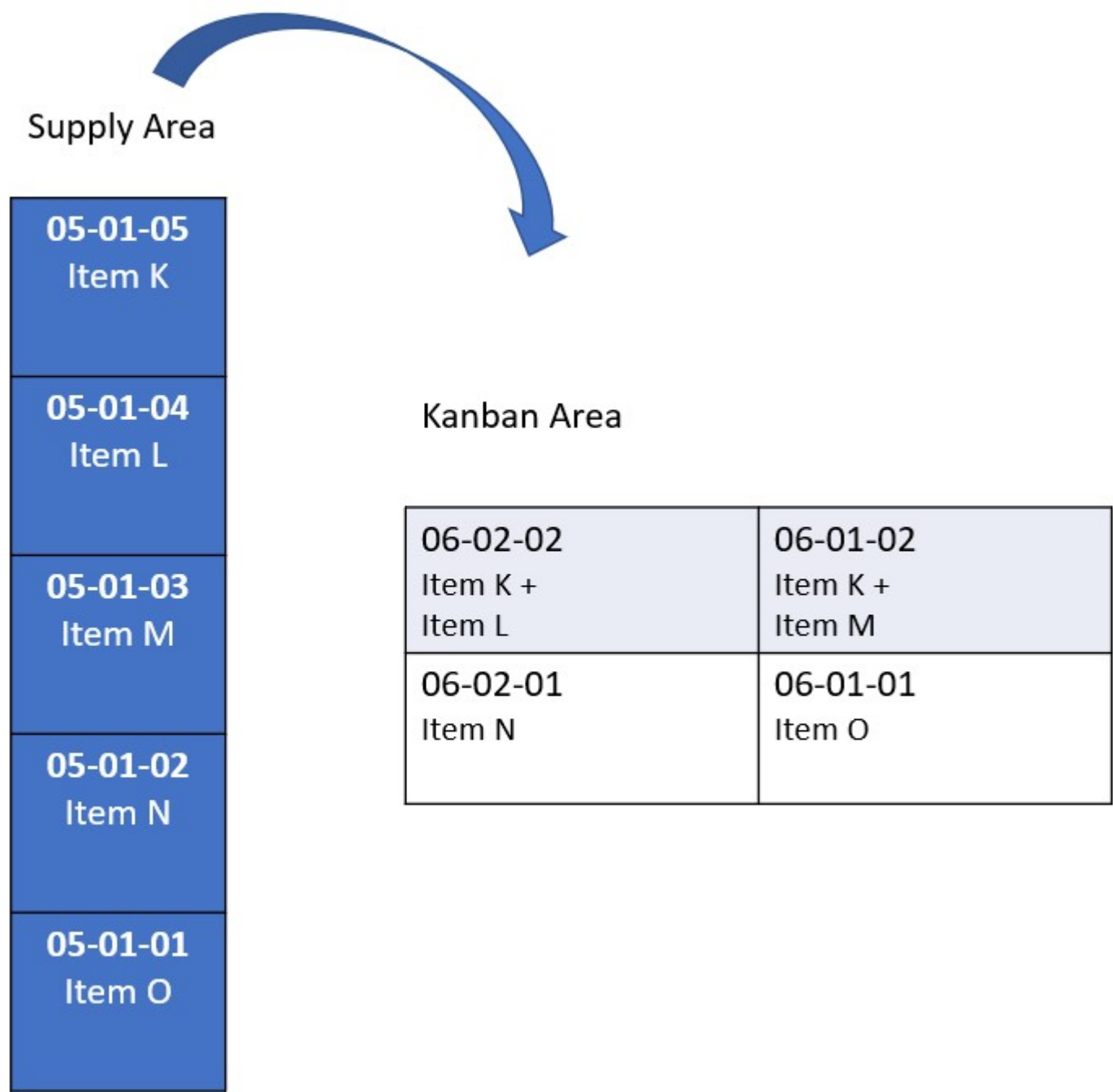
## Application in production

## Example 1



Storage bin 04-01-01, which is stored in the storage location as an "open production staging bin". The goods in this bin are production components that do not need to be picked explicitly. Since they are continuously needed for production, they are stored in large quantities in storage bin 04-01-01. Consumption staging is automatic (forward or backward).

Example 2



Storage bins 06-xx-xx contain goods that are prepared for production. This is a manual Staging for consumption picked via logistics documents.

What happens after the free trial



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## 1.3.16 Sales Order Status

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### Overview

The Sales Order Status app gives you a simple and visual representation of various status messages related to your sales orders at the item level:

- Availability status
- Stock status
- Picking status
- Shipment status
- Invoice status

All views can be filtered multiple times. The existing signal lights can also be replaced by icons of your choice.

In doing so, the app offers you the following advantages:

- Maximum transparency through visual representation
- Short reaction time in case of bottlenecks in warehouse and logistics
- Prompt invoicing for booked delivery
- High level of customer satisfaction thanks to the ability to quickly provide information on the availability of items
- Short-term information provision for management

### Introduction Sales Order Status

 [Sales Order Status | KUMAVISION App](#) from [KUMAVISION](#) on [Vimeo](#).

[Link to Microsoft App Source "KUMAVISION Sales Order Status"](#)

### Sales Order Status Setup

After the app has been successfully installed, the necessary settings must be made. To do this, call up the "Sales Order Status Setup" via the user search.

The "Sales Order Status Setup" opens. The setup options are explained in more detail below:

**Item Availability**

<b>Field</b>	<b>Description</b>
Include Planning Suggestions in Avail. Calc.	Specifies whether planning suggestions for calculating item availability are to be observed.
Include Blanket Orders in Avail. Calc.	Specifies whether blanket orders are to be taken into account when calculating item availability.
Calculate Status when opening Sales Order Status	Specifies whether you want to calculate the status auto. on open from the sales order statuses.

**Note**

The fields "Include blanket orders in availability calculation" and "Include planning proposals in availability calculation" only affect the availability calculation when calculating the availability traffic light. These fields have no effect on the calculation of the standard, e.g. on the "Article availability after event".

**Signal lights**

When the app is installed, images for the red, yellow and green traffic lights and a "blank" (transparent) image of the setup are automatically stored. If you want to use your own images, click on an image, click on "Select", select the image file and click on "Open".

