

pCon
PLANNER



New features in pCon.planner 6.7

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Part I – New features in all versions

New architectural elements: pipework

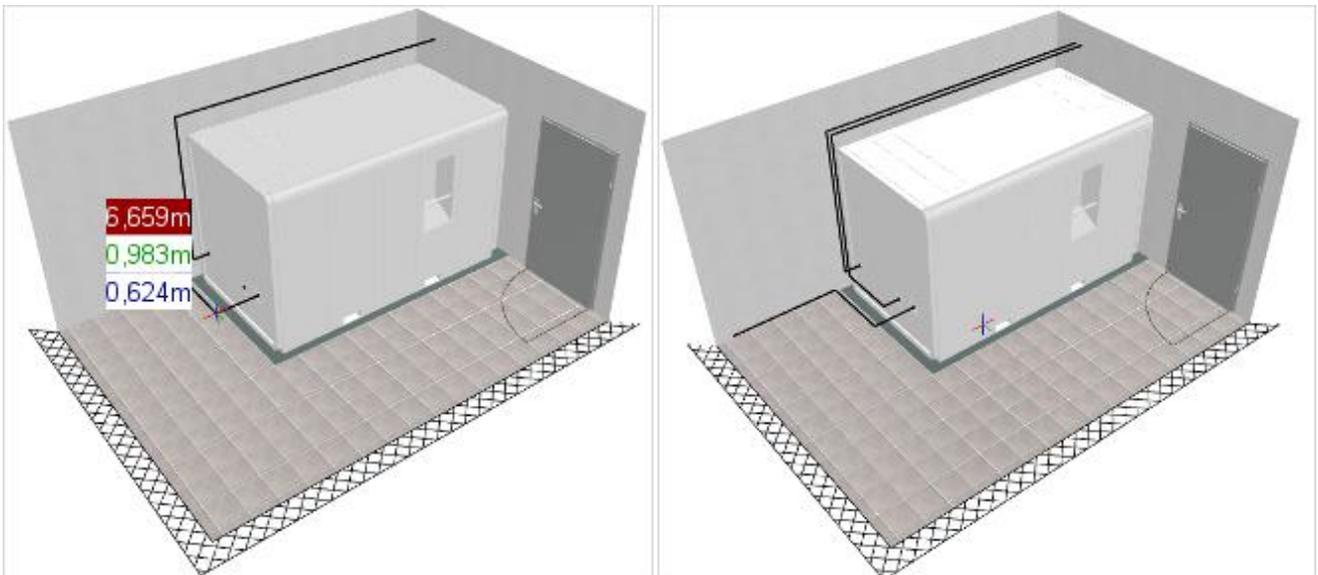
In many industrial buildings and other spaces used for industrial purposes, pipework plays an important role. To take some examples: it is an essential part of production systems which are dependent on compressed air or in gas supply systems used in operating theaters. The package of pCon.planner 6.7 architectural elements has therefore been extended. There are three pipework elements which will enable a simple installation design to be created.



Pipe elements in the Installation category, architecture area

Using lines to create a basic sketch

There are two steps in the production of a pipework installation design. First, the drawing tool is used to create the simple lines. These are the basic sketch and will make the manual positioning and alignment of the pipe elements easier in the second step. The example below will illustrate this.

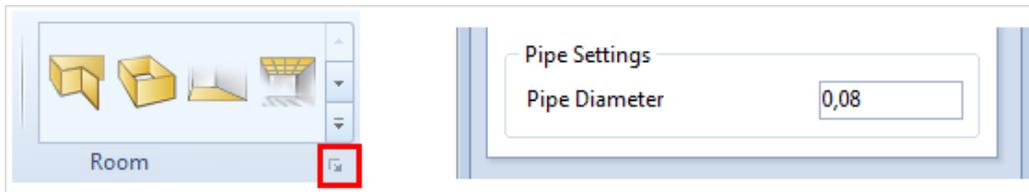


Using the line drawing tool

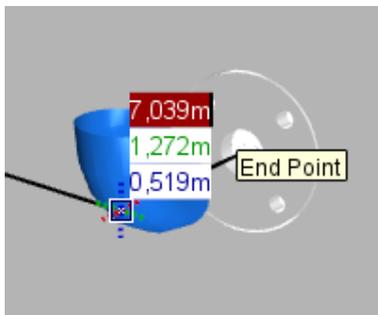
Final basic sketch for the pipe installation

Positioning pipe elbows and pipe tees

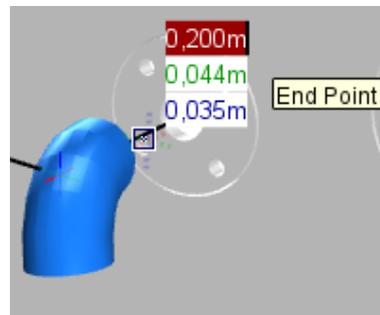
When the basic sketch has been produced, the second step is to position the elbows and tees along the lines that have been previously drawn. To do this you need first to set the diameter of the pipes for the particular case in the *Room Settings* dialogue.



