imos iX 2019 - SR2
What’s New



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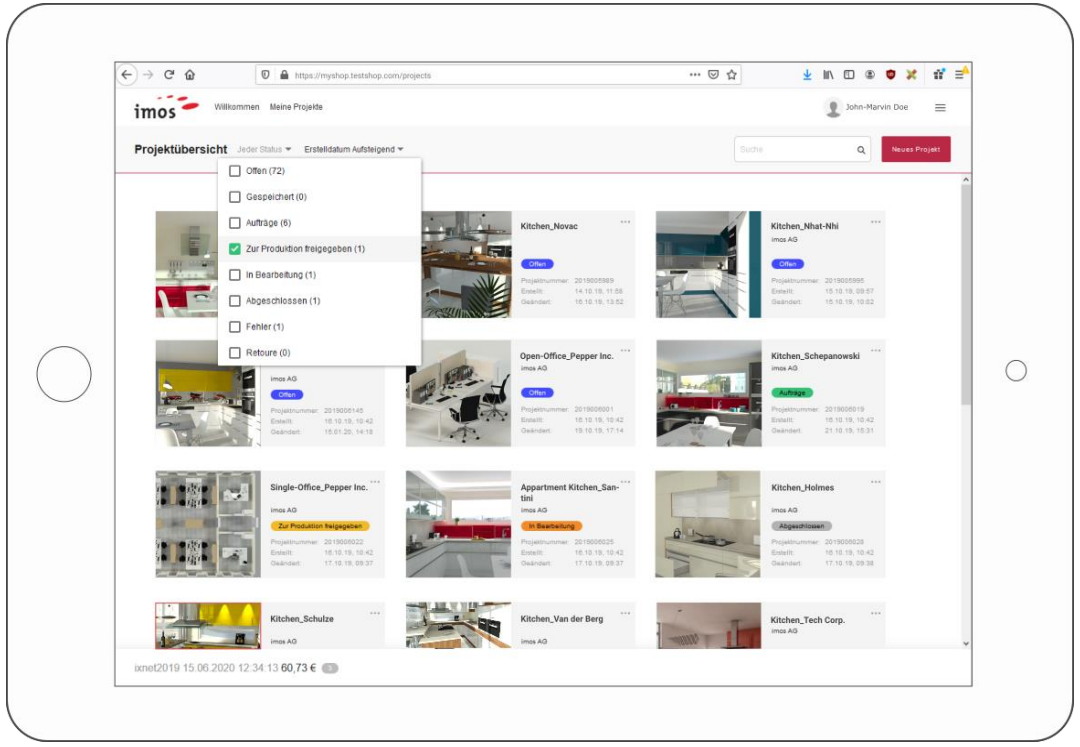
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iX NET 2019

NET 7: both the name and the application have changed. Now offering intuitive navigation in the new B2B and B2C shops thanks to slimming the program to include only essential functional components and introducing targeted user guidance.

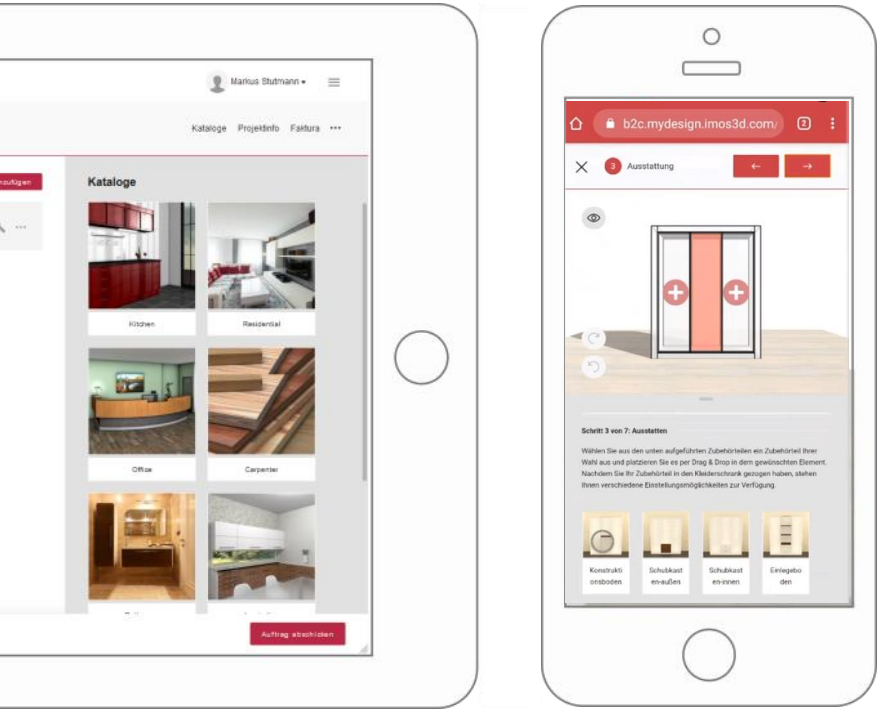
Project overview and status



The project folder displays compact cards for your planning needs. In addition to the project preview, they also provide information on the project status, so that you always know how much progress you have made.
Find the project you are looking for by filtering based on status, sorting the list, or entering key words into the search bar.

The shopping cart still lists all article details.
You can access all catalogs in the right-hand shopping cart layout column in order to edit additional articles in the configuration tool and add them to the shopping cart.

In the configuration tool itself, you can deactivate the shadow in order to simplify the display.
Leave the configuration tool by clicking Discard.



The B2C shop

Based on the B2B shop, we present the new B2C shop:

Your customers can order furniture using an integrated online-shop system. They create the furniture in the Article Designer based on their individual needs and without the limitations typical to the B2B Configurator.

Responsive design for mobile devices

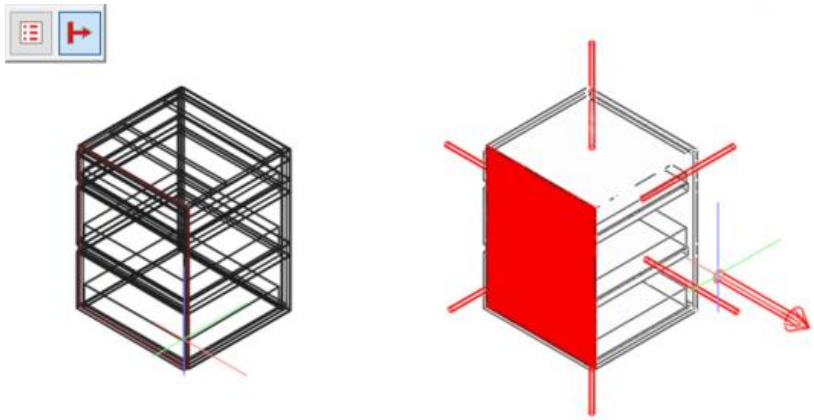
A responsive design cleans up the screen and ensures that both the B2B and B2C shops are accessible from all devices. You can thus present your project in style on both mobile tablets and smartphones, as well as on a desktop computer.

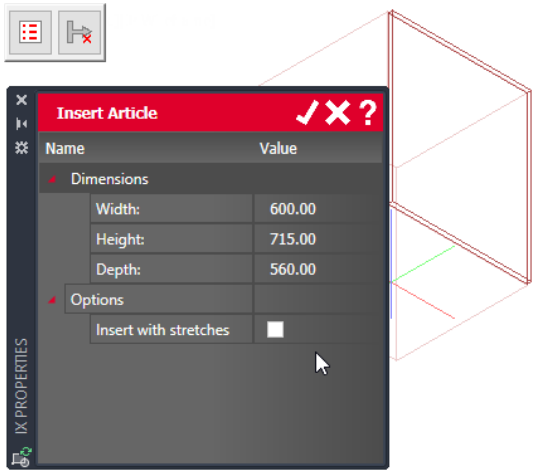
Export connector data as GLB

Both the 3D preview and the room planner require connector blocks in a GLB format. The export scope in imos CAD has been expanded accordingly.

iX PLAN 2019

As with iX NET, the work cycles have been optimized in iX PLAN.



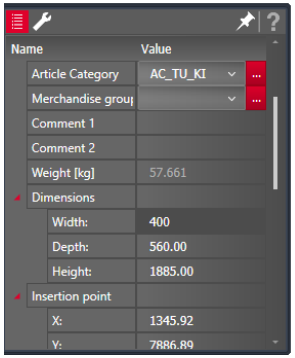


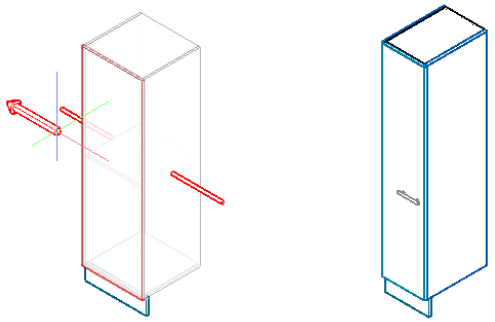
Insert Options and Stretch Article

Plan articles in just a few steps with the new buttons ‘Insert Options’ and ‘Insert in stretch mode’. They appear in the upper left of the drawing area if you

- insert an article
- use the methods copy article or
- move article.

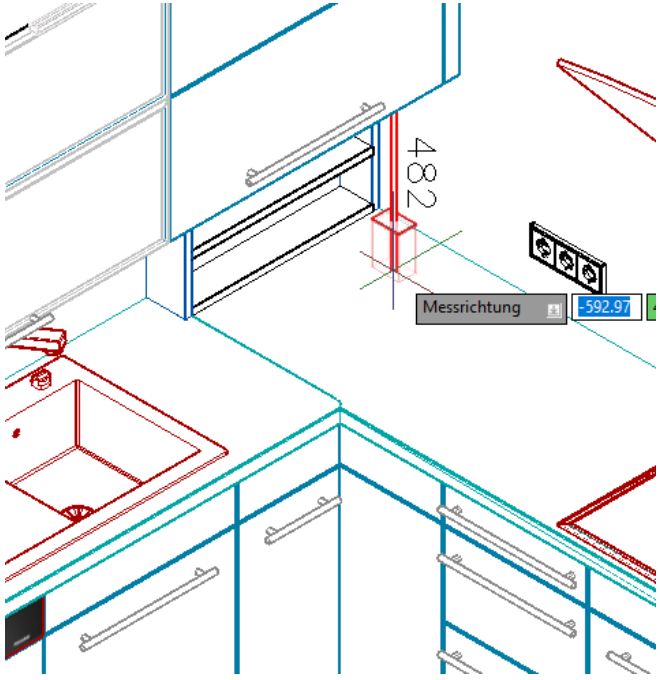
Click the ‘Insert with stretches’ option in the drawing area to switch to stretch mode immediately after insertion; click the option again to cancel it.
Click on the ‘Insert Options’ button in order to define the article dimensions in the properties palette. If you also activate the ‘Insert with stretches’ check box, you will in turn switch to stretch mode.
In iX CAD, this dialog has additional selection boxes for changing relevant article variables.





When changing the dimensions of an order article in the iX PLAN Configurator, in the Article Designer or in the Properties palette, iX CAD and PLAN will automatically switch into the strech-mode. You can select one of the two directions that the article stretch can be applied to, saving you the time of repositioning the article flush with other articles.

Laser measurement



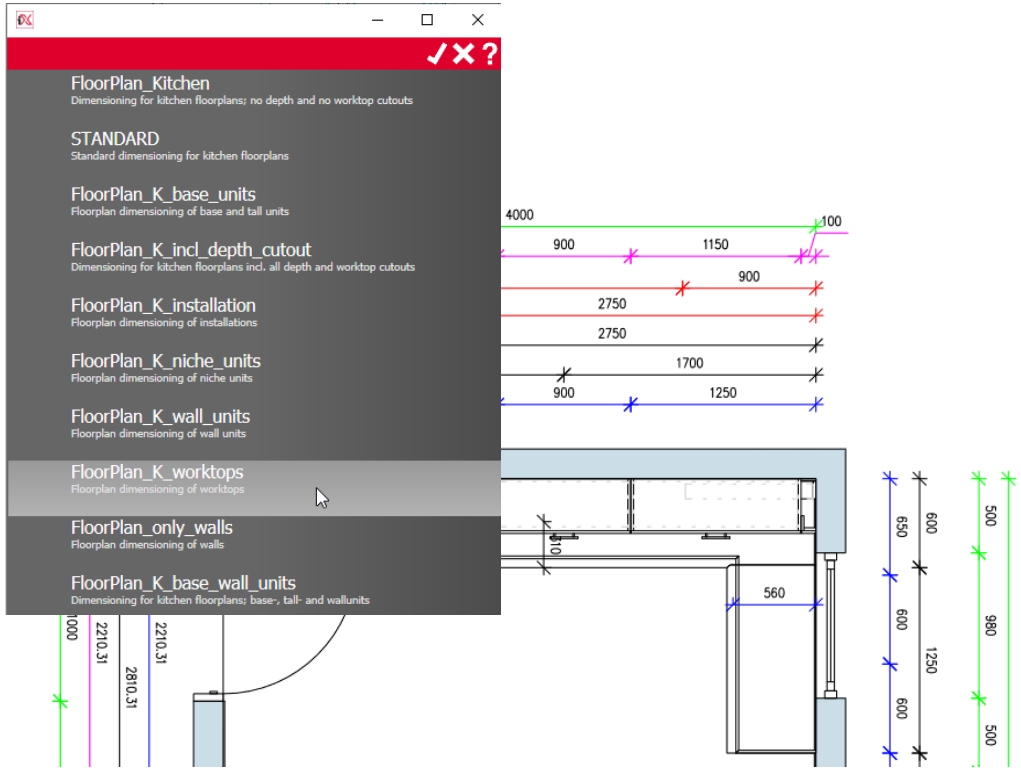
Doublecheck distances using the method Laser. It snaps perpendicular to walls, article sides and edges that are close to the mouse cursor which makes it more intuitive than the measurement command DIST.
Additionally, you can lock/unlock the laser alignment, reverse it or turn it sideways.
In iX CAD, the Laser is available in almost all index tabs of the ribbon menu.



Highlighting the front of the article and snapping corners

The new insertion mode now also catches articles corners. Highlighting the front of the article in red helps you to orient the article: in a shaded display mode such as ‘realistic’, the entire front surface is visible in red, otherwise it will have an obvious red frame.

> If you are red-green colorblind, we recommend working with the display modes 3DWireframe or Realistic.