**Note**

To avoid performance problems of the order overview (long times for refreshing the page), it is recommended to use small image files for the traffic light icons.

## Sales Order Status

### Sales Orders Overview

The following fields for the traffic light status display were added to the sales order overview after the app was successfully installed:

Field	Description
Availability Status	Indicates whether the required items are fully available (green), partially available (yellow) or not available (red).
Warehouse Status	Indicates whether item positions in goods issues are included completely (green), partially (yellow) or not at all (red).
Pick Status	Indicates whether item items are included in picks or warehouse picks completely (green), partially (yellow) or not at all (red).
Shipment Status	Indicates whether items were delivered completely (green), partially (yellow) or not at all (red).
Invoice Status	Indicates whether items have been fully (green), partially (yellow) or not at all (red) invoiced.

### Note

Please note that the traffic light display is not calculated automatically. Because of this, all traffic light fields are initially empty when you first open the Sales Order Summary.

### Sales Order Status Calculation

To calculate the sales order status, first select the orders for which you want to calculate the sales order status.

Then click on "Action" > "Function" > "Update Sales Order Statuses" via the ribbon.

The sales order is calculated by the system for the selected sales orders.

### Filtering on sales order status

If you want to filter on the sales order statuses, e.g. to display all sales orders for which all items are available but not yet delivered, this is possible via the "Sales order status".

To do this, call up [...] > "Related" > "Order" > "Sales Orders Statuses" via the "Sales Order Overview" ribbon.



The Sales Orders Status-card opens. In the "General" tab, the following filter options are available for the "Availability", "Warehouse Shipment", "Pick", "Shipment" and "Invoice" criteria:

- No Status
- Red: No Position Available
- Yellow: Part of the Positions Available
- Green: All Positions Available
- Show all

In addition, the following actions are available in the menu ribbon:

#### **Update Sales Order Statuses**

The sales Order Status is calculated by the system for the selected sales orders.

#### **Update All Sales Order Statuses**

The sales order status is calculated by the system for all sales orders.

#### **Show Document**

Here you can display the document for a selected sales order line.

#### **Sales Order Lines Status**

Here you can view the sales order line status for a selected sales order line.

#### **Invt. Pick Lines**

Here you can view the warehouse picking lines for a selected sales order line.

#### **Warehouse Shipment Lines**

Here you can view the goods issue lines for a selected sales order line.

#### **Sales Order Lines Status**

To obtain a detailed status overview for a sales order line, call up the sales order line status. This makes sense especially if a sales order line has the status "yellow".

You can access the sales order line status from the sales order overview via the ribbon > Order > Sales order line status or via the sales order status ribbon.

In addition, the following functions are available in the sales order line status card in the ribbon:

#### **Calc. Sales Order Statuses**

Sales order line status recalculation function.

#### **Pick Lines**

Here you can view the pick lines.

**Whse. Shipment Lines**

Here you can view the goods issue lines.

**Calculation logic of the status**

The following chapters will describe you the rules for calculating the traffic light representations of a single sales order line.

The total traffic light of the sales order is displayed as follows:

- If the sales order has no lines, the traffic light display is empty.
- If the traffic light representations in all rows are empty, the traffic light representation of the sales order is empty.
- If the traffic light display is yellow in at least one row, the traffic light display of the sales order is yellow.
- If there are rows with red traffic light representations and others with green, the traffic light representation of the sales order is yellow.
- If the traffic light representation of all rows is empty or green, the traffic light representation of the sales order is green.
- If the traffic light representation of all rows is empty or red, the traffic light representation of the sales order is red.

**Availability status of the sales order line**

The availability traffic light of the sales order line is empty if

- "Type" is not "Item."
- "No." is empty,
- "Quantity (base)" is negative or zero, or
- it is a "drop shipment" business

Otherwise, the traffic light is green if "Outstanding quantity (base)" is zero.

Otherwise, the availability calculation decides like the "item availability by event":

- If the "Projected Inventory" is negative or zero before the sales order line event, the traffic light display is red.
- If the "Projected Inventory" is greater than zero before the sales order line event and greater than or equal to zero afterwards, the traffic light display is green.
- Otherwise (before positive, after negative) the traffic light display is yellow.

If an assembly order refers to the sales order line, this event-by-event availability calculation is performed for each assembly order line with "Type" = "Item" and "Remaining quantity (base)" > 0. Here, the traffic light representation of the sales order line is the worst traffic light representation of the assembly order lines:

- If there is no assembly order line with "Type" = "Item" and "Remaining quantity (base)" > 0, the traffic light display of the sales order line is green
- If one or more of these assembly order lines have a red traffic light display, the traffic light display of the sales order line is red.
- Otherwise, the traffic light for the sales order line is yellow if one or more assembly order lines have a yellow traffic light, otherwise it is green.

Another difference in the availability calculation of the assembly order line is that the consumed quantity is taken into account: If the "Projected inventory" before the event is negative or zero, the assembly order line is yellow, provided that the "Consumed quantity (base)" > 0.

#### Stock status of the sales order line

The stock status stamp of the sales order line is empty if:

- "Quantity (base)" is negative or zero, or
- no goods issue is required.

Otherwise, the traffic light is green if " Outstanding quantity (base)" is zero. Otherwise, the traffic light is green if there is an associated goods issue line, red if not.

There is a function that determines whether a goods issue is required. In the "Order status" app, a goods issue is required if

- "Type" = "Item",
- "No." is not empty,
- "Storage location code" is not empty, and
- Goods issue required" is set in the storage location.

#### Pick status of the sales order line

The picking status stamp of the sales order line is empty if

- "quantity (base)" is negative or zero, or
- No picking is required.

Otherwise, the traffic light is green if "Outstanding quantity (base)" is zero.

Furthermore, the traffic light is green if a goods issue is required and the sum of "Quantity Picked" and "Quantity Delivered" of the associated goods issue line is equal to the "Outstanding Quantity (Base)" of the sales order.

Otherwise, the traffic light display is green if there is a pick or registered pick line, red if not.

There is a function that determines if picking is required. In the "Order status" app, picking is required if

- "Type" = "Item",
- "No. " is not empty,
- "Storage location code" is not empty, and
- Picking required" is set in the storage location.

#### **Delivery status of the sales order line**

The delivery status stamp of the sales order line is empty if "Quantity (base)" is zero.