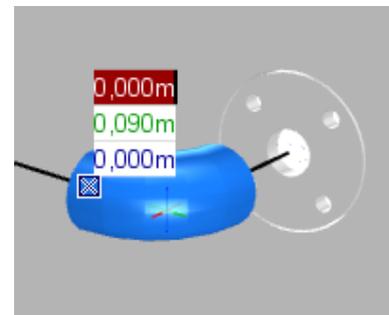
To place the elements correctly, it will first be necessary to put elbows and/or tee pieces at the corners and/or intersections of the intended pipework system. There is a special positioning mechanism in pCon.planner which makes this easier. It is activated automatically when an elbow or tee is selected:



1.) The elbow is attached to the mouse cursor at its base point. Position it at the intersection of the two guiding lines and confirm with a click.



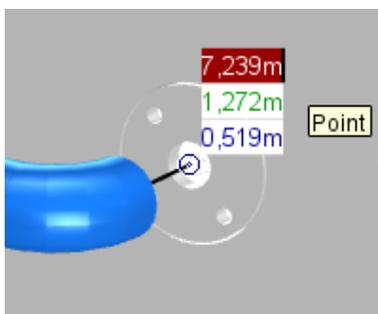
2.) Now set the first directional point by clicking onto the line itself or the end of the line.



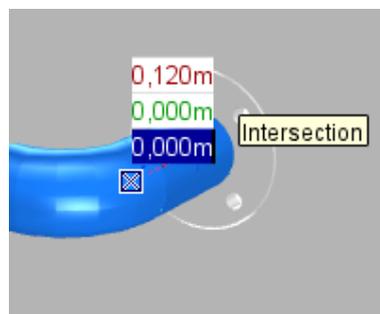
3.) The next step is to set the second directional point. The elbow will then be turned.

Adding to straight pipes

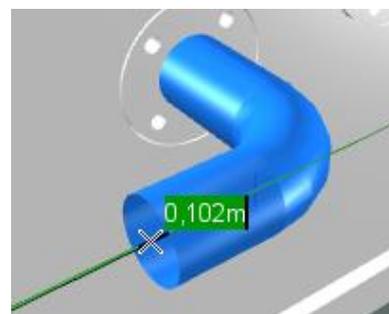
The last step is to complete the straight pipes. Both elbows and tees have special snap points at the center of their end openings to make the correct positioning easier. The straight pipes are then simply drawn by connecting the two snap points:



1.) Place the cursor on the end point of the guiding line or on the center of the elbow or tee pipe element. Confirm the selection with a click of the mouse.



2.) Now drag the straight piece of pipe to the next snap point, confirming with a click.



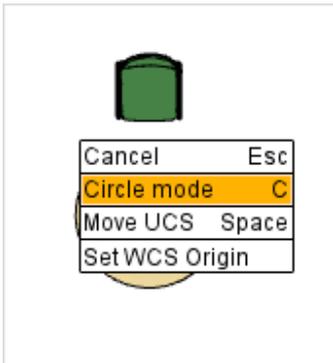
3.) When positioning is complete, the next straight piece of pipe is automatically available at the cursor. The process can be continued.

Extension to the Array command

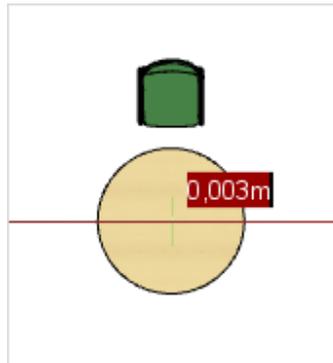
The *Array* command has been given a new option in pCon.planner 6.7 to enable objects to be set in a circle. In addition, an area can be defined for straight rows, in which a prescribed number of objects can be evenly distributed.