Automatic dimensioning of plan views and elevation views

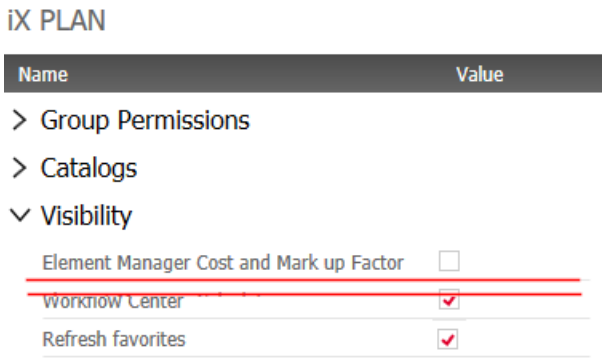
In iX 2019 SR2, the automatic drawing view output is based on the new dimensioning principles Floor Plan and Elevation View Dimensioning. When generating the views, imos applies their respective STANDARD principles. They have been optimized for the point of sale.

The methods for manual dimensioning offer iX PLAN experts the possibility to choose from a list of dimensioning principles, favored by their imos data administrator, in the Principle Selection dialog to apply the most fitting dimensioning for their use case (see also Transfer favorites to all clients, Apply order-

independent favorites to existing orders and Dimensioning floor plans and elevation views).

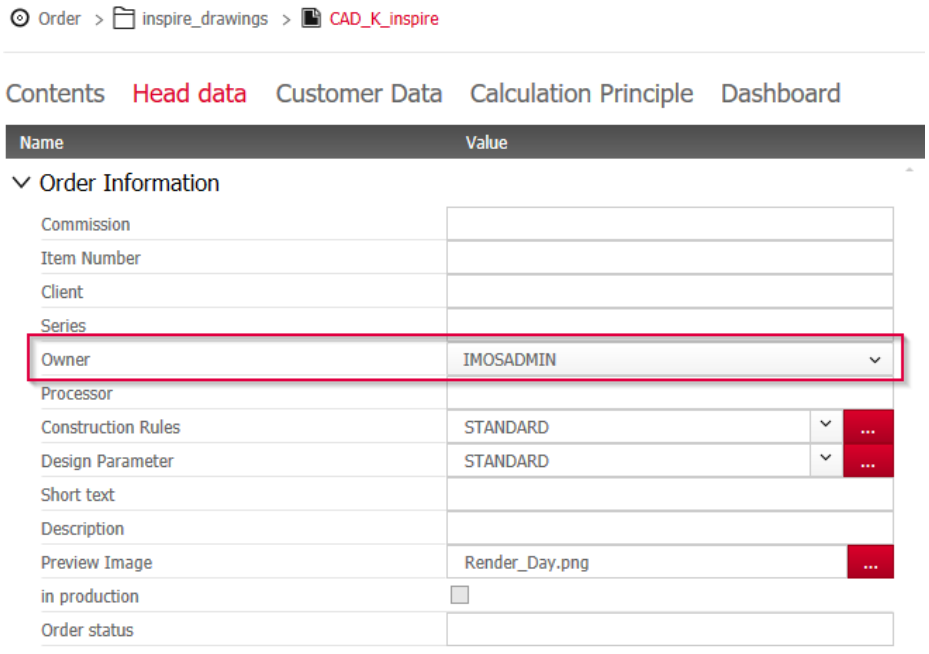
Apply order-independent favorites to existing orders

Until now, the order-independent favorites were automatically changed to order-dependent favorites after saving an order. This meant that they deviated more from the order-independent favorites with every additional application of a principle.
The update 14.0.1.187 offers the user the option of replacing the order-dependent favorites with the order-independent favorites current at the time of opening the order.
To do this, simply activate the check-box “Refresh favorites” in the relevant group permissions.
iX Plan users, in particular, can use this to always work with the favorites created by the imos data administrator, even in existing orders.



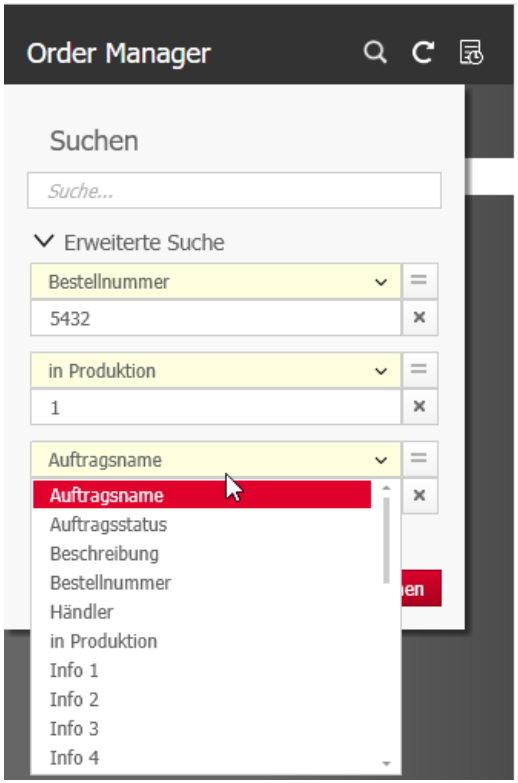
Change order owner

To ensure that not only employees with the rights Super Main User or Administrator can take over for an absent colleague (vacation, illness, etc.), the administrator rights have been expanded: in the iX CAD and iX Organizer Order Management,



the administrator can change the owner of an order in the relevant selection box.
If no other Super Main User or Admin is managing orders, you can also use this process to ensure that the owner of an order is the person who is actually editing the order.

> If “Show all orders (not only group specific)” is turned off in a corresponding Group Permission (multi-client module), you also have to move the order to a directory that is visible to the new owner!



Search the order manager for customer data

When searching for orders in the Organizer or in CAD, you can search for both, order head data fields as well as customer fields.

PLAN Link*

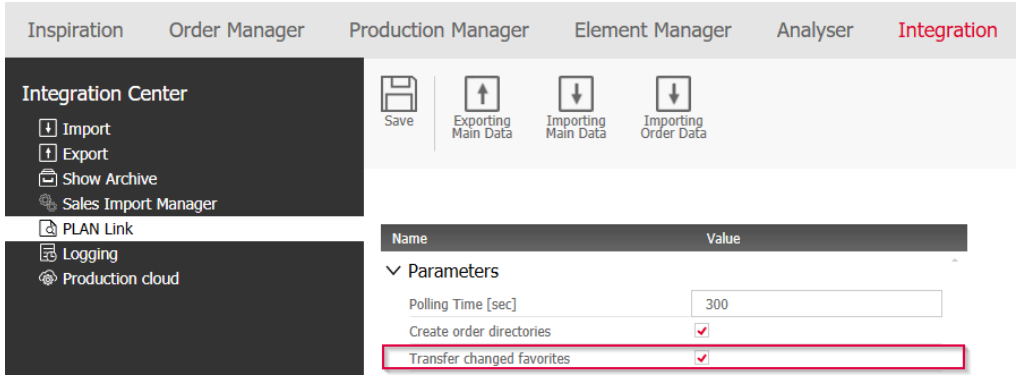
*This function is optional and not included in the standard version.

Dealing with orders that have been exported multiple times

Beginning immediately, imos will inform you as to any conflicts with existing orders and will move the new file into an error directory defined in advance (usually C:\PROGRAMDATA\IMOS AG\FACTORY\SIM\ERROR). Click OK in the notification dialog in order to continue importing additional orders.
If you use an iBot for import, imos will write the error entry to the log file; in this case, you will not see a notification dialog.

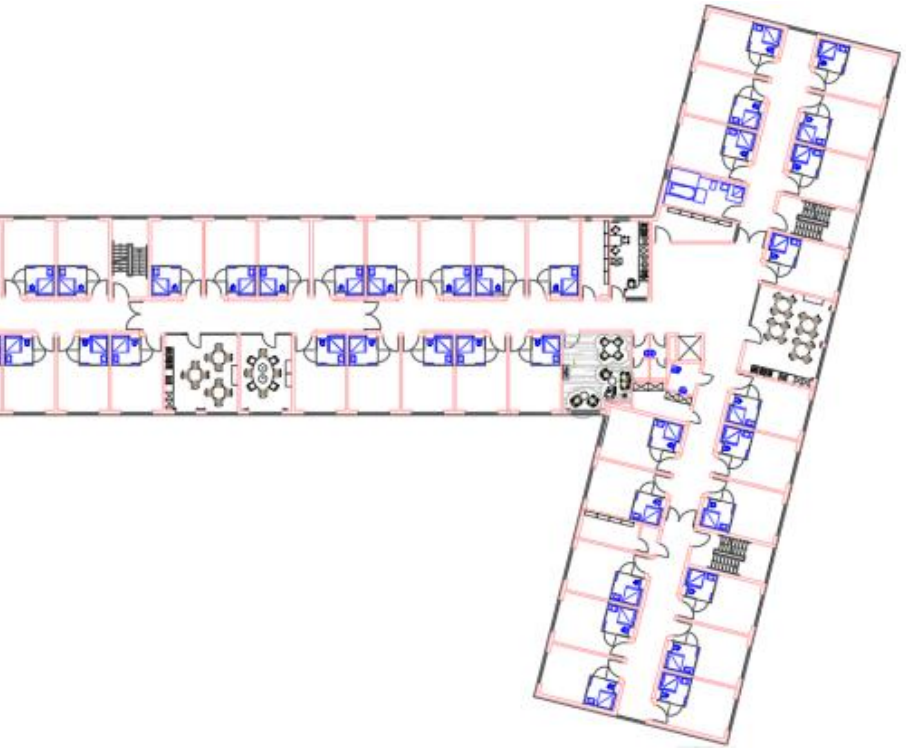
Transfer favorites to all clients

After introducing the iXplorer properties palette in iX PLAN, the data administrator can now also fill in and update the principle selection boxes, by transferring their favorites in the master database to all clients. To do this, they activate the button “Transfer changed favorites” under Integration>PLAN Link.



The data administrator must create favorites for the principles listed below so that iXPlan users are able to apply them in corresponding methods and options:

- Border (drawing border/ layouts)
- Annotation principles
- Floor Plan Dimensioning
- Elevation View Dimensioning



iX CAD 2019

Project Design Management

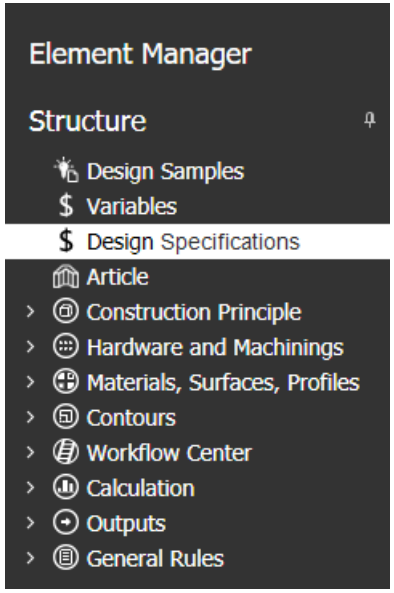
This function is optional and not included in the standard version.

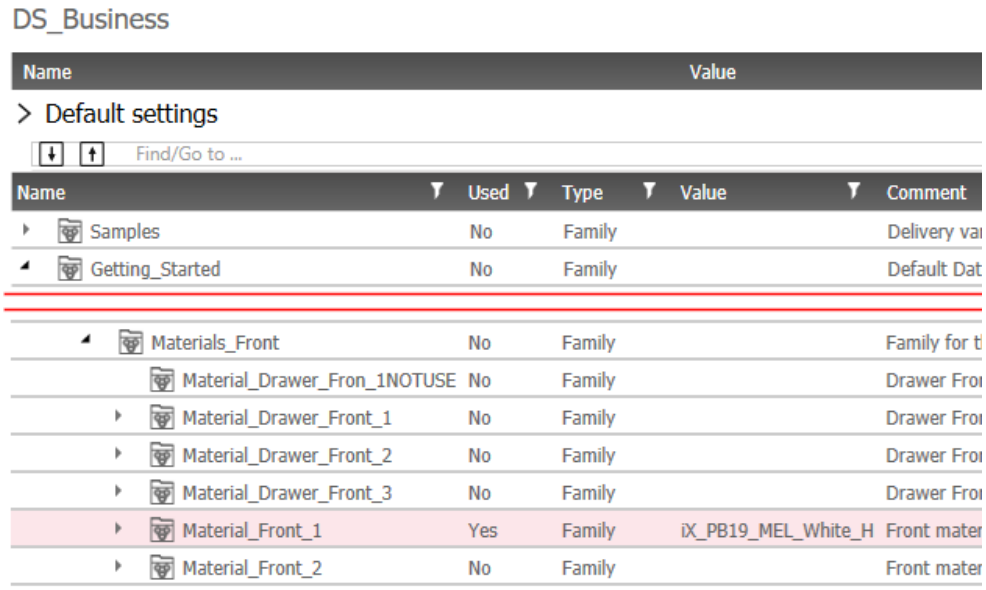
Large projects usually consist of orders with recurring elements that differ only in the details. In addition, incomplete design concepts can lead to spontaneous changes, making further project processes more difficult.
Project Design Management offers you the option of managing variables in all project orders using just a few principles and an expanded variable hierarchy.

As an example, we will look at a hotel with rooms in the categories standard, business, and premium. There is an order for each room plan view and room type. The design varies depending on the room type:

	Pull	**Case**	**Front**
Business	Vertical, 128 mm*	White	White
Standard			Red
Premium		Veneer	Veneer

* Business rooms may have a doorknob





Instead of individually defining the variables in each order, you can manage them in the Project Design Management using Design Specifications, a new principle within the Element Manager. In the Specifications, assign values to individual variables that fulfill the part requirements of a project.
In doing so, you have to pay attention to the variable hierarchy, which has two additional steps in Project Design Management:

- Project Specifications and
- Detailed Specifications

Both receive their values from different Design Specifications and allow for changes to variable values across project orders. They are located in the hierarchy between the default and order variable types.

Project Specifications

The Project Specifications provide variable values that are to be implemented in all orders within the project. They overwrite the default value.

Example:
For our hotel, we define the variable values for the case material and the pulls in the Design Specification DS_Hotel, as both are identical in nearly all rooms.

Detailed Specifications

The Detailed Specifications define variables which meet differentiated project requirements. They overwrite the Project Specifications and therefore allow for more design variations.