Otherwise, the traffic light display is green if "Outstanding quantity. (Base)" is equal to zero.

The traffic light display is red when "Quantity. supplied" is zero.

Otherwise, the traffic light display is yellow.

#### **Invoice status of the sales order line**

The invoice status stamp of the sales order line is empty if "Quantity (base)" is zero.

Otherwise, the traffic light display is green if "Quantity (base)" = "Quantity invoiced".

The traffic light display is red when "Quantity invoiced" is zero.

Otherwise, the traffic light display is yellow.

#### **What happens after the free trial**



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### 1.3.17 Split by Picking Area

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#### Overview

With the app "Split by Picking Area" from KUMAVISION 365, different picking areas within a storage location can be defined individually on storage bin level. If a picking is triggered, the app creates the picking lists according to these areas. One picking list is created per picking area. The prerequisite for using the app is two-stage goods issue logistics, which consists of goods issue and picking, as well as working without a "controlled warehouse".

The "Split by Picking Area" app offers you the following advantages:

- Optimize your picking processes
- Easy and fast definition of picking areas
- Clarity by combining several picking lists in one delivery bill

#### Practical examples:

*Example of small and bulky parts:*

In one storage location, small parts are picked by hand and bulky parts are picked by forklift. You now receive a separate picking list for both the small parts and the bulky parts. However, your customer only receives one delivery bill.

*Example of multiple warehouses:*

Your main storage location consists of several halls. With the Split by Picking Area app, you get one pick list per hall - instead of one entire pick list as before.

#### Introduction Split by Picking Area

 [Split by Picking Area | KUMAVISION App](#) from [KUMAVISION](#) on [Vimeo](#).  
[Link to Microsoft App Source "KUMAVISION Split by Picking Area"](#)

#### Setup

After successful installation of the app, some settings have to be made. These are explained in more detail below.

#### Locations

In the location for which you want to define the picking areas, the following switches must be activated:

- Split Picks By Picking Area
- Require Shipment
- Require Pick

## Note

The "Split Picks By Picking Area" field is automatically added to the locations map when the app is installed. All other fields are present by default.

### Create picking areas

To define the picking area for your location, first call up the "Picking Area List" via the user search.

Via "New" in the ribbon you can define a new picking area using the table below:

Field	Description
Location Code	Select the location code for which you want to define the picking area.
Code	Assign a meaningful abbreviation for the picking area e.g. "High".
Description	Enter a description for the picking area. E.g. "High rack"

### Assignment of bins - picking area

To assign the bins from a location to the picking areas, call up the bins in the desired location via the Ribbon. The bins map opens. For each storage bin you can now assign the respective picking area in the "Picking Area Code" field.

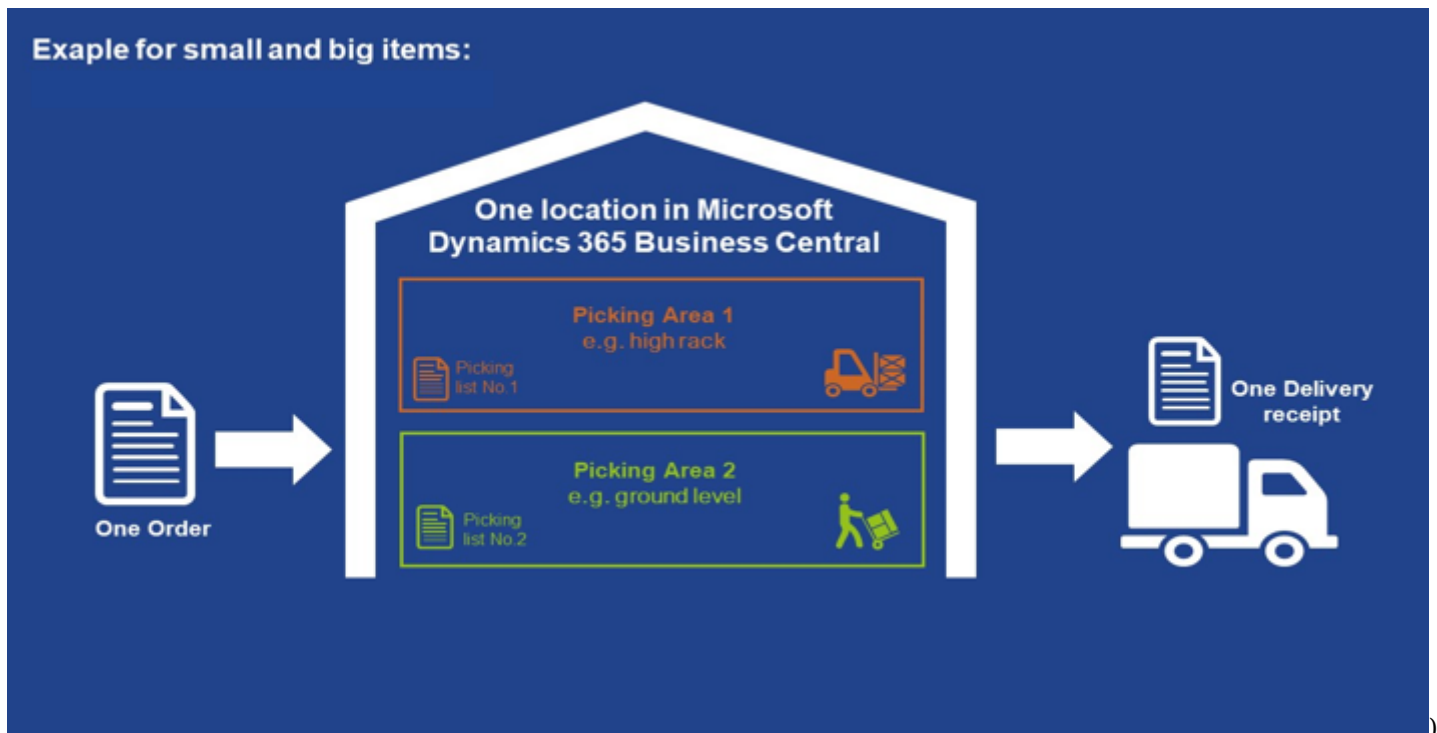
## Process

After you have made all the necessary setups, you will receive a separate pick list for each picking area within the items issue process.