Circular alignment

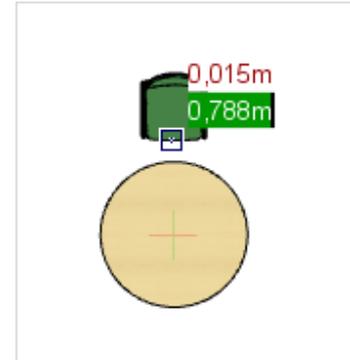
Circular alignment can be started by means of the context menu or when the user presses **C** on the keyboard after the *Array* command is called up:



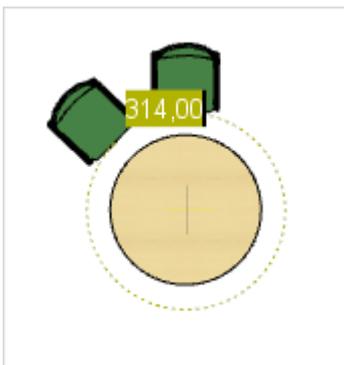
1.) Use a right click to open the context menu and click on the appropriate menu item to start *Circle mode*.



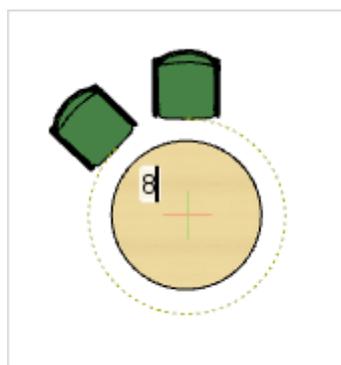
2.) Select the center of the circle you have in mind for the alignment of the objects, confirming it with a left click.



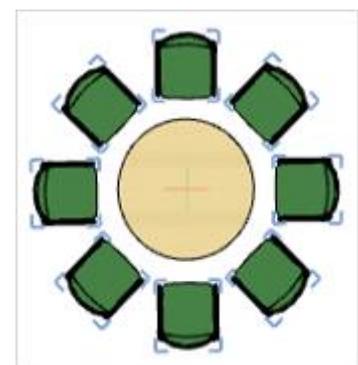
3.) In this third step, you can use a left click to select a reference point on the object to be copied that serves as definition of the cursor position for the ensuing area selection (see also 4).



4.) Define the circle or the arc which is to be used for the *Array* command. To do this, place the object in the position desired or enter an angle (in degrees – a full circle is 0° or 360°).

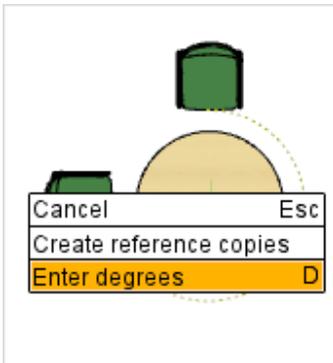


5.a) As a last step, you can specify how many objects should be equally distributed in the area selected. Insert the desired number of objects and confirm it by pressing the **ENTER** key.

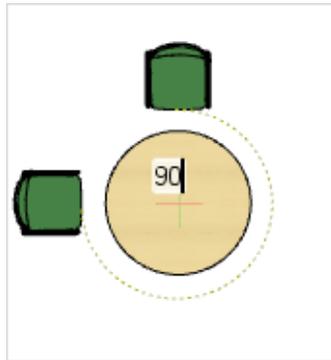


6.a) After this the software will place the desired number of objects automatically along the arc you have set or round the complete circle.

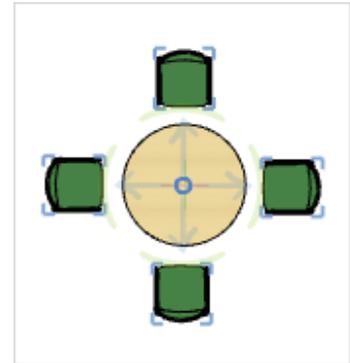
As an alternative to setting a number of objects for uniform distribution, it is also possible to set a distance between the objects by entering an angle in degrees. This spacing taken in account, as many objects as possible will then be distributed around the circle or arc that has been defined. This alternative and how it works from step 5 onwards is shown here.



5. Open the context menu with a right click on the mouse and select the last of the items, *Enter degrees*.



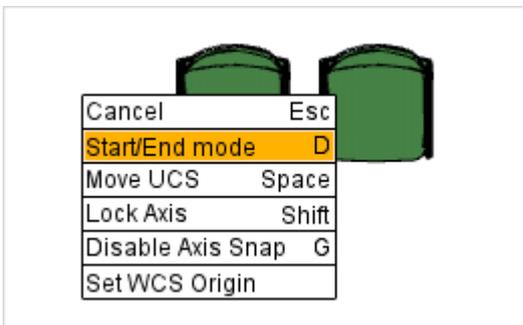
6. Now enter the desired distance between objects as an angle in degrees.