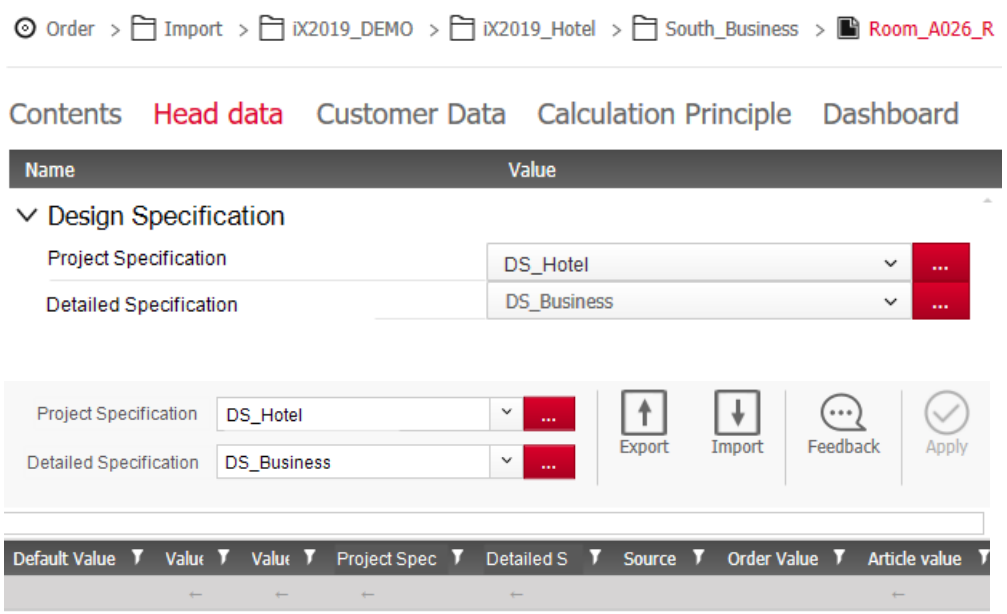
Example:
The cabinet doors are different for all room types. In addition, the builder wants to have the option of changing the pulls in the business rooms – that means there is an additional Design Specification for each room type, in which the relevant door material is defined:

- DS_Standard,
- DS_Business and
- DS_Premium.

In DS_Business, you can modify the value of the pulls at any time, in order to change them in all business rooms.

Assignment within Order Management

The allocation and distinction between General and Detailed Specifications is made in the Organizer's Order Management or in the dialog 'Save order' in CAD. In the selection window of the Design Specification node, you can define one Project and, if required, one Detailed Specification.



Assignment within the dialog for order-related variables

The Design Specifications affect the order values. You can therefore also assign them in the dialog for order-related variables – you will find the selection boxes in the ribbon menu. The columns “Project Specification”, “Detailed Specification”, and “Source” have been added to the variable table. The source provides information on the variable level the order value is derived from. Possible sources are (sorted by lowest hierarchy level):

- Default (default value)
- Project (Specification)
- Detail (Specification)
- User (when manually allocating an order value)

1. Loading Default values after loading the order

Variable	Value	Source
$Var_1	A	Default
$Var_2	B	Default
$Var_3	C	Default
$Var_4	D	Default

2. Loading Project Spec. and overwriting Defaults

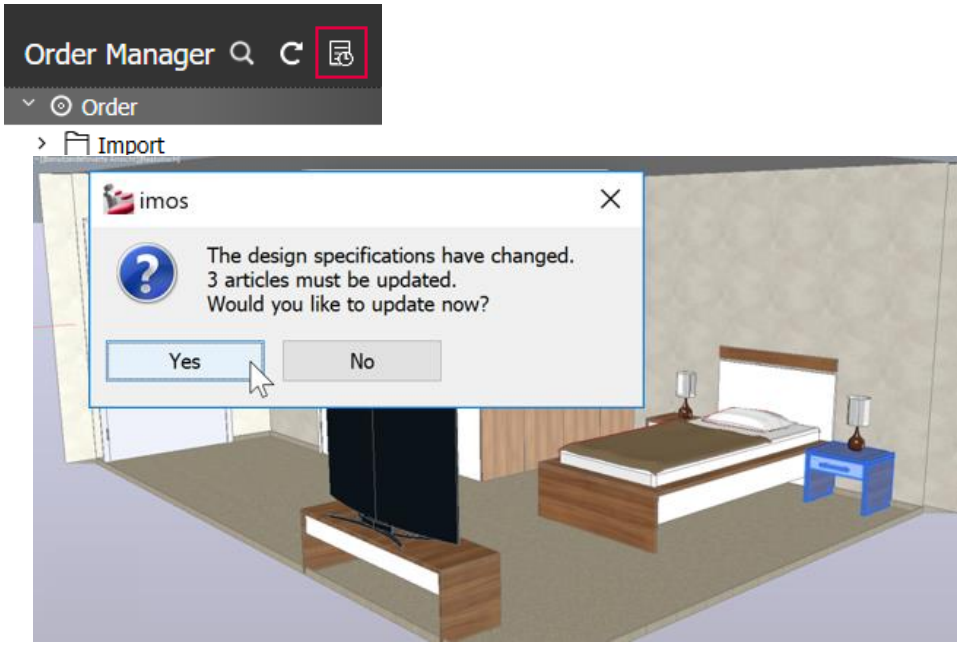
Variable	Value	Source
$Var_1	A	Default
$Var_2	E	Project
$Var_3	F	Project
$Var_4	D	Default

3. Loading Detail Spec. and overwriting Defaults/ Project Specification

Variable	Value	Source
$Var_1	A	Default
$Var_2	E	Project
$Var_3	G	Detail
$Var_4	H	Detail

4. Loading User values and overwriting Defaults/ Project Spec./ Detail Spec.

Variable	Value	Source
$Var_1	A	Default
$Var_2	E	Project
$Var_3	G	Detail
$Var_4	X	User



Updating orders after changing Design Specifications

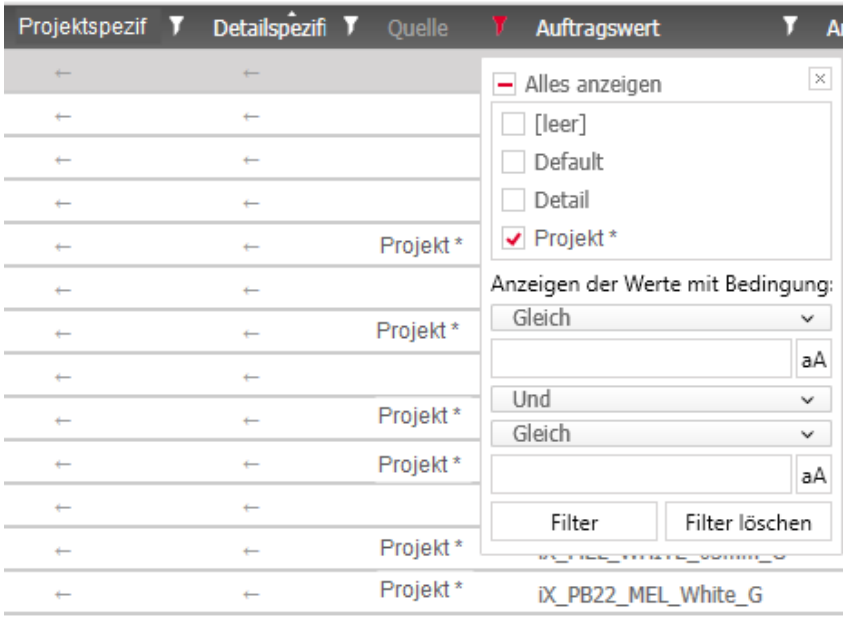
Changing a Design Specification does not automatically update all affected orders – you have to manually confirm the update. Find the affected orders in the Order Manager by clicking on ‘Orders to be updated’ on the black menu bar. Open one of the orders from the list in iX CAD: you will see a notification dialog regarding the change, asking you if you wish to update the order. Click ‘Yes’ if you wish to accept the update – this overwrites corresponding order variables (see Resolving conflicts). If you click ‘No’, the conflict will remain unresolved.

> Please note that drafting products such as plan views, views, or sections are not automatically updated – only the Article Designer article will be updated.

Conflicts

A conflict exists when the order value is not taken from the variable level (Default, Specification, Order, Article) that the variable hierarchy dictates.
Conflicts occur in the following cases:

- The user opens an order with changed Design Specifications and selects ‘No’ in the update dialog.
- User A has opened an order. At the same time, User B modifies the main data or specifications that User A is using in the order that is currently open.





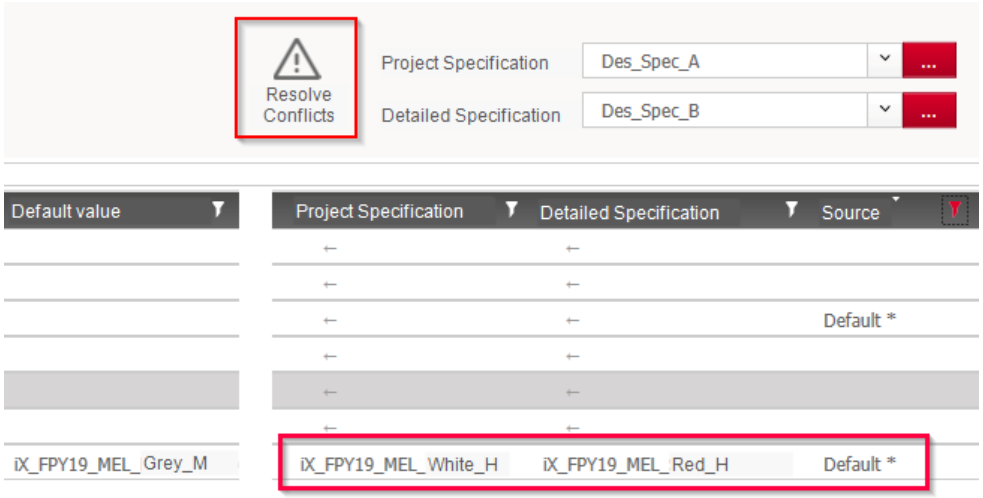
- The user changes the Design Specification, without applying it – they click on ‘Close’ instead.

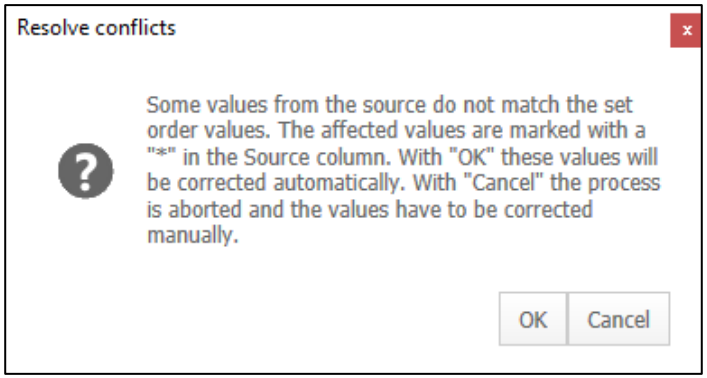
An order with an unresolved conflict is recognizable not just from the notification dialog that pops up when opening the order, but also via a hazard triangle in the order-specific variable dialog. In addition, values with an unresolved conflict are marked with an asterisk (*) in the source column.

> Use the filter function in the source column in order to filter for entries with an asterisk.

Resolving conflicts

If a conflict is automatically resolved, the program will overwrite the order and/or source value to according to the variable hierarchy’s logic. Resolve conflicts automatically by clicking on the hazard triangle in the variable dialog’s ribbon menu and confirming the query dialog by clicking on OK; click cancel if you do not wish to resolve automatically.





Alternatively, you can resolve the conflict manually by defining an order value for each conflict, so that the source value changes to “User”.

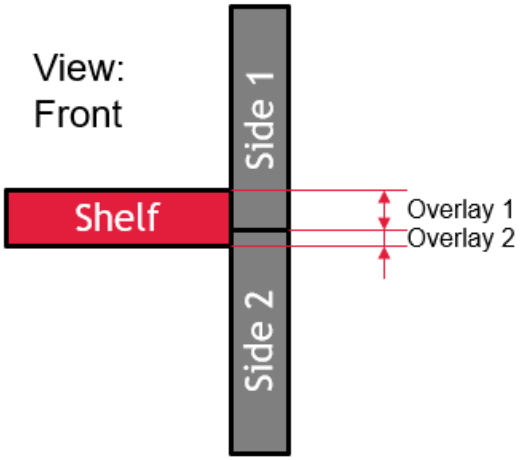
If you do not resolve all conflicts but still click on Apply, the program will adopt the current status in the variable dialog without running any checks - in this case, a query dialog will inform you of your options. Continue by clicking on OK or click Cancel to return to the variable dialog.

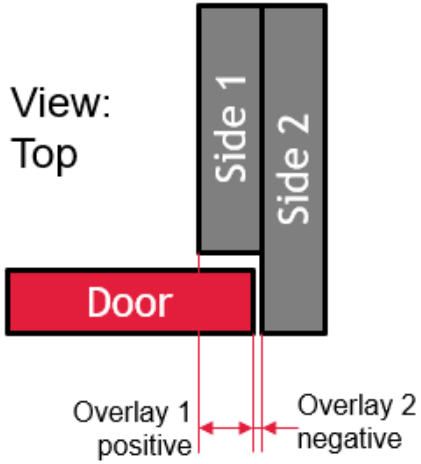
Example:

The top left graphic shows an order-related variable dialog that has been opened by an order manager. The hazard triangle informs them that there is a conflict within the order that was not in place when the order was opened – obviously data administrators have been working in the background and changed something in the main data. The variable whose order value does not come from the source is marked with an asterisk: it still reads “Default”, even though values have been entered in the columns Project- and Detailed Specification. The obvious conclusion is that the data administrator have adopted these variables into both Design Specifications shortly before, and assigned each of them a value.

If the order manager now clicks on the hazard triangle and confirms the notification dialog, the variable source will automatically switch from ‘Default’ to ‘Detail’, as the Detailed Specification overwrites both Default and Project values. The order value will change in accordance with the Detailed Specification and the conflict is resolved.

If the Specification does not meet the manager’s requirements, they can instead add an individual order value to the order column and then click Apply – the source will be switched to ‘User’ and this will also resolve the conflict.