### Application examples

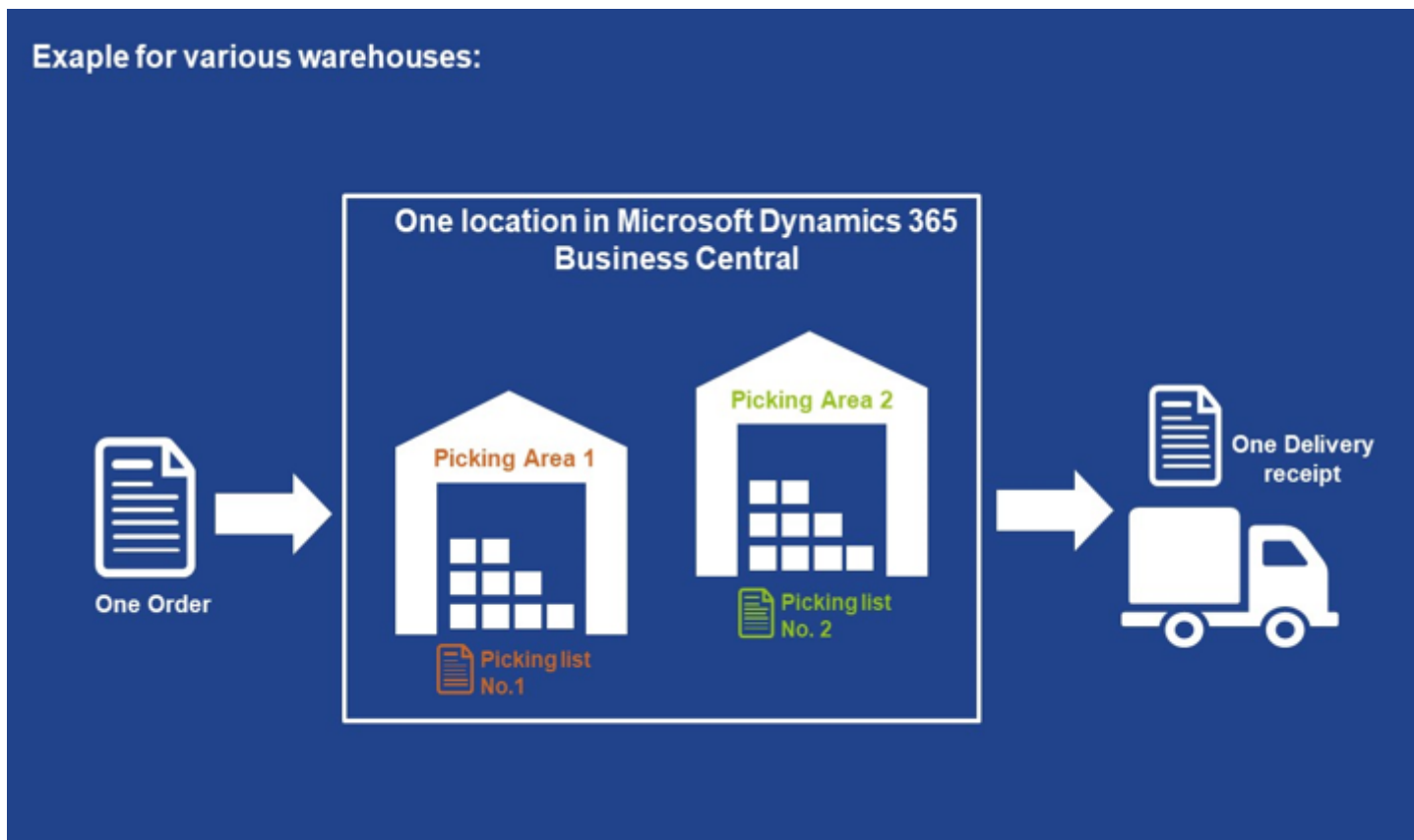
#### Example 1 "Small and large items"

Your items are stored in a warehouse location where your warehouse staff picks items manually from the floor and picks items from the high rack using a forklift. Therefore, you create two picking areas. When you receive an order with mixed items from high rack and floor, you receive two picking tickets. This way your warehouse workers can do all manual picking first and then all picking from high rack.



Example 2 "Various warehouses"

Your main warehouse consists of different warehouses. The app suggests a separate pick list for each warehouse - instead of one pick list for all warehouses.



## What happens after the free trial



[What happens after the free trial?](#) from [KUMAVISION](#) on [Vimeo](#).



## 1.3.18 Vendor Rating Management

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### General

Vendor Rating Management is used to classify as well as categorize the vendor records based on clear specifications.

The vendor rating supports you in this regard in order to evaluate important vendor requirements.

You can define the following requirements:

- Audits
- On-time delivery
- Quantity fidelity
- Freely definable rating types

### Setup

Before you can rate your vendors, you must prepare the system for this purpose. This chapter describes and explains the necessary steps for setup.

#### Vendor Rating Setup

The basic setup for the vendor rating is done in the "Vendor Rating Setup". To do this, first call this up via the user search.

The *Rating Reference Date* field is used to specify which date is to be used to determine the date fidelity. The following options are available for selection:

#### **Promised Receipt Date**

Indicates the date when the vendor has agreed to deliver the items of the order line.

#### **Expected Receipt Date**

Expected Receipt Date = Planned date of goods receipt + Savingallowanceprocurement date + Receiving date  
Stock cycle  
time = Expected goods receipt date

#### **Planned Receipt Date**

Planned Receipt Date = purchase order date + vendor procurement time

In the *Audit Nos.* field, enter the number series for the audits.

**Rating Types**

The system allows you to create different types of ratings. The system distinguishes between manual criteria and system criteria. The system criteria are the criteria of adherence to deadlines, quantity and quality.