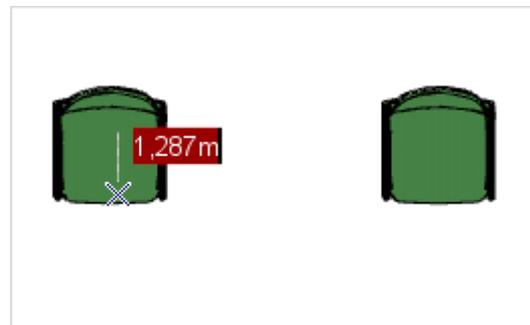
7. The software will place the objects automatically, taking account of the spacing set.

Distribution in a straight line

The *Array* command gives another new function in addition to circular alignment. With this, any number of objects can be generated along a notional line and evenly distributed along it. Both the start point and the endpoint can be freely chosen. This is the procedure:



- 1.) Start the *Array* command and define the first and second directional points. In the next step the software asks what distance is to be maintained. Now open the context menu with a right mouse click and choose *Start/End mode*.



- 2.) In the next step you can define the end point of the area within which the objects are being set out. Move the cursor to the desired position and confirm with a left mouse click, or use the keyboard to enter the distance between that position and the start point.



- 3.) Insert the number of objects to be evenly distributed within an area.



- 4.) The objects are created and distributed automatically by the software.

Administering favorites in the Media Browser

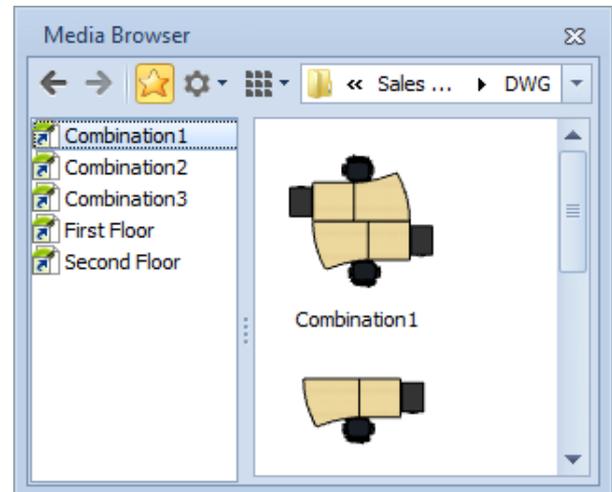
The *Media Browser* ensures you can access the files system conveniently, directly from the pCon.planner. Using Drag&Drop, geometrical shapes can be imported or exported quickly into any designs that are open. In the new version, the tool has been extended to include the administration of favorites, by means of which directories and files can be saved in the form of links. Even faster access to frequently used elements is thus possible.

With the new 'star' icon in the toolbar of the *Media Browser* you can change between the tree view and the favorite display.

Favorites can be created using Drag&Drop from the right-hand detail view to get the directories or files into the favorites window.

The favorites will be put into alphabetical order automatically. They can be renamed or, using the **DEL** key, they can be deleted.

A double click enables the favorites to be used. A file will be added to the design which is open. If the double click is on a folder, the folder will be opened and its files shown in the detail view.

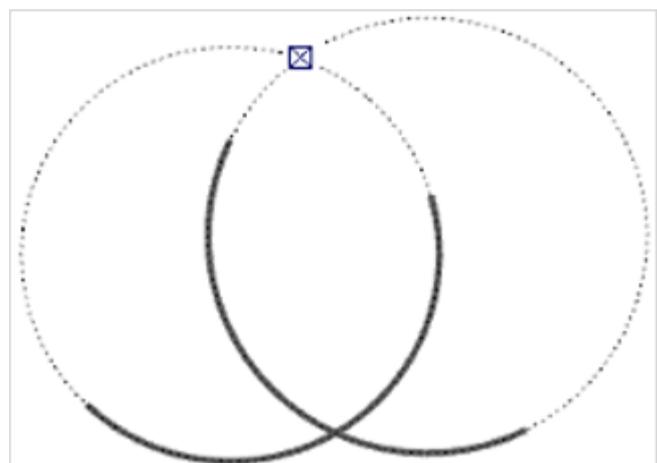
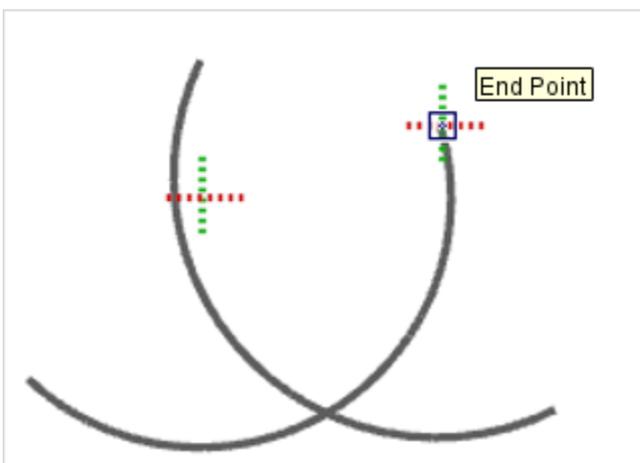