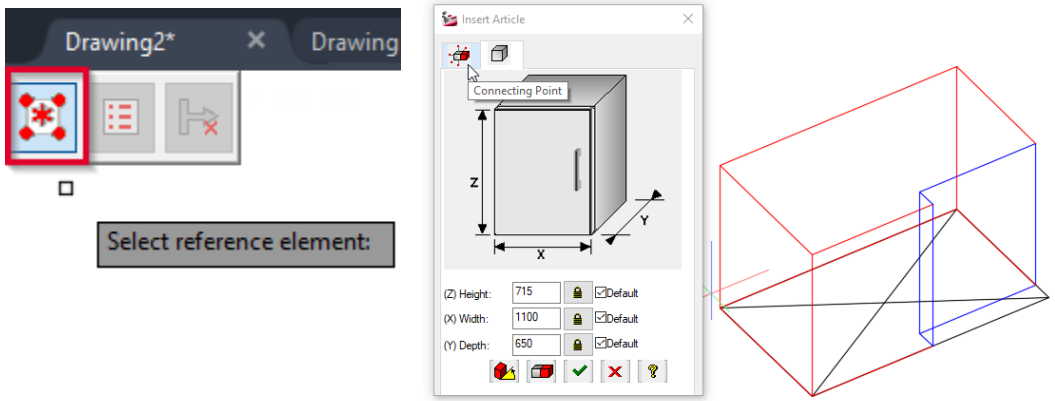


Connection Situation - prefer largest overlay

If the edge of a shelf meets up with stacking side panels, or if the edge of a door sits on a side panel incl. separate side, it is often the case that the Connection Situation cannot be determined correctly. Instead of setting the connector manually, or simply avoiding the overlay, you can activate the button ‘Prefer largest overlay’ in the relevant connection situation.

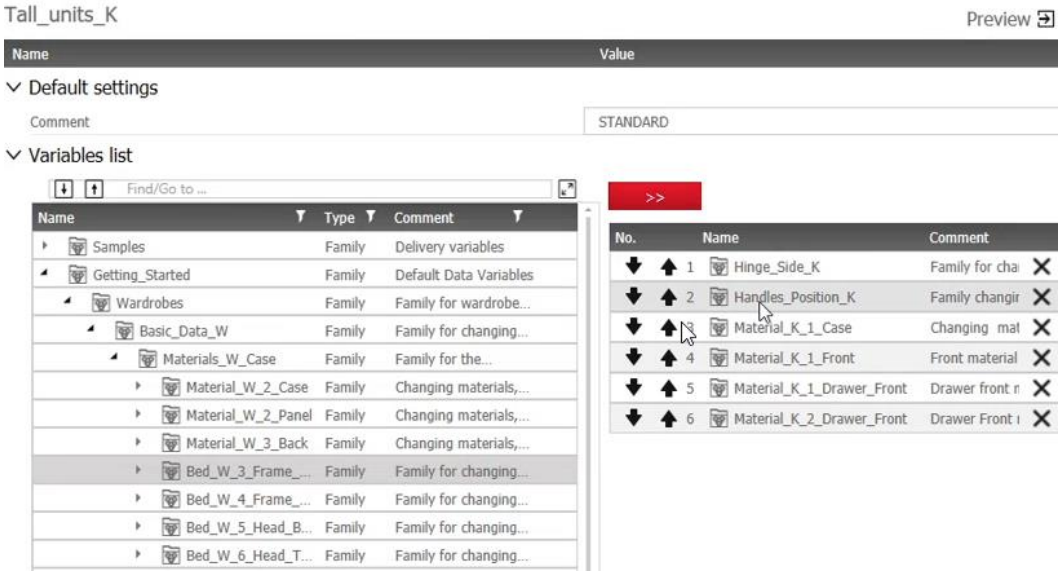
Examples with activated button:

- Top shelf connecting to two partitions:
  Overlay 1 > Overlay 2 → Connector aligned with side 1
- Door on side panel with vertical panel:
  Overlay 1 (positive value) > Overlay 2 (negative value) →
  Hinge will be aligned with side 1



Expert insert mode – Take full control over article insertion and positioning

In addition to the switches ‘Insert Options’ and ‘Insert in stretch mode’ in iX PLAN, iX CAD offers a third switch: the ‘Expert mode’ brings back the old insert dialog in iX 2019 SR2 and offers CAD users enhanced options. Click the button in the top left corner during insertion to switch to expert mode – after selecting a reference point, the expert insert dialog shows up.



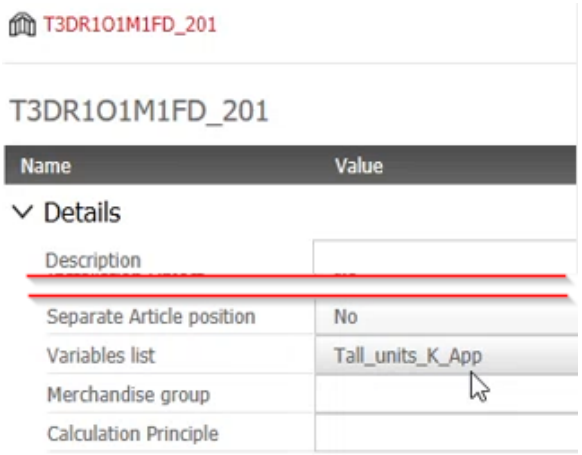
New principle variable list

The variable list is a new principle in the Element Manager’s General Rules category. In the principle, you specify variables that can typically be applied to one or more articles.

The principle’s interface is divided into two columns:

On the left side, you can select one or more of the saved variables or variable families from a tree structure. Click on the red execute button to adopt the selection. The selections will then be listed in the right-hand column, in the same sequence you selected them in. The list size is limited to 10 items.

You can change the position of the selection retroactively by using the arrow buttons to the left of every line. Clicking on the cross on the right deletes the line in question.

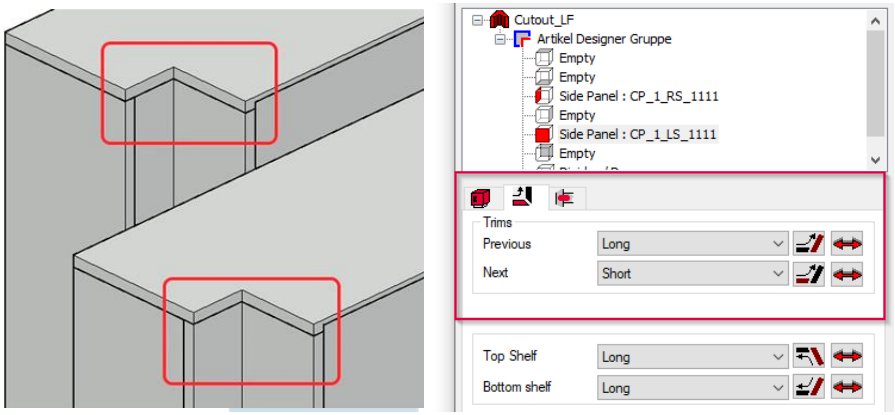


Save the principle.

If you assign the principle to an article, you can make direct changes to the article-related variables in the list in the iXplorer Insert Options when inserting, copying or moving the article.

> The program will not interpret any variables that cannot be applied to the article. In addition, you must make sure that values are assigned in the selected variables.

Edge transition to side panels and to back panels for cutout articles

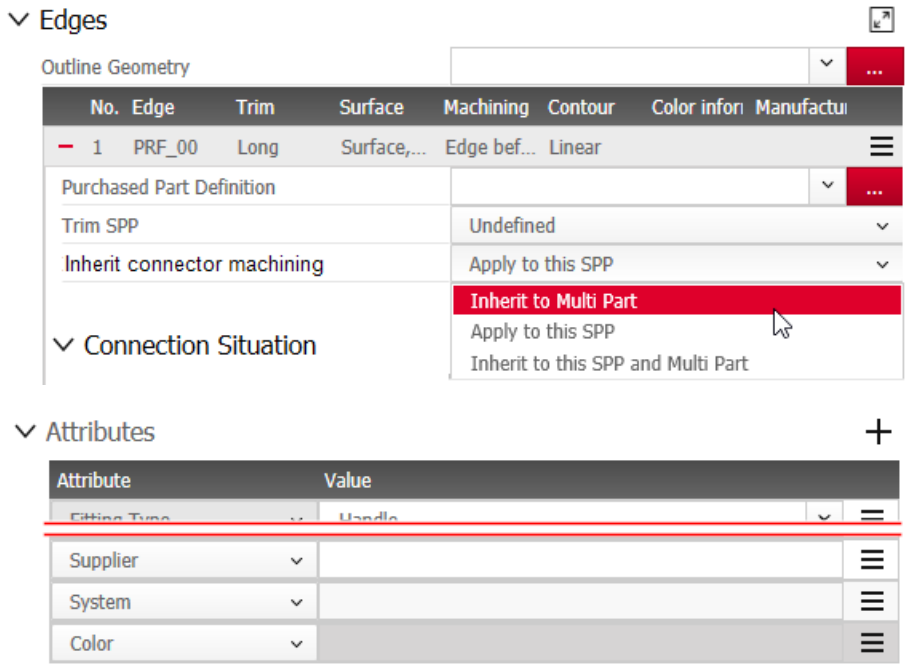


For a seamless closure for visible article edges that are interrupted by cutout articles, you can now define the edge transitions to the side and back panel, and set them to Short.

Apply inner/ outer contours of cutout articles

Inner contours of cutout articles are now applied to the surrounding article analogous to multi part elements:

- If the cutout is not located on an edge, an inner contour will be generated in the mother part.
- If the cutout is located on an edge, an outer contour will be generated in the mother part.



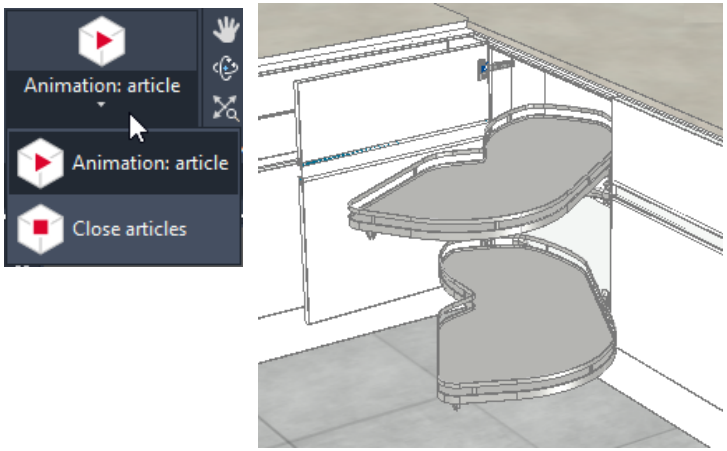
Inherit connector machining in edges

The function for passing on connector machining in the multipart dialog is now also applicable to edges in the part definition. It allows, for example, the application of connector machining to a handle strip on a door edge.

Additional attributes in connector set

Add the attributes (product) system, supplier, and color to a specific description of a connector set.

Generic Animation

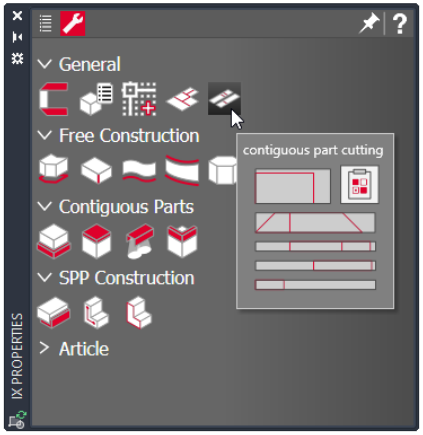


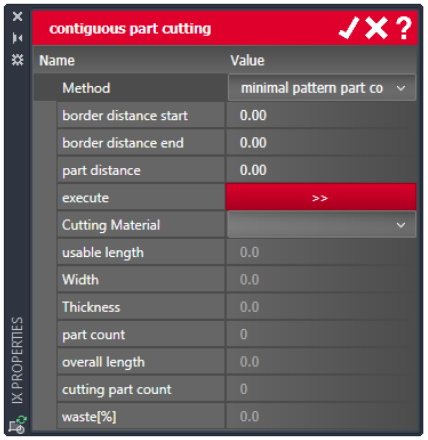
Generic animations expand the planning workflow in imos CAD, PLAN, and NET. They provide an impression of the furniture's behavior and haptic. In addition, they serve as 'visual collision control'.

Switch to a shaded visual style and click 'Animation: Article' or 'Animation: Front' and select the article to start the animation; click on 'Close articles animation' to close it.

In CAD you will find these methods under the Presentation tab.

Data driven animation has a higher priority than generic animation. So the program will play the data driven animation if animation paths are stored in the element selected.

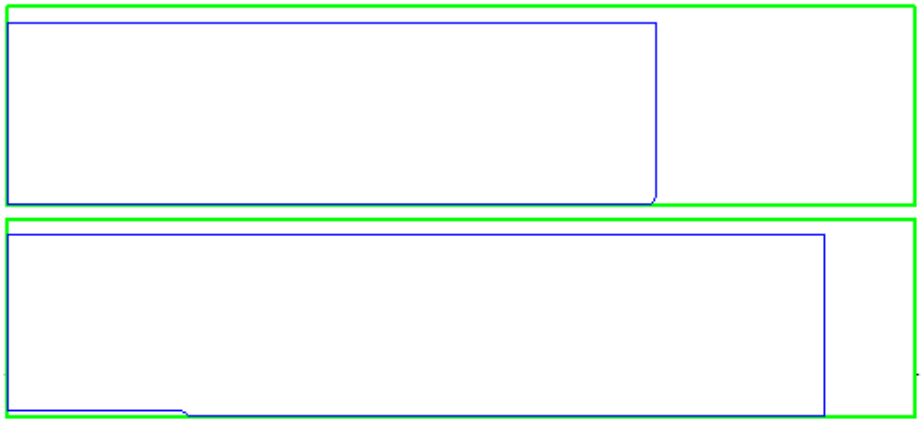




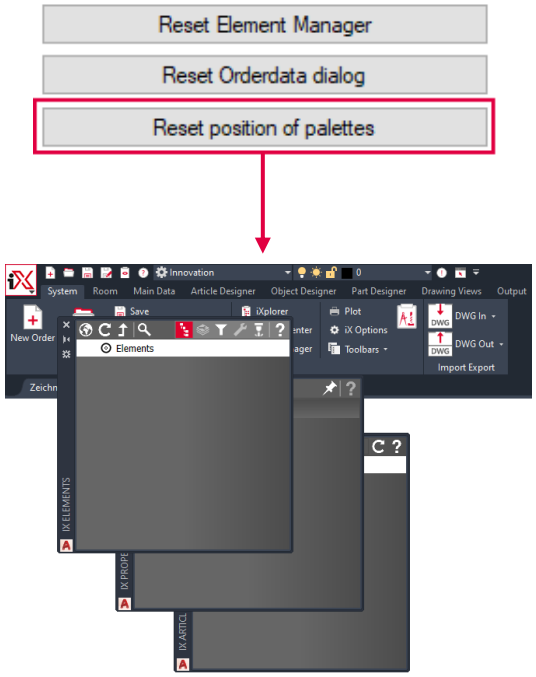
Contiguous part cutting

This function is optional and not included in the standard version.