Field	Description
Code	<p>The field is responsible for setting the system criteria. Choose from these options:</p> <p><b>Empty</b> for manual criteria</p> <p><b>Date</b> for the system criterion adherence to delivery dates</p> <p><b>Quantity</b> for the system criterion set fidelity</p> <p><b>Quality</b> for the system criterion quality (Please note, the Quality assessment is only possible in conjunction with the Module Management (QM)).</p> <p><b>Audit</b> for the recording of audits</p> <p><b>Note</b> Please note that it is mandatory to set up an assessment type "Audit" Art=Audit to record an audit. You cannot store a rating or rating points for this rating type. This rating type is only used to ensure that an rating item is created by the system in the event of a completed audit.</p>
Description	Description of the rating type
Value Type	<p>In this field you specify whether you want to define absolute or percentage values.</p> <p><b>Note</b> Please note that the field "Value Type" is linked to conditions. For example, absolute values must always be entered for Type=Date and percentage values for Type=Quantity. Otherwise a hint message will be issued by the system.</p>
Status	<p>Indicates the status of the rating type. The following are available for selection:</p> <ul style="list-style-type: none"> <li>• New</li> <li>• Certified</li> <li>• In development</li> <li>• Closed</li> </ul> <p><b>Note</b> Please note that only the assessment types with the status "Certified" can be used in the processes.</p>
	Indicates whether ratings of the rating type are stored.

Field	Description
Rating Values Exists	
Rating Points Exist	Indicates whether ratings points of the rating type are stored.

For each *Rating Type* it is possible to store *Rating Values*. To do this, select the desired rating type and call up the *Rating Values* via the action bar.

Field	Description
Rating Type Code	The rating type code is preset by the system according to the respective rating type.
Code	Specifies the abbreviation of the vendor rating.
Description	Specifies the description of the vendor rating.
Quantity	Specifies the quantity that is valid for vendor rating in the subsequent processes with respect to the rating reference date that has been set up.
Points	Indicates the score allocation for the respective vendor rating. <b>Note</b> When the points are entered, the system automatically creates a row for the points allocation in the "Rating points" table.

Rating points can be stored for each vendor rating. To do this, select the desired vendor rating and call up the "Rating points" via the action bar.

Field	Description
Rating Type Code	The rating type code is preset by the system according to the respective rating type.
Rating Code	The rating code is preset by the system according to the respective vendor rating type.
Vendor Group Code	<p>If for certain vendor groups the allocation of points should be different (higher or lower) from the standard allocation, the vendor group can be assigned in this field.</p> <p><b>Note</b> Please note that a separate line must be entered for the applicable vendor group with the appropriate point allocation.</p>
Item Group Code	<p>If for certain item groups the points allocation should differ (higher or lower) from the standard allocation, the item group can be assigned in this field.</p> <p><b>Note</b> Please note that a separate line must be entered for the applicable item group with the corresponding point allocation.</p>
Starting Date	Specifies the date from which on the record should be valid.
Points	Specifies the number of points for the rating.

#### Rating Templates

With the help of the rating templates you can comfortably evaluate your vendors according to the same criteria. For this purpose, it is first necessary that you define the rating templates.

Call up the "Rating Templates" via the user search. You can create a new rating template via "New" in the action bar. The individual fields are explained in more detail below:

## FastTab General

Field	Description
Code	Assignment of a unique rating template code
Description	Description of the rating template
Status	<p>Indicates the status of the rating template. The following values are available for selection:</p> <ul style="list-style-type: none"> <li>• New</li> <li>• Certified</li> <li>• Under Development</li> <li>• Closed</li> </ul> <p><b>Note</b> Please note that only the records with the status "Certified" can be used in the processes.</p>
Total weight	Displays the sum of the weights from the rows of the evaluation template.

## FastTab Rating Types

In the Rating types info tab, you can include as many valuation types as you want for the respective valuation template. The individual fields are explained in more detail below:

Field	Description
Sequence no.	The "Sequence No." field specifies the sequence of the rating types in the later process. This means that it defines the order in which the individual rating types are displayed in the rating template and later in the rating. This sequence can be structured individually.
Rating type code	In the fields "Rating type code" the corresponding valuation types for the valuation template are assigned.
Description	Specifies the description of the assigned rating types.
Weighting	<p>Indicates the weighting of the respective rating type.</p> <p><b>Note</b> Please note that the total weighting of all rating types must = 100.</p>
Standard points	<p>Specifies the possible standard points to be included as a lump sum for the rating. This means that if there are no rating entries for the vendor and the rating type at the time of a valuation, the standard points will be included in the rating as a lump sum.</p> <p><b>Note</b> Please note that in case of a standard point allocation, there are no rating entries for the respective vendor and the rating type in the system.</p>

**FastTab Classification**

Field	Description
A-H Classification Points	<p>Determination of the respective classifications. In the respective fields you define from how many points the respective classification should apply.</p> <p><b>Note</b></p> <p>Please note that at least the determination of the points for classification A must be made. All other classifications can, but do not have to be specified.</p>

**Vendor Group Ratings**

With the help of the vendor group you can group your vendors and, if necessary, set separate points for them for the ratings.

To do this, call up the "Vendor Group Ratings" via the user search. Via "New" in the action bar you can define a new vendor group with the help of the table below.

Field	Description
Code	Assignment of a unique vendor rating group code
Description	Description of the vendor rating group

After creating one or more vendor rating group(s), it is possible to assign them on the corresponding vendor card, in the "Vendor Rating" info tab using the "Vendor Group Code" field.

**Item Group Rating**

With the help of the item group, you can group your items and if necessary, set separate points for them, for the ratings.

To do this, call up the "Item Group Ratings" via the user search. Via "New" in the action bar you can define a new item group with the help of the table below.

Field	Description
Code	Assignment of a unique item rating group identifier
Description	Description of the item rating group

Then the item rating group can be assigned on the corresponding item card, on the "Vendor rating" info tab in the "Item group code" field.

**Audit Questions**

Audit questions can be created to record the audits in a structured manner. To do this, first call up the "Audit Questions" via the user search.

Using the action "New" you can create a new audit question using the table below.

Field	Description
Code	Assignment of a unique audit question identifier
Description	Description of the audit question

More detailed instructions for the respective question can be stored via the action "Handling Instruction". These instructions are automatically transferred to the audit templates or audits and can be used to clarify the questioning to be carried out.

#### Audit Template

The respective concrete audit of a supplier can be compiled via the audit templates.