The Contiguous Part Cutting method allows you to generate a cutting pattern part in which slab products (work surfaces, base valences, etc.) are optimally organized on a single axis.
As previously, the components are separated by material and surface and also divided into width classes. The core material selected for the cut is always that which is the closest size to the part height. After selecting all desired contiguous parts, you will see a method dialog in the properties palette. Apply changes using the ‘Execute’ button.
In the lower section of the dialog, you will see details on the cutting pattern part (if several cutting pattern parts are being created, you will only see details for one). Click on the checkmark to confirm the changes and leave the dialog.



Option	Description
Method	Select an optimization method: - Minimal cut (takes more time) - Minimal number of panels
Border distance start	Distance of parts from start of the cut panel
Border distance end	Distance of parts from end of the cut panel
Part distance	Distance of parts to each other within the cut panel
Execute	Update preview in drawing area
Cut material	Select a material principle in which appropriate core materials are defined.

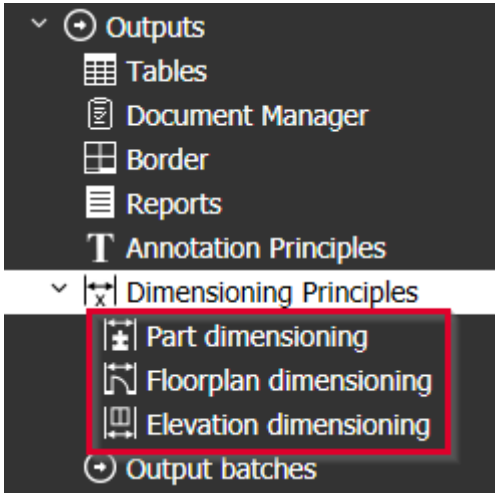


Reset position of iXplorer palettes

The iXplorer palettes are particularly helpful when using multiple monitors. However, if one of the monitors is removed, the palette may remain off screen. In this case, use the imos options to return the palettes to their original position in the top left of the drawing area.

Dimensioning floor plans and elevation views

Dimensioning has been redesigned in iX CAD and PLAN. It allows the imos administrator to individually compile dimensioning principles for every use case – from a work surface plan to full dimensions. For this, the old dimensioning principle has been split into the principles Part-, Floor Plan- and Elevation Dimensioning; the Part Dimensioning is identical with the original Dimensioning principle.



The principles Floor Plan and Elevation Dimensioning can be applied with the corresponding method View Dimensioning in both iX CAD and PLAN. When dimensioning, the program reacts to the present view and room situation. It…

- dimensions articles that are completely or partially visible (to dimension concealed articles simply activate the option Article Contours in the section options),
- minds the visibility of fittings and handles,

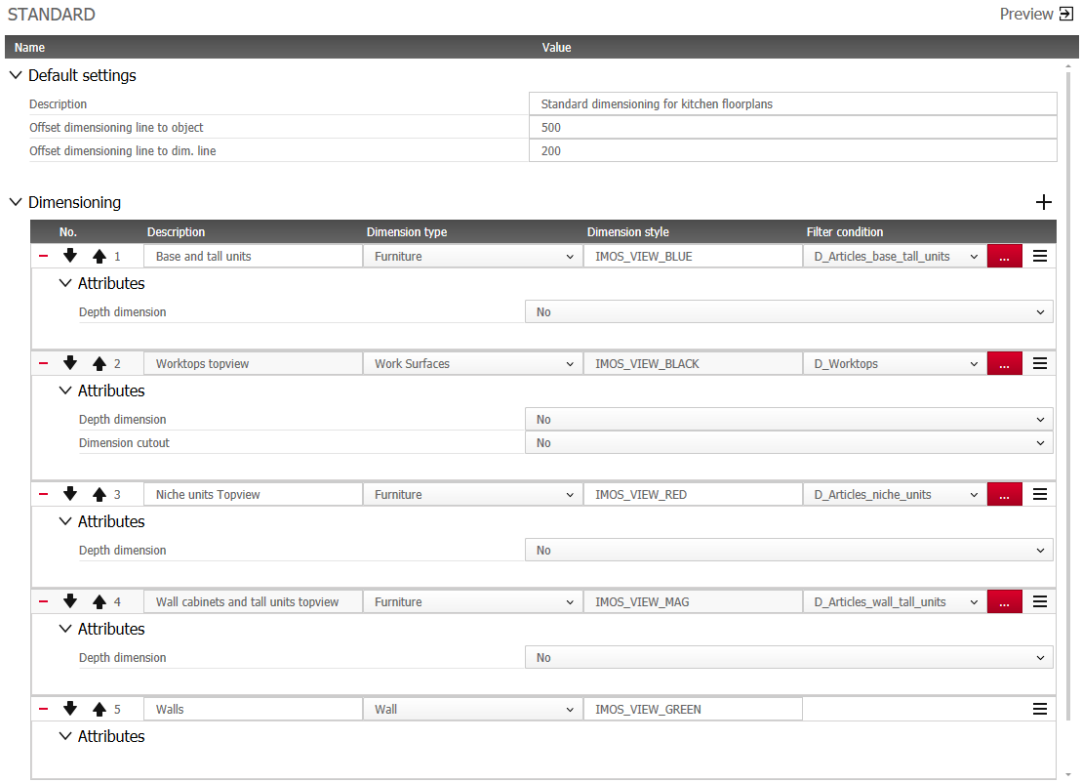
- distinguishes articles from one another that are positioned in a different depth (see Dimensioning articles placed behind one another),
- dimensions articles that are visible and perpendicular to the viewer in an elevation view,
- identifies room dividers such as kitchen islands to optimize the dimensioning for this use case (see Identifying room dividers)

The dimensioning in iX2019 SR2 requires principles for Floor Plan and Elevation View Dimensioning. If you update an existing iX 2019 installation to SR2, please download the sample principles predefined by imos. Import the ZIP file in the iX Organizer via Integration>Import. The principles are also available in a DCO package (Design Catalog Online).

Furthermore, download the current imos.dwt which contains relevant dimensioning and text styles. Either add all missing styles in your existing imos.DWT using the AutoCAD® Designcenter (Befehl: ADCENTER) or replace your existing imos.DWT – make a backup of the file before replacing.

More detailed instructions are available in the Whitepaper “Dimensioning Floor Plans and Elevation Views” uploaded in the Online Help.

The dimensions can be found in the separate layers “imosSectGround.<Number>.AutoDims” and “imosSectView.<Number>.AutoDims”, with consecutive numbering in each case.



The following pages illustrate how an imos data administrator can create his own principles for Floor Plan and Elevation Dimensioning.

First, define

- the offset between a dimensioning line and an object (view),
- the offset between two dimensioning lines and
- whether the distance between dimensioning lines should be the height on paper.

in the section Default Settings so that the dimensioning lines do not overlap each other.

In the following section, add as many Dimensioning definitions as you require using the + symbol.

A Dimensioning is made up of:

Option	Description
Description	Free text for entering a unique description
Dimension type	Choose a dimension type that best fits the use case; depending on the type you select, there are other attributes available as the process continues (see Dimension types **Fehler! Verweisquelle konnte nicht gefunden werden.**).
Dimension style	Define a dimension style contained within your IMOS.DWT*.
Filter Condition	With help from conditions, filter for all articles to which the dimension is to be applied.
Attributes	Here you will see additional options, dependent of the selected dimension type, e.g., you can activate cutout dimensions for work surfaces.

Dimension types

Dimension types optimize dimensions for different use cases.

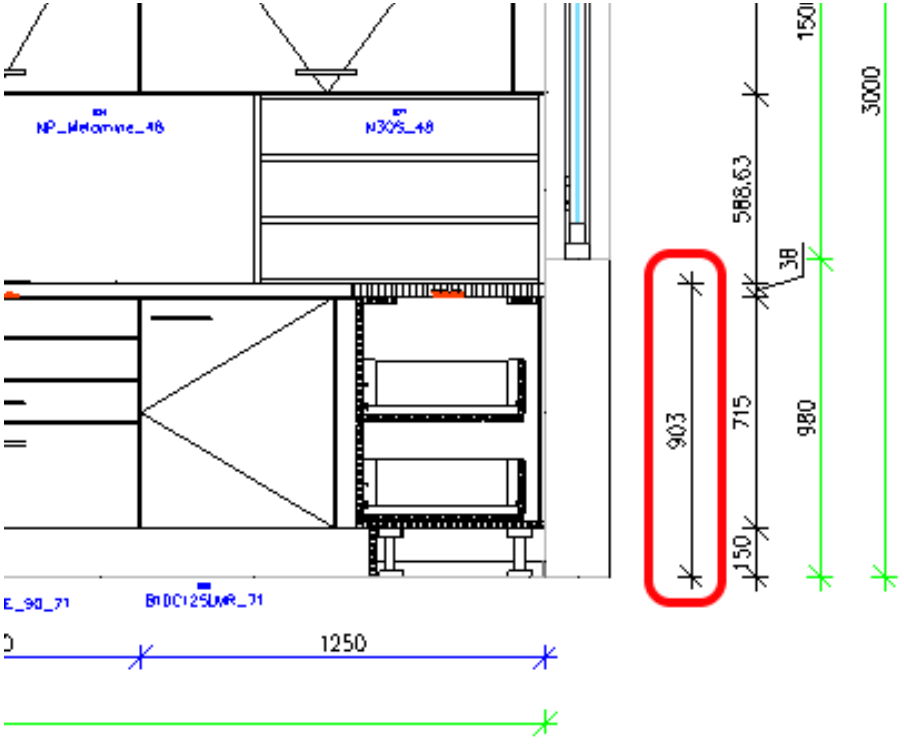
The list of choices is different for Floor Plan and Elevation Dimensioning:

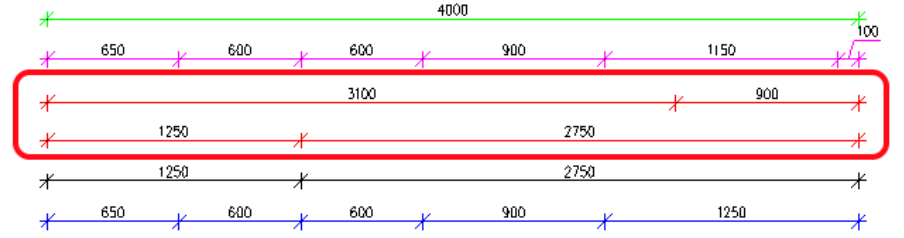
Floor Plan Dimensioning

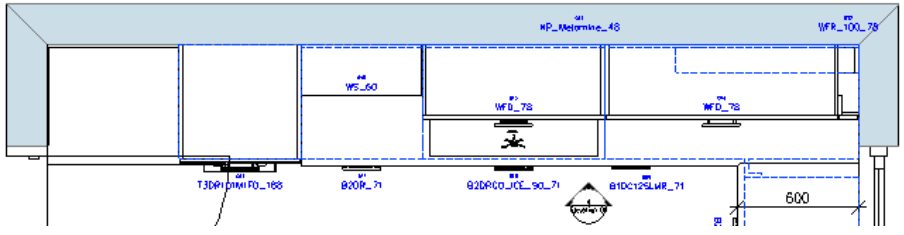
Dimension type	Description	Type specific attributes
Furniture	Dimensions article width	- Depth dimensions
Work surfaces	Dimensions work surfaces; excludes distracting offset gaps	- Depth dimensions - Dimension cutout, e.g. for a sink
Wall	Dimensions walls; dimensions wall thickness only for free-standing walls	
Installation	Dimensions gas/electricity/water connections	

Note:
- To dimension work surfaces correctly they must be created with iX 2019 SR2.
- The dimension style used for installations remains the style defined in the old dimensioning principle STANDARD; the dimension style that you define for installations in one of the new dimensioning principles currently takes no effect.

Example: Elevation View Dimensioning incl. separate worktop height dimension





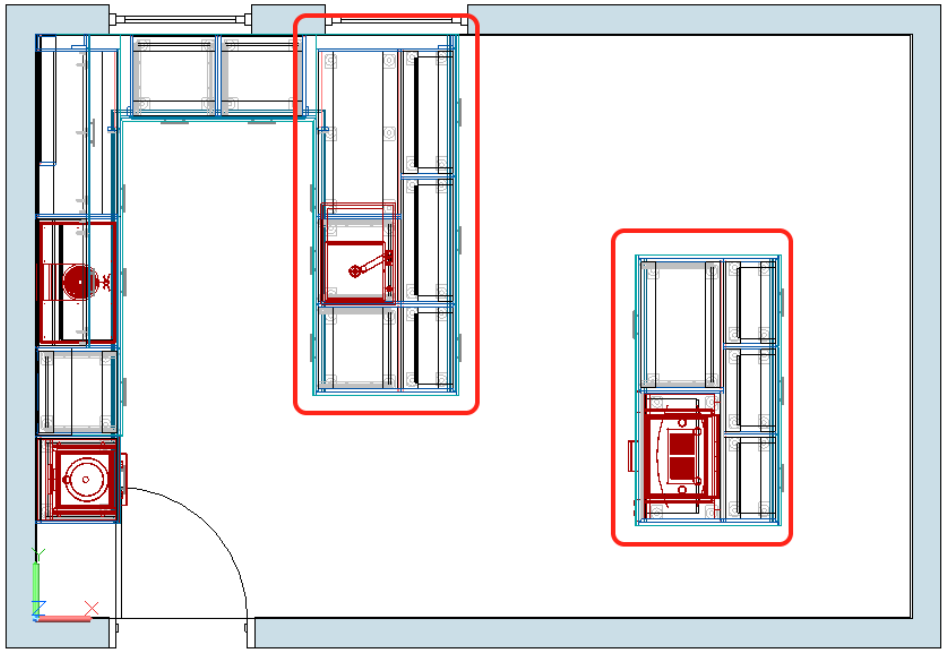


Elevation View Dimensioning

Dimension type	Description	Type specific attributes
Furniture	Dimensions article width	- Position of width dimensions (top/ bottom)
Height Dimensioning	Dimensions article height	- Separate worktop height dimensions
Wall	Dimensions walls; dimensions wall thickness only for free-standing walls	- Position of width dimensions (top/ bottom)
Installation	Dimensions gas/electricity/water connections	

Dimensioning articles placed behind one another

Articles that are placed in different depths and overlapping each other, like the niche shelf (2750 mm) and niche panel (900 mm) shown in the left image, create separate dimension lines for each depth position in the floor plan as well as the elevation view.



Identifying room dividers

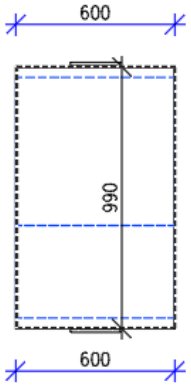
imos identifies rooms dividers. More precisely, it filters articles placed back-to-back to one another. If such a room divider has been identified, different rules apply for the views, dimensions and annotations.

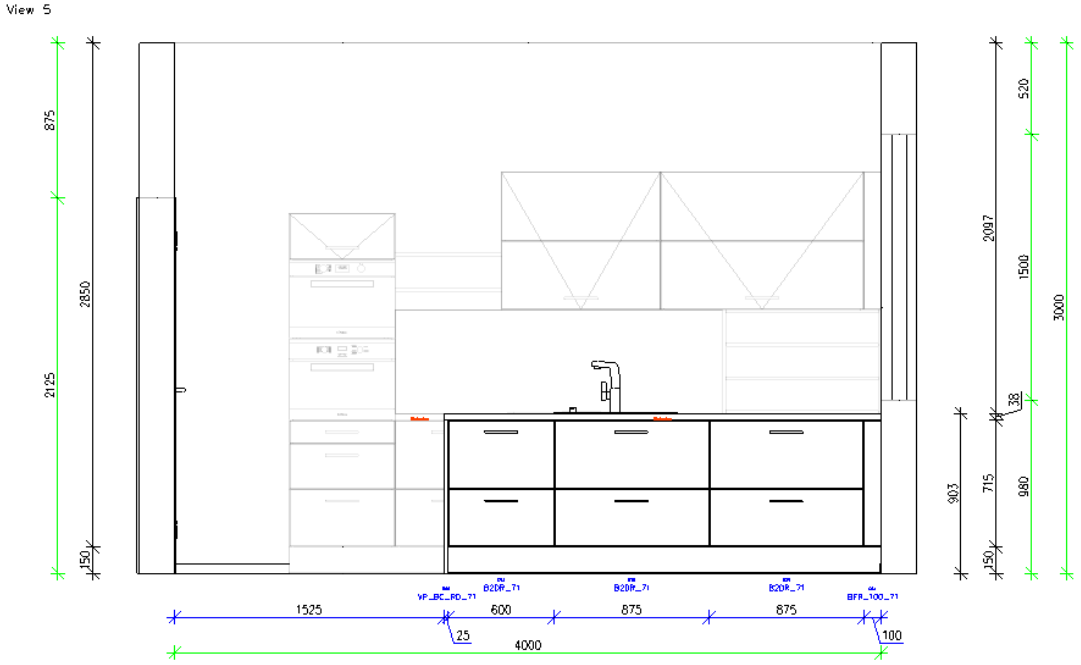
Usually, dimension lines are written behind an article's rear edge with a distance of „Offset dimensioning line to object".

However, in a room divider situation, the dimension lines are written in front of the front edge of affected articles. Furthermore, the distance is referenced from „Offset dimensioning line to dimensioning line". This prevents dimensions inside article contours. Work surfaces on the other hand are still dimensioned at the rear article edge so that they do not overlap with the room divider dimensions.

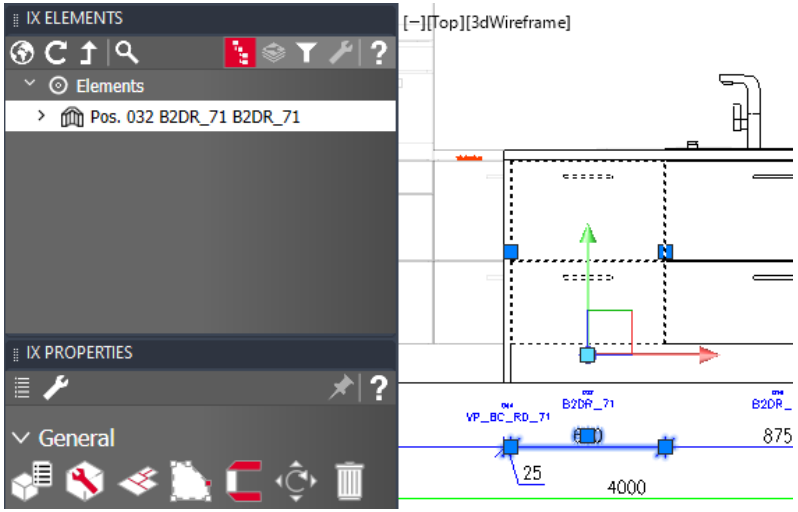
STANDARD

Name	Value
Default settings	
Description	Standard dimensioning for
Offset dimensioning line to object	500
Offset dimensioning line to dim. line	200



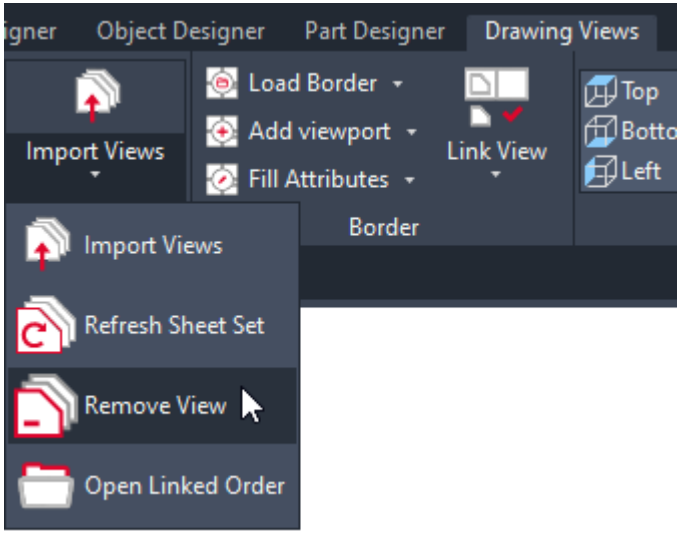


In elevation views, imos identifies room dividers as well and dimensions/ annotates them isolated from its surrounding furniture: only articles located in a depth of 2000 mm behind the section line‘s arrow are dimensioned/ annotated – the remaining objects recede into the background behind a white transparent layer.



Selecting articles via dimension or annotation

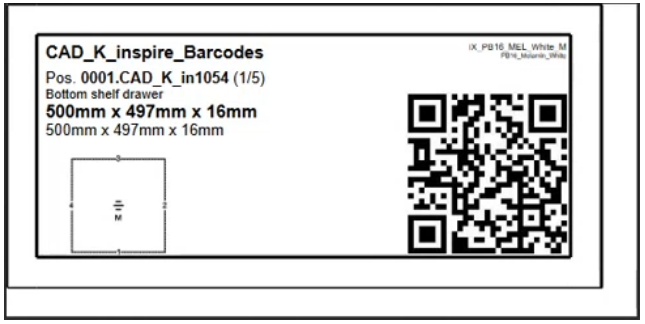
Selecting a dimension or annotation will automatically select the corresponding article in the iXplorer Element palette. Like this you can easily identify what element a dimension/ annotation refers to without second-guessing.

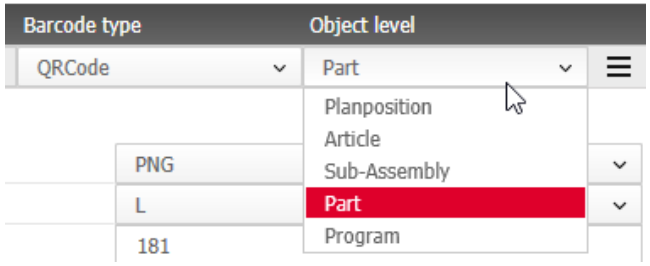


Handling imported Sheet Sets easily

Imported Sheet Sets require a minimum amount of main memory and process performance which makes them ideal for working with large-scale projects. iX 2019 SR2 complements the existing Sheet Set functionality with the method "Remove View" - the applied changes remain after a Sheet Set update as well.

New principle QR and barcodes



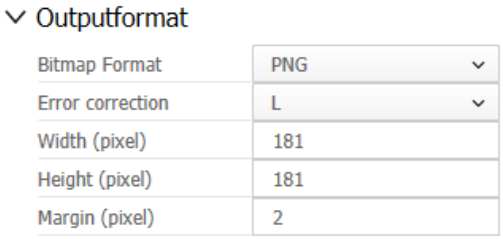


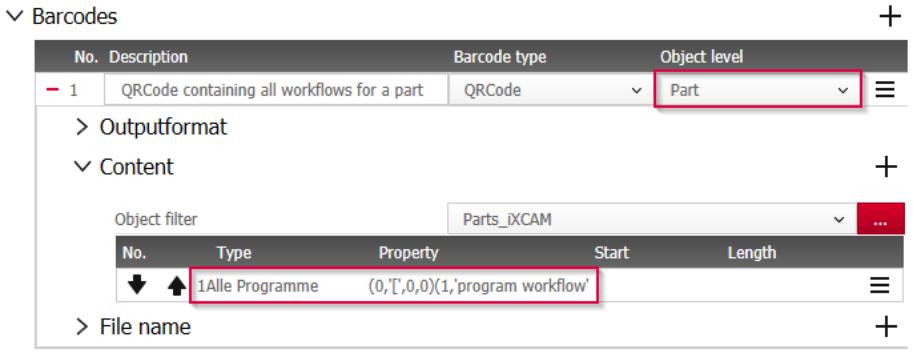
In addition to the standard barcode in the imos options, you can now also generate additional barcode types in parallel, in order to use them in reports, parts lists, or on labels. The following types are available:

- QR Code
- Code_39
- Code_93
- Code_128
- EAN_8
- EAN_13

QR codes contain much more information than common barcodes – they are ideal for simplifying the flow of information during production.
As a practical example, we will select the barcode type ‘QRcode’ and set one of the five object levels:

- Planposition
- Article
- Sub-assembly
- Part
- Program





We plan to record all PXM workflows that a part must go through within the QR code – therefore we select ‘Part’ as the object level.

Define the image properties in the output format category. As a default, these properties include the file format and the height and width of the image. Depending on the type of barcode, there may be additional properties, e.g. QR codes require a margin (in pixels), and entry of an error-correction level.
The margin is part of the image height/width and should be at least 4 QR modules (boxes) wide. In addition, the ideal image dimensions also depend on the camera resolution and the distance at which the image is photographed.
Error correction specifies the degree of damage at which the codes should still be readable. There are four different degrees:

- L = Low, readable with up to 7% damage
- M = Medium, readable with up to 15% damage
- Q = Quartile, readable with up to 25% damage
- H = High, readable with up to 30% damage.

Save a condition as an object filter in the Content category that filters all elements for which you wish to create QR codes. Then define the text contents in the table under it:

```
SELECT * FROM  [dbo].[CONDITIONSATTRVISIBILITY] WHERE CONDTYPEFROM=10400
```

100 %

Results | Messages

	ATTRIBUTE	CONDTYPEFROM	CONDTYPETO	DEFAUL
1	program is turned	10400	10400	no
2	program machine	10400	10400	
3	program ncnum	10400	10400	
4	program orientation X	10400	10400	0
5	program orientation Y	10400	10400	0
6	program orientation Z	10400	10400	0
7	program prognum	10400	10400	0
8	program sequencenum	10400	10400	0
9	program stoptype	10400	10400	
10	program workflow	10400	10400	0
11	program workflowcomment	10400	10400	0
12	program zerooffset reference	10400	10400	start
13	program zerooffset X	10400	10400	0
14	program zerooffset Y	10400	10400	0
15	program zerooffset Z	10400	10400	0
16	program description	10400	10400	
17	program directory	10400	10400	
18	program fileextension	10400	10400	

use the plus symbol in the top right to add text sections. For each section, define

- the type
  - as ‘complete length of the attribute’
  - as ‘set text’
  - the ‘beginning/end of the attribute’
  - In addition, the relevant sub-levels for the selected object level are available for selection: all articles/sub-assemblies/parts/programs
- the ‘property’ that you wish to adopt with the text (the selection depends on the type selected)
- a ‘start’ position and a ‘length’, if you selected the type ‘beginning’ or ‘end of an attribute’

If you need to, change the sequence of the text sections using the arrows located to the left of each line.
For our practical example, we will select the type ‘All programs’.
The properties field allows for a formula value in order to attach several attributes to each other at a time. Possible program attributes in the formula are served by the table BARCODECONTENTATTR (see left image).
The formula syntax is as follows:
it consists of any number of attributes, which in turn are made up of four fields. The fields are separated by commas and each

attribute is enclosed by brackets: (<type>, '<att>', <length>, <start>).

The fields represent the table columns type, attribute, start, and length.