To do this, call up the "Audit templates" via the user search. Via the action "New" you can create a new audit template. The fields of the audit template are explained in more detail below:

#### FastTab General

Field	Description
No.	Assignment of a unique audit template identifier
Description	Audit Template Description
Status	<p>Indicates the status of the audit template. You can choose from the following:</p> <ul style="list-style-type: none"> <li>• New</li> <li>• Certified</li> <li>• Under Development</li> <li>• Closed</li> </ul> <p><b>Note</b></p> <p>Please note that only the audit templates with the status "Certified" can be used in the processes.</p> <p>To edit an existing audit template, the status must be set to "Under Development".</p>

#### FastTab Lines

Field	Description
Question code	Specifies the question code (audit question)
Description	Description of the question code (audit question)

More detailed instructions for the respective question can be stored via the action *Process > Handling Instruction*. These instructions are automatically transferred to the audits and can be used to clarify the questioning to be carried out.



Report Selection - Vendor Rating

Numerous reports are available for vendor rating: \* Delivery rate rating \* Vendor Rating List \* Vendor Rating \* Finished audits \* Audit

Before use, the report selection must be initialized once. To do this, call up the "Report Selection - Vendor Rating" via the user search. With the help of the "Initialize" button you can initialize the reports. Initialization automatically sets the reports in the report selection.

Item Card

FastTab Vendor Rating

On the item card, the following vendor rating facilities can be made in the "Vendor Rating" info tab:

Field	Description
Item Group Code	Selection of an item group.
Exclude from Rating	Activate the check box if the item should not be recognized in vendor rating scenarios.

Vendor Card

FastTab Vendor Rating

On the vendor card, the following vendor rating setup can be made in the "Vendor Rating" info tab:

Field	Description
Vendor Group Code	Selection of a vendor rating group
Exclude from Rating	Activate the check box if the vendor should not be recognized in vendor rating scenarios.

Furthermore, the last determined vendor rating is displayed. You can find further information on this in the section "Creating the Vendor Rating".

Vendor Rating

Automatic Vendor Rating

The automatic vendor rating refers to the rating criteria quantity, deadline and quality. During the booking process of the purchase order, the system automatically creates the registrations for the rating criteria quantity, adherence to delivery dates and quality.

## Note

Please note, for the automatic rating of **quality** the separate module "[QM - Quality Management](#)" of [KUMAVISION AG](#) is required. This is not included in the scope of this module!

### Manual Vendor Rating

Manual evaluation is used to record "soft" evaluation criteria, such as communication, and to include them in the supplier evaluation. In addition to the automatic evaluation for the evaluation criteria quantity, deadline and quality, you can evaluate manual criteria in all purchasing-relevant documents. These purchasing-relevant documents are:

- Purchase Quote
- Purchase Order
- Purchase Invoice
- Purchase Return Order
- Purchase Credit Memo
- Warehouse Receipt

The call is identically integrated. For this you mark the desired line and call yourself over the info register *Line* in the menu selection *Line* the menu option *Manual rating*.

Alternatively, you can create a manual vendor rating directly via the respective vendor card. To do this, call up *Action > Vendor rating > Manual rating* via the action bar.

A manual rating contains the following information:

Field	Description
Rating Type Code	Select rating type (rating criterion)
Rating Type Description	Indicates the description of the selected rating type
Rating Code	Selection of a corresponding rating code for the selected rating type
Rating Description	Gives the description of the selected rating code
Rating Points	Gives the rating points for the selected rating characteristic
Posting Date	Indicates the date on which the manual rating is posted

In the manual rating worksheet, multiple ratings can be entered at the same time.

In order to generate vendor rating entries based on the manual ratings, the manual ratings must be posted. To do this, the posting function is called up in the manual rating worksheet via the *Actions > Post manual rating* action. After executing this action, the system will acknowledge the posting with a corresponding message. Subsequently, the *Manual rating entries* section of the worksheet displays the created vendor rating entries.

The Manual Rating Worksheet also provides the option to cancel a vendor rating entry from a manual rating. To do this, go to the *Manual rating entries* section and select the menu item *Manage > Cancel Manual Rating*.

This action calls up the worksheet for reversing vendor rating entries. For details please refer to the section [Cancelation of Vendor Rating Entries](#).

**Vendor Rating Entries**

The table Vendor Rating Entries is the central place for the rating of the vendor rating. The results of the automatic as well as manual registration are stored here.

Field	Description
Entry No.	Shows the Entry No. that the application has given to the entry. Each vendor rating entry has a unique entry number. When posting, a number is automatically assigned to each entry.
Vendor No.	Specifies the vendor number of the transaction. The field is automatically transferred from the purchase order during the registration of the entry using the field Vendor number.
Type	<p>Displays the type of order line. The following options are available:</p> <p><b>Empty</b> Not used</p> <p><b>G/L Account</b> the line contains a G/L Account.</p> <p><b>Item</b> the line contains an item.</p> <p><b>Resource</b> the line contains an resource.</p> <p><b>Fixed Asset</b> the line contains an fixed asset.</p> <p><b>Charge (Item)</b> The line contains an item assigned charge</p> <p><b>Work Center</b> The line contains a work center.</p>
No.	Indicates the number of the respective species.
Description	Specifies the description of the item, defined by the "No." field.
Vendor Group Code	Specifies the assigned vendor group. The field is filled in automatically when the entry is registered.
Item Group Code	Indicates the assigned item group. The field is filled in automatically when the entry is registered based on the deposit of the item.
Posting Date	Specifies the date on which the associated document was posted.
Document Date	Indicates the date when the related document was created.
Rating Group	Specifies the rating group.

<b>Field</b>	<b>Description</b>
Rating Type Code	Specifies the description of the assigned rating type.
Rating Type Description	Indicates the assigned rating type of the entry. The field is filled in automatically when the entry is registered based on the deposit of the item.
Rating Code	Specifies the assigned assessment code. In the case of automatic assessments, the assignment is made by the system; in the case of manual entry, it corresponds to the manually entered assessment code.
Rating Description	Indicates the description of the rating points.
Rating Points	Indicates the number of rating points.
Quantity Target	Specifies the original quantity of the order line.
Quantity Actual	Specifies the delivery quantity of the order line.
Quantity Delta	Indicates the difference between the original quantity and the delivery quantity of the respective order line.
Quantity Delta Percent	Indicates the percentage difference between the original quantity and the delivery quantity of the respective order line.
Rating Reference Date	Indicates the valuation reference date when the item was valued.
Promised Receipt Date	Indicates the date when the vendor agreed to deliver the order. This field is filled based on the respective order line.
Expected Receipt Date	Indicates the date when the item is expected to be available in the warehouse. This field is filled based on the respective order line.
Planned Receipt Date	Specifies the date when the item should arrive at the warehouse. This field is filled based on the respective order line.
Date Delta in Days	The delta in days between the valuation reference date and the actual delivery date is displayed here.
Source Type	This is an internally used field. It indicates by which system table the entry was created.
Source ID	This is an internally used field. It outputs the number of the table record that caused the entry.
Source Ref. No.	This is an internally used field. If necessary, the row number of the record of a table on the basis of which this entry was created is displayed here.