Field	Description
<type>	Type (table: BARCODECONTENTATTR; column: ATTRIBUTETYPE): 0 = fix value 1 = complete length of the attribute 2 = attribute start 3 = attribute end 500 = all programs 1000 = all parts 2000 = all sub-assemblies 2100 = all articles 2200 = all plan positions
'<att>'	- Attribute (object property) as an internal program name - possible values for ‘All programs’ can be found in the ATTRIBUTE column in the CONDITIONSATTRVISIBILITY

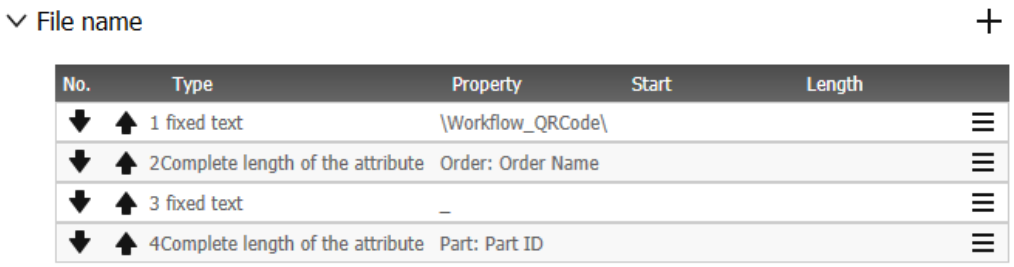
Beispiel

(0,'_',0,0) (1,'program sequencenum',0,0) (0,'_',0,0) (1,'program machine',0,0) (0,'_',0,0) (1,'program stoptype',0,0)

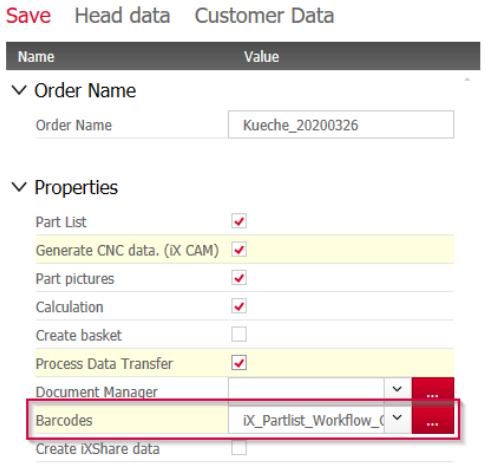
Ergebnis

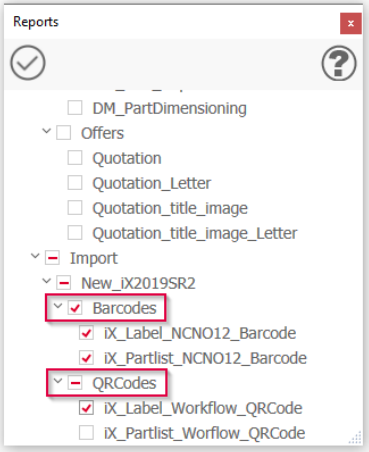
FILEPATH	CONTENT
RM191115_001.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT_3_W3.6Dübelautomat_Default_4_W3.6Düb
RM191115_002.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT_3_W3.6Dübelautomat_Default_4_W3.6Düb
RM191115_003.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT
RM191115_004.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT_3_W3.6Dübelautomat_Default_4_W3.6Düb
RM191115_005.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT_3_W3.6Dübelautomat_Default_4_W3.6Düb
RM191115_006.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT_3_W3.6Dübelautomat_Default_4_W3.6Düb
RM191115_007.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT
RM191115_008.png	Test_1_Genius 20_links unten
RM191115_009.png	Test_1_Genius 20_links unten_2_OptimatKD46_DEFAULT
RM191115_010.png	Test_1_Genius 20_links unten
RM191115_011.png	Test_1_Genius 20_links unten
RM191115_012.png	Test_1_Genius 20_links unten
RM191115_013.png	Test_1_SPL700_DEFAULT

	table, where CONDTYPEFROM=10400
<length>	- Length as of start position - Number as in the table column ATTRIBUTELENGTH
<start>	- Start position - Number as in the table column ATTRIBUTESTART

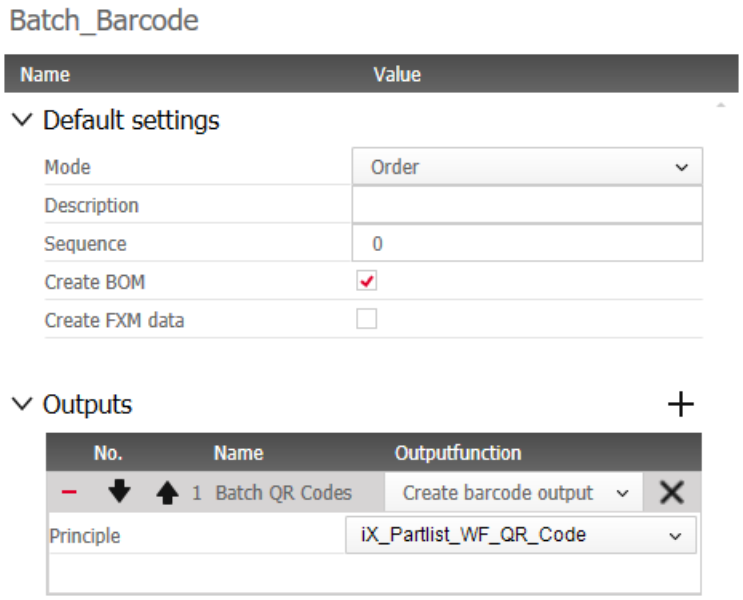


In the final category, file name, you can select how you want the QR code to be named and save the principle.





Initiate the process data transfer to generate the required PXM data. In order to generate the QR codes for an order, set the desired principle in the barcode field within the iX CAD ‘Save Order’ window. If you click on ‘Save’, the program will automatically generate the barcodes. They will be saved in the order directory under Factory/Imorder/ <order name>/BARCODE/<defined output path>.



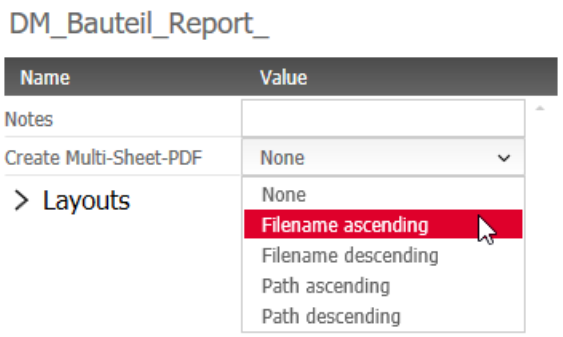
In the event that you require parts lists with barcodes and parts lists with QR codes, both types will be separately listed in the ‘Create BOM’ dialog.

In the Integration Server, you can add to a barcode output batch in the ‘Order’ mode by adding an output with the function ‘Create barcode output’ and defining the barcode principle below it.

If you prefer to create your own report principles containing QR codes, instead of using the delivered report principles, enter the following value in the relevant RDL field:

```
=IIF(IsNothing(Fields!BARCODE_BITMAP.Value),noth
ing,("file:///" & Parameters!IMORDERPATH.Value &
"\" & Fields!ORDERNAME.Value & "\BARCODE\" &
Fields!BARCODE_BITMAP.Value))
```

The IF command catches the cases for which no QR code has been created for an object.



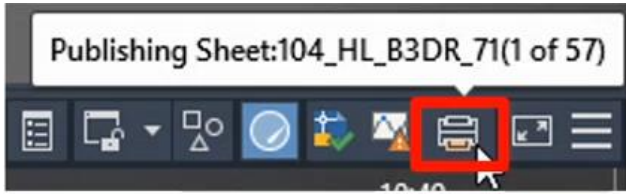
New Document Manager functions

Create multi-sheet PDF

Merge separate Document Manager output files directly into one multi-sheet PDF file and achieve a higher quality output than the standard reports. To do this, select the appropriate sorting option under ‘Create multi-sheet PDF’ in the selection box:

Option	Description
Filename ascending	Sorts the documents in alphabetical order, dependent on the defined file name, and merges them into a single PDF file.
Filename descending	Sorts the documents in reverse alphabetical order, dependent on the file name, and merges them into a single PDF file.
Path ascending	Sorts the documents in alphabetical order, dependent on the entire file path, and merges them into a single PDF file.
Path descending	Sorts the documents in reverse alphabetical order, dependent on the defined file path incl. file name, and merges them into a single PDF file.

No	Do not create multi-sheet PDF. (Default value)





When creating a multi-sheet PDF, the currently selected Page Setup is used for the border (marked by an asterisk in the Page Settings Manager, e.g. *DM_A3*); the Page Settings that you select in the principle's output format category do not have an effect on the multi-sheet PDF).
Keep planning while the AutoCAD® Plot Spooler runs in the background – check for its progress in the status bar.

In the AutoCAD® „Plot and Publish" options in the section "Background processing options", the option "Publishing" must be activated.

The imos DCO package 'Outputs V 1.0' contains example Document Manager principles and borders that are adjusted to fit multi-sheet PDFs).

The multi-sheet PDF will not appear in Windows Explorer immediately, as a multi-sheet plot requires a relatively long amount of time.

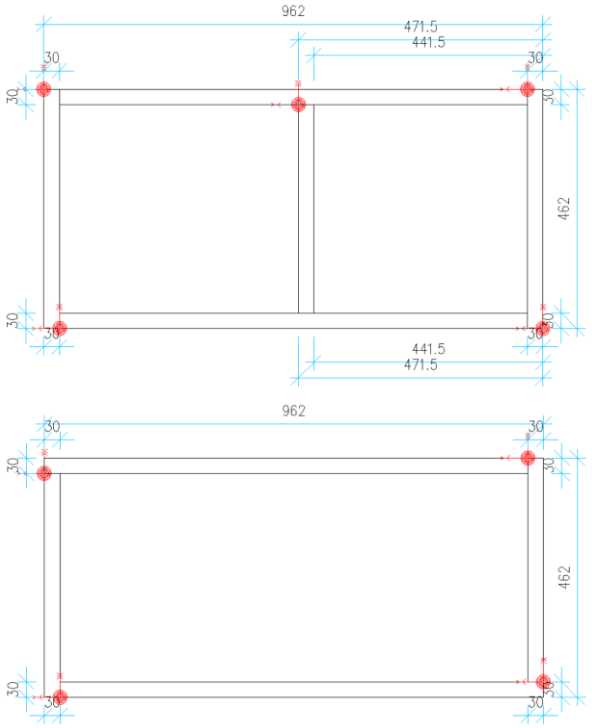
In addition to the documents and DGWs, the Document Manager also creates a DSD file which contains the file paths for the individual DWGs. In order to retroactively change the sorting,

open an empty drawing, enter the AutoCAD® command _PUBLISH and load the DSD file via ‘Load plan list’. Arrange the sequence of DWGs as desired using the selection box. Then click on ‘Publish’ to once again generate a multi-sheet PDF.

Dimensioning face frames for different sides of an article

The function ‘Dimension face frame’ has been specially introduced into the Document Manager to dimension articles with more than one frame part, for example kitchen islands.
To do this, set the object level to Article in the viewport and change the function to ‘Dimension face frame’.





In addition, you have to filter the frame parts in the object filter using a type PXM condition:

- AND
  - Group type Equals Group
  - Group name Equals Frame parts

The dimension principles applied are the old imos dimension principles.

Export BIM IFC models

This function is optional and not included in the standard version.

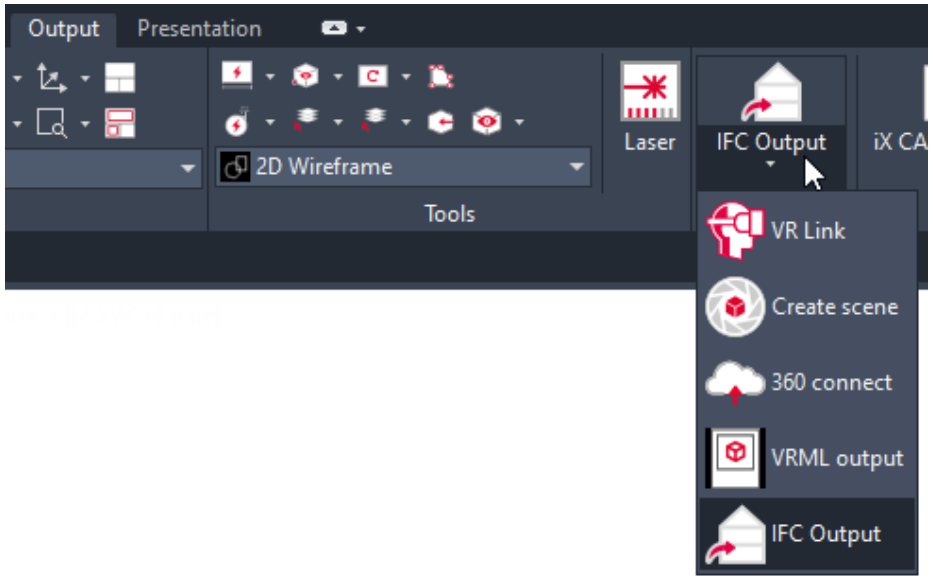
The file format IFC allows for a standardized data exchange for building models. Starting with iX 2019 SR2, you can export imos articles in IFC format to share with other project participants, for example, to add all furniture to an existing building model. The export uses the IFC2x3 schema and gathers information on the levels order and article:

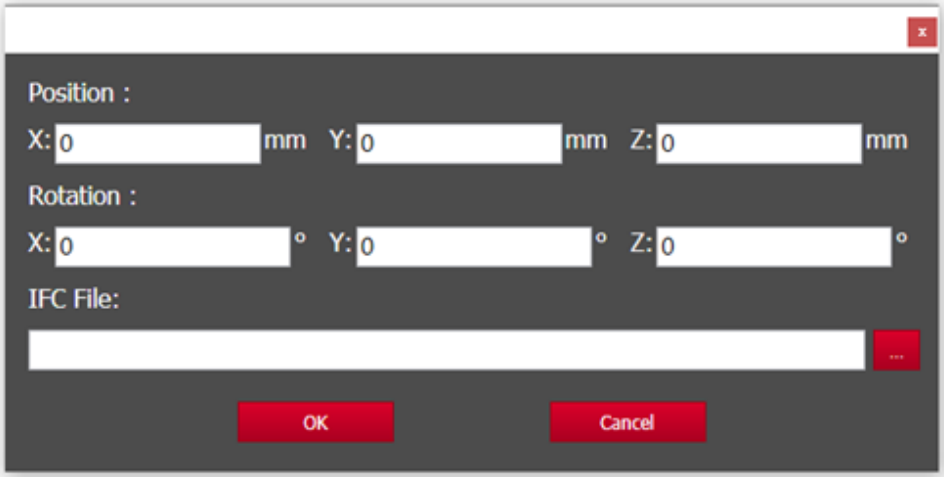
- Order head data:
  - Commission
  - Item number
  - Processor
  - Construction principle
  - Design principle
  - Short text
  - Description
  - Order date
  - Last Change
  - Delivery date
  - Series
  - Color information
  - Additional information

- Main Data:
  - Article name (name in the Element Manager)
  - Article information

> To include article info fields in the IFC export, the article info field names must first be defined in the index tab "Article info" in the imos Options; the changes take effect after a restart of iX CAD. The field values can be defined in relevant Article Principles in the Element Manager.

- Prozessdaten:
  - Position number
  - Position hierarchy
  - Article name (Name in the order)
  - Article ID ("imos:ID")
  - Article weight
  - Article dimensions
  - Article category
  - Merchandise group
  - Comment 1
  - Comment 2
  - Calcualtion principle
  - Description 1
  - Description 2
  - VersoString
  - Infos





Additional BIM information such as "Project name", "Wing", "Floor number" are typically designated in the Info fields.To include Info fields in the IFC export, the Info field names must first be defined in the index tab "Info" in the imos Options; the changes take effect after a restart of iX CAD. The field values can be defined in the iXplorer Properties of relevant articles; the IFC export includes Info fields on article level only.

Open the export dialog by clicking on ‘IFC export’ in the index tab 'Output' of the ribbon menu.

Optionally, specify the offset of the order drawing to the target project’s zero point in

- X (east to west)
- Y (north to south) and
- Z (height)

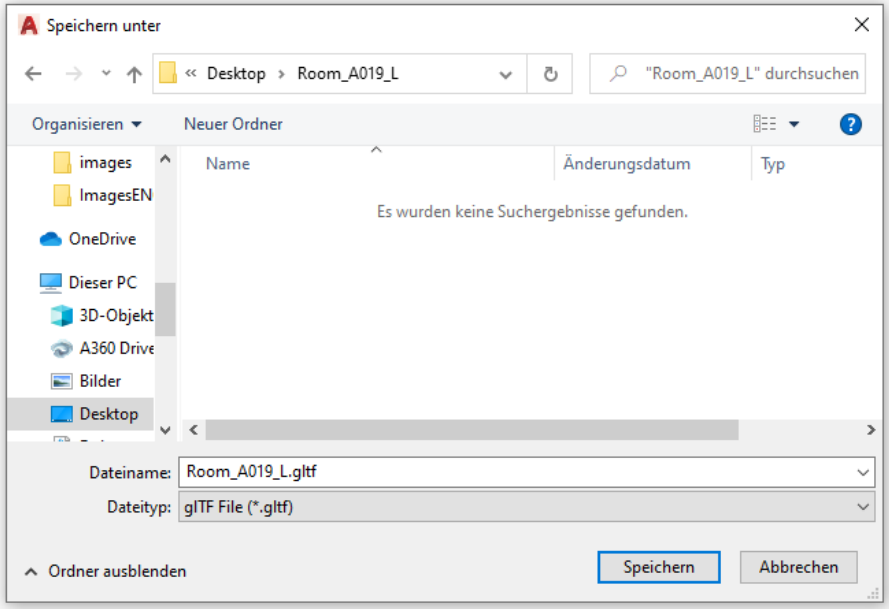
as well as the rotational angle for each axis. If the coordinates are input correctly, the objects will be placed at the targeted position during import.
Enter a storage path and click OK.

If a purchase article is marked as a "Separate article position", it will be exported as a separate element in IFC file as well.

Visualize orders independent of interface with VR link

This function is optional and not included in the standard version of imos





Use virtual reality applications to win over your customers, both at the point of sale and on online platforms such as Sketchfab. VR Link offers the option of exporting an imos order to common 3D output formats (*.gltf, *.glb, *.wrl), in order to continue to process them in other tools (e.g. Cinema4D, Twinmotion, Sketchfab, etc.).
To do this, the required textures/materials are collected and then saved in a target folder together with the selected output format. This means that the data can be shared and used independent of iX CAD and PLAN.

Open the export dialog for VR Link in the ribbon menu output tab. Clicking on the function opens a save dialog in which you can define the storage path, name, and the desired file format. Ideally, you would create a new folder for every export, as the exports usually create more than one file. Test the export in a glTF/WRL viewer.

The drawing will be exported in its current state. We therefore recommend that before exporting, you
- set the visualization level to 5 and
- the wall representation mode to solid
- show all elements within the drawing area

Fronts and drawers that have been opened via Animation will still be exported in their closed state.

Crystal Report Interface

imos iX 2019 allows you to set up RPT report principles by integrating a Crystal Report API (Version CR13SP2Redist32_0-10010309, or CR13SP2Redist64_0-10010309). If you prefer Crystal Report RPTs to Microsoft RDLs, please contact your imos partner.

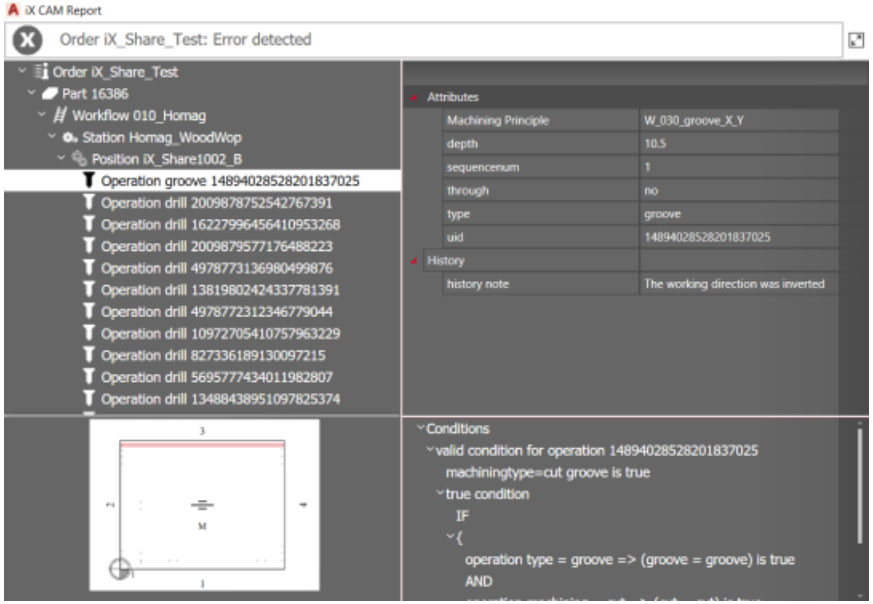
The Crystal Report runtime library cannot be delivered at set-up for legal reasons. The installation of the library, as well as support for the report, is carried out solely by your imos partner.

iFurn Design Catalog Online

The iFurn Design Catalog has been expanded to include updates and collections from several manufacturers:

- Hettich V6_0_09_19 (replaces all older data packages, including for older imos versions)
- Hettich V7_0_03_20 drawer systems (replaces version V6_0_09_19)
- Häfele V 5.10
- Lamello V 4.2 (NEW: Tenso P10, Cabineo 8 M6)
- Blum V 3.6 (NEW: AVENTOS HK-Top and more)
- Kronospan V1.0 (Collection 2019)
- Egger V6.0 (Collection 2020)
- imos:
  - Sinks, devices, accessories V 2.1
  - Color principles V 3.0
  - Outputs V 1.0 (for using, among other things, several DocMan principles in a single report)
  - **Principles for the floor plan and elevation view dimensioning to get started with the new dimensioning right away**

iX CAM 2019



Graphic logging in iX CAM Report

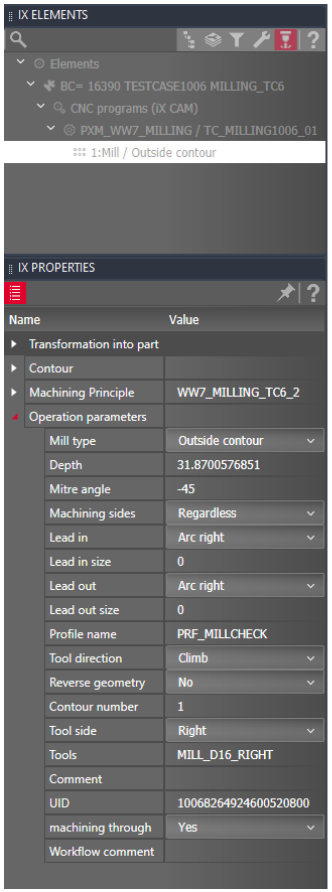
Log files are often not the ideal medium for checking results and interdependencies. That is why the new report presents all relevant program information in a graphic summary:

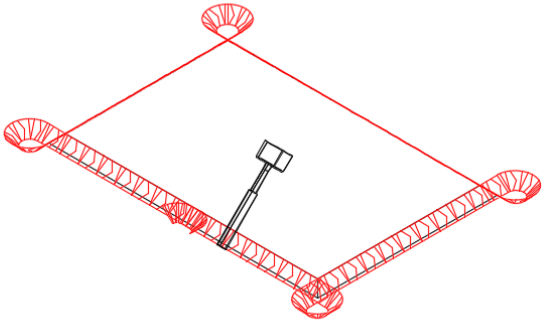
- Element tree for all programs created
- Properties for selected programs and machining
- Preview images for part machining
- List of conditions that led to the selected machining

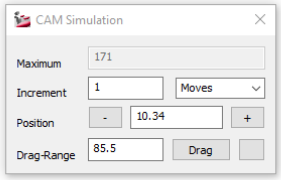
The iX CAM Report button is located in the ribbon index tab Output in the new category CAM.

iX CAM Edit - modifying NC programs without changing the main data

This function is optional and not included in the standard version of imos







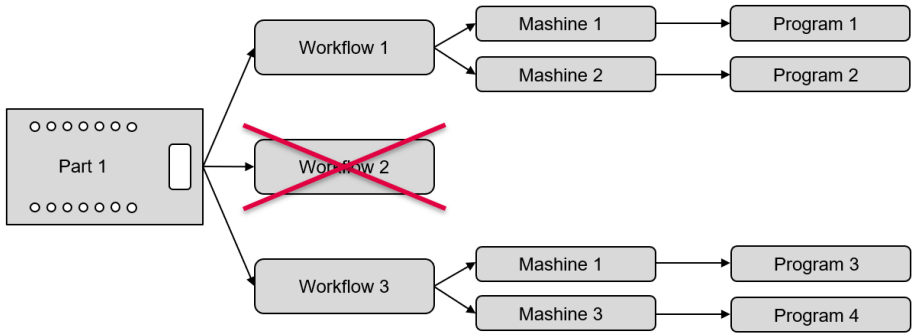
With iX CAM Edit you can preview and modify each generated program and machining in CAD without modifying your main data. So it enables you to double-check every program and machining at a single workstation before you move to the manufacturing location and adjust the CNC data in detail.

In the tab ‘iX CAM Edit’ of the iXplorer elements palette, you will find the element tree with all created programs. Via Drag & Drop you can alter a machining sequence within a program. Select a machining in order to view and adjust its program values in the properties palette. The context menu includes options for isolating and visualizing programs and machining as well as a method to finally regenerate CNC data according to your modifications via post processor only.

In order to visualize saw grooves with iX CAM Edit, they must be divided.

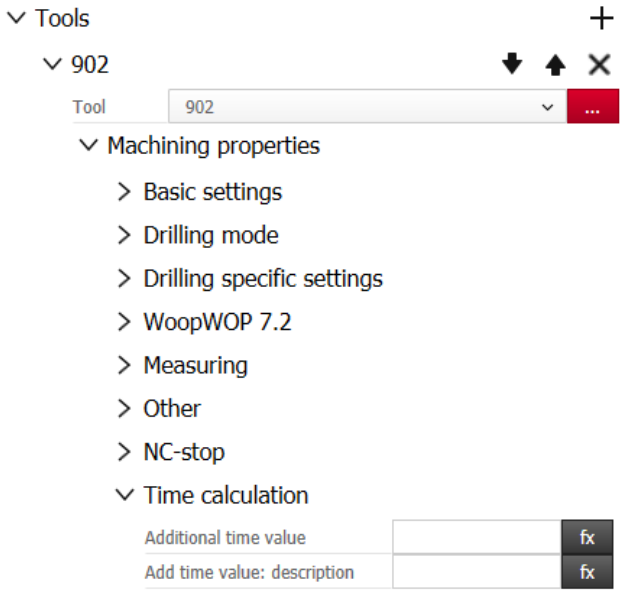
Assign parts to all matching workflows with multi-workflow

This function is optional and not included in the standard version of imos



In the create dialog, you will now find the option ‘Process all matching workflows’.
Until now, each part was assigned to a single, matching workflow in the CAM run.
By activating the check box, for each part data is written for all matching workflows (exception: workflows with negative priority).
A downstream process can then use the data in order to optimally utilize all machines, e.g. if a machine is not working.

Calculating process times



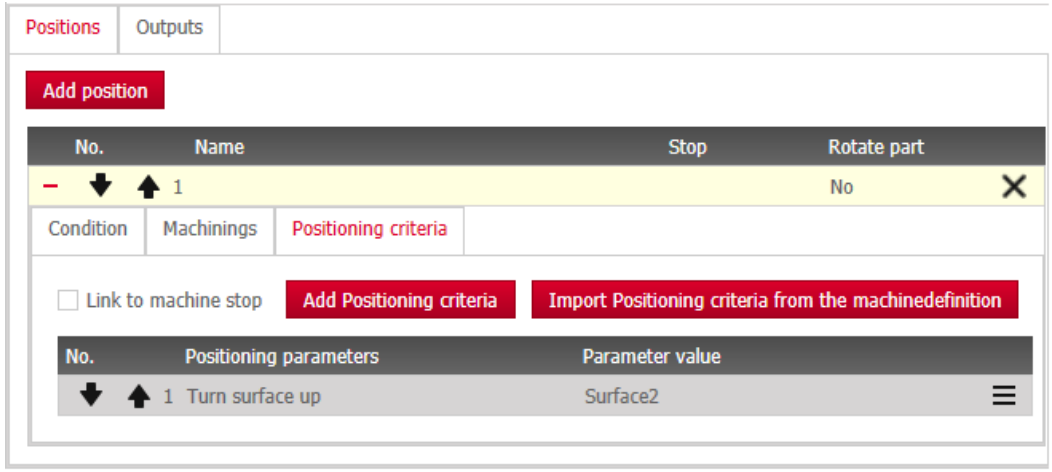
Optimize your machine utilization by individually calculating process times for CAM runs on all process levels:

- Level 1: on the machining level
- Level 2: on the programming level (sum of type 1 per NCNUM)
- Level 3: on the station level (sum of type 2 per machine/station)
- Level 4: on the parts level (sum of type 3 per part)

To do this, save the ‘Additional time value’ as a formula or simple value in the time calculation category within the category

Machining Properties>Time Calculation in a Machining principle.
In the field ‘Add time value: description’, you can add a description, if desired, so that the time value can be associated with the machining within the database.
The results of the process time calculation can be found in the view table IDBPROTIMECALC.

Positioning criteria “Turn surface up”



In the new positioning criteria “Turn surface up” you can apply a filter of the type “PXM-Surface” so that a part surface that matches the criteria will be turned up.

Duplicating existing Workflow Steps and Positions

The time for setting up CAM data can be reduced greatly in iX 2019 SR2 by duplicating existing Workflow Steps or individual Positions in a Step and by adjusting these copies to new use cases.

Copy a Step by clicking “Copy line” in the Sandwich menu at the end of the Step line. In the target Workflow, open the Sandwich menu at the end of any Step line and click “Insert line” – the copied line does not overwrite the selected one but is inserted below it.

To make a copy of a Position, simply click "Duplicate" in the Position’s Sandwich menu – the copy will be inserted at the bottom of the current Step plan.