Field	Description
Source System ID	This is an internally used field. The unique system ID of the record in the table of the corresponding origin document is recorded here.
Source Info	This field records a description of which origin document was used to create the vendor rating entry.
Source Purchase Doc. Type	This field is only relevant for purchasing documents. In this field the purchasing document type of the origin document is defined.
Reference Type	Here it is the open document (purchase order) while the origin type then refers to the delivery.
Reference ID	Here it is the open document (purchase order) while the origin type then refers to the delivery.
Reference Ref. No.	Here it is the open document (purchase order) while the origin type then refers to the delivery.
Reference System ID	This is an internally used field. The unique system ID of the record in the table of the corresponding origin document is recorded here.
Reference Info	This field records a description of which reference document the vendor rating entry was created from.
Reference Purchase Doc. Type	This field is only relevant for purchasing documents. In this field the purchasing document type of the reference document is defined.
Correction	A check mark in this field indicates that the item has been cancelled. This may occur in the case of a delivery cancellation or a cancellation of the vendor rating item. See the <a href="#">Vendor Rating Item Cancellation</a> section for details.
Correction Date	This field indicates the date on which the vendor rating entry was canceled.
Correction User	This field indicates by which user the vendor rating entry was canceled.
Correction Description	This field displays the comment that was stored when the entry was canceled.

#### Action Source Document

The source document can be displayed for a vendor rating entry. The source document is the document that caused the vendor rating entry. This includes both manual ratings and ratings created by the system (quantity, date).

#### Action Reference Document

A vendor rating entry can refer to a reference document. A reference document is understood here to be a purchase order or a purchase return order, since these documents form a link to other linked documents, such

as goods receipts, deliveries, invoices, returns, and credit memos. This means that if a vendor rating was entered for a posted purchase delivery, for example, the posted purchase delivery is entered in the entry as the source document and the purchase order on the basis of which the delivery was created is entered as the reference document.

#### Action Undo rating entries

Vendor rating entries can be canceled. For this purpose, the action *Undo rating entries* is used in the list of vendor rating entries. If the action is called, the selected vendor rating entries are displayed in a separate page "Undo Rating Entries". Details on this can be found in the section [Cancellation of Vendor Rating Entries](#).

#### Cancellation of Vendor Rating Entries

Vendor rating entries can also be canceled. This is possible regardless of whether the items were generated automatically by a system posting or manually. Canceled vendor rating items are not taken into account when evaluating a vendor.

Vendor rating entries can be canceled in the following ways:

##### **Automatically when canceling a purchasing delivery:**

When a posted purchasing delivery is canceled, the vendor rating entries for the corresponding items are also automatically canceled. No further user interaction is required here.

##### **From the Manual Rating Worksheet:**

In the worksheet for manual rating, the function for canceling the created vendor rating entries can be called up directly. To do this, in the *Manual rating entries* area, the *Manage > Undo manual rating* action is called up. The worksheet for canceling vendor rating entries is called up for the user with the selected items. Here the user can cancel the selected entries by specifying a cancellation description.

##### **Directly from the list of vendor rating entries:**

. The reversal functionality for vendor rating entries can also be called up in the list of vendor rating entries. To do this, the corresponding entries to be canceled are selected in the list and then the worksheet for canceling vendor rating entries is called up via the *Actions > Undo rating entries* action. Here, the user can cancel the selected items by specifying a cancellation description.

In the worksheet for canceling vendor rating entries, a reason for the cancellation must be entered in the *Undo Description* field. Without this reason, the cancellation cannot be carried out. Then, the *Undo Rating Entries* action is used to cancel the vendor rating entries.

After a vendor rating entry has been canceled, the following fields are filled in the items:

##### **Correction:**

A check mark is placed in this field to indicate that the entry has been canceled.

##### **Correction Date:**

This field is used to set the date that the entry was canceled.

##### **Correction User:**

This field displays the user who performed the reversal.

##### **Correction Description:**

This field displays the reason for the cancellation.



### Vendor rating entries in purchasing documents

In addition to displaying the vendor rating entries per vendor, you can also display the vendor rating entries for the respective purchasing documents. This applies to both open and posted as well as archived documents. For this purpose, there is the action *Vendor Rating Entries* in the respective document lines.

By executing the action *Vendor Rating Entries*, the entries are displayed for the respective line for which the line item was stored as *Source document*.

Exceptions to this are purchase orders and purchase complaints. Since these documents form a bracket for further purchase documents like e.g. purchase deliveries, purchase invoices. Therefore, the following options are available for displaying the vendor rating entries for these documents:

#### Document Rating Entries

Vendor rating entries that are directly assigned to the document are referred to as "document rating entries". Direct assignment can be identified by the fact that the document is entered as the originating document in the vendor rating entries.

#### Related Rating Entries

Related Rating Entries are vendor rating entries that are not directly assigned to the corresponding purchase order / purchase return order, but have a reference to the corresponding purchase order / purchase return order as a reference document. An example of this would be the vendor rating entries for quantity and date, which are assigned to a posted purchasing shipment as an source document, but contain the associated purchase order as a reference document. As a result, these entries can also be viewed in the corresponding purchase order as *Related Rating Entries*.

### Audit

#### Record Audit

By means of audits, you can check and evaluate processes, requirements and guidelines using general investigation procedures. This is a frequently used investigation procedure, especially in the context of quality management. You can record, evaluate and document audits for your vendors and use them as evidence. The rating of the audits is a possible key figure of the vendor rating.

Call up the "Audits" via the user search. Via "New" in the action bar you can create a new audit. Alternatively, you can enter an audit directly via the vendor card using the action *Vendor Rating > Audits*.

The fields of the audit card are explained in more detail below:

## FastTab General

Field	Description
No.	The field is the unique identification of an audit. The number can be created using a series of numbers or manually.
Description	Enter the description of the audit in this field.
Vendor No.	Use a lookup to enter the vendor for which you want to record an audit in this field.
Audit Director	In this field, select the responsible auditor from the user table.
Audit Date	Enter the date of the audit in this field.
Status	<p>In this field you can store the current status of the audit. The following options are available:</p> <p><b>New:</b> This status indicates that the audit has just been recreated.</p> <p><b>Planned:</b> You can set this status if an audit capture or assessment is imminent.</p> <p><b>In Process:</b> This status indicates that the audit is currently being performed or is in process.</p> <p><b>Finished:</b> You set this status after the audit is complete.</p>
Completed At	This field is set automatically by the system. It indicates when the audit was completed.
Completed From	This field is set automatically by the system. It indicates by whom the audit was completed.
Achieved Assessment Number	This field is automatically calculated by the system based on the audit parts. The value is the audit result, which can be included in the vendor rating.
Max. Achievable Assessment No.	Indicates the possible maximum score that can be achieved in the audit. This field is automatically calculated by the system based on the audit parts.
Template No.	Specifies a audit template that should be used for default settings.

## FastTab Lines

Field	Description
Question Code	In this field, select the previously set up question codes that you want to evaluate for this vendor during this audit.
Description	This field is pre-populated with the description of the question code.
Assessment Number	The Assessment Number is the result of the current audit line, i.e. the rating of the audit code.
Comment	In this field you can store additional remarks about the audit code and the associated rating.

Via the action *Process > Handling Instructions*, more detailed instructions can be stored for the respective question. These instructions can be used to clarify the questioning to be carried out.

If longer answers are to be assigned to a question for which the "Comment" field is not sufficient, these can be entered via the *Process > Audit Note* action.

## Actions

## Change Status

You can call the action "Change Status" in order to change the status of the current audit. As the field "Status" itself is not editable, you need to use this action instead. The following options are available: \* New  
This status indicates that the audit has just been recreated. \* Planned  
You can set this status if an audit capture or assessment is imminent. \* In Process  
This status indicates that the audit is currently being performed or is in progress. \* Ends  
You set this status after the audit has been completed. As soon as an audit has the status "Finished", the audit is not displayed in the audit overview, but in the audit archive list.

## Set template

The action "Set template" is available via the action bar. This allows you to add already created audit templates to the audit, so that the questions defined in the template are set for the current audit.

## Print

You can print the audit questionnaire using the "Print" action.

You can either forward this printout to your vendors with a request for a response or use it yourself during the audit. Due to this, neither the rating number nor the remarks are displayed in this printout.

## Audit Archives

Audits with the status "Finished" are kept in the audit archive list. Alternatively, you can access the archived audits directly from the respective vendor card via the action *Related > Vendor Rating > Archived Audits*.

## Preparation of the Vendor Rating

You can carry out vendor ratings on the one hand via the vendor card using the action *Actions > Vendor Rating > Vendor Rating* and on the other hand via the general call using the user search. Thereby it is distinguished that with the call from the vendor card, the filtering is already set on the respective vendor.

The filter criteria of the vendor rating mask are explained in more detail below:

Field	Description
Rating Date	The rating date is automatically preset by the system and always corresponds to the working date of the system.
Rating Template Code	This field specifies the rating template code for which you want to perform the vendor rating. This specification is mandatory.
Rating Template Description	Specifies the description of the selected rating template code.
Begin Rating Period	Specifies the start date of the considered rating period. This date can, but does not have to be set.
End Rating Period	Specifies the end date of the considered rating period. This date must be set and must not be greater than the rating date or the current work date.
Vendor Group Code Filter	In this field, a filter can be set for the vendor groups for the rating. If a filter is set here, it will be checked before the rating of a vendor whether this is assigned to a vendor group which corresponds to this filter. If this is not the case, the vendor will not be rated.
No.	Filter option on a specific vendor.
Purchaser Code	Filter option on a specific purchaser assigned to the vendors.
Responsibility Center	Filter option on a particular responsibility center.

You can call up the created vendor ratings afterwards either via the general call *Vendor Ratings* via the user search or via the vendor card via the action bar *Related > Vendor Rating > Vendor Ratings*.

The individual fields of the vendor ratings list are explained below:

<b>Field</b>	<b>Description</b>
Entry No.	Shows the Entry No. that the application has given to the entry. Each vendor rating entry has a unique number. When posting, a number is automatically assigned to each entry.
Vendor No.	Specifies the associated vendor number.
Vendor Name	Specifies the associated vendor name.
Rating Date	Indicates the rating date when the vendor rating was created.
Rating Templates Code	Specifies the scoring template against which the vendor score was created.
Rating Templates Description	Specifies the description of the rating template.
Begin Rating Period	Specifies the start date of the considered rating period.
End Rating Period	Specifies the end date of the considered rating period.
Rating Points	Indicates the rating points obtained.
Rating Classification	Indicates the rating classification based on the rating points obtained.

## Vendor Card

The last determined vendor rating is displayed on the FastTab "Vendor Rating" of the vendor card.

Field	Description
Last Rating Entry No.	Indicates the Entry No. of the last rating entry created.
Last Rating Date	Indicates the rating date of the last rating.
Last Rating Template Code	Specifies the rating template code used to create the last vendor rating.
Last Rating Template Description	Specifies the description of the rating template code.
Begin Rating Period	Specifies the start date of the considered rating period of the last rating.
End Rating Period	Specifies the end date of the considered rating period of the last rating.
Rating Points	Indicates the number of achieved rating points of the last rating.
Rating Classification	Indicates the classification of the last rating.

## API Communication

Microsoft Dynamics 365 Business Central on-premises and online expose an API that makes it possible to integrate with other services. To enable integration with these APIs, you must go through a few steps to enable the access first. For more information about these steps, see [Enabling APIs for Dynamics 365 Business Central](#).

KUMAVISION Vendor Rating Management adds several endpoint towards the standard API in order to enable integration to vendor rating management, too.

### Note

For information about enabling APIs for Microsoft Dynamics 365 Business Central see [Enabling the APIs for Dynamics 365 Business Central](#).

## API Resources

- [Rating](#)
- [Rating Type](#)
- [Rating Entry](#)
- [Audit Template](#)
- [Audit Template Line](#)
- [Audit](#)
- [Audit Line](#)
- [Archived Audit](#)

- [Archived Audit Line](#)



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