Sample Favorites selection

Guiding lines for circles and arcs

Notional extensions to arcs

In pCon.planner 6.7, there are additional guiding lines available for circles and arcs. If necessary, a complete circle can be computed to serve as a guiding line for an *arc*. An example of the use is that intersections of notional arc extensions can be displayed so that objects can be positioned exactly. This is how:

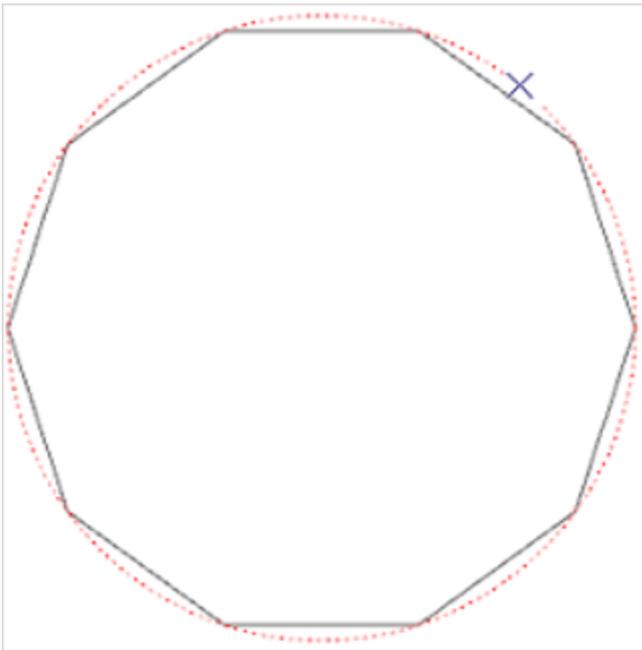


- 1.) Position the cursor anywhere on the *arc*. After an instant, the guiding line will be enabled. That is signalled by flashing of the cursor cross symbol.
- 2.) Then the guiding line will be displayed as a continuation of the *arc*. Do the same for the second *arc* and you will be able to see their notional intersections.

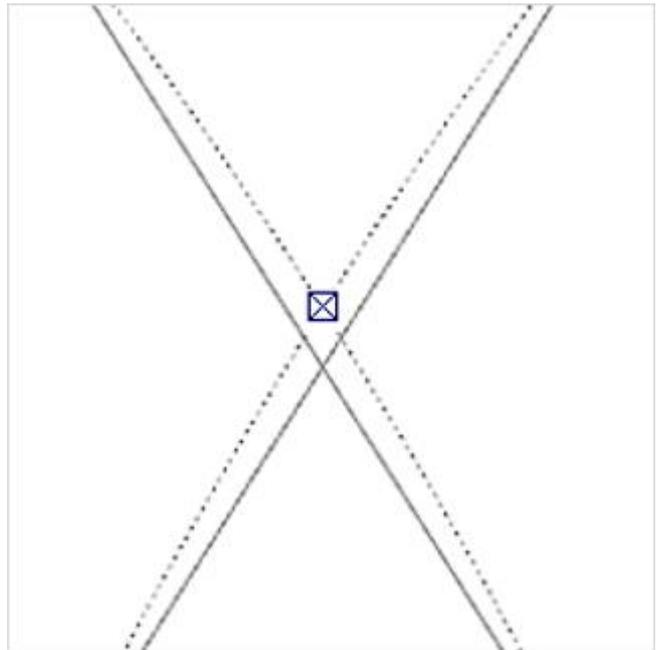
Exact circle intersections

Circular geometrical shapes are made up of small individual line segments. The number of these can be influenced by means of the *Tessellation Quality* option under general *Settings*. In consequence, the geometrical shapes are actually only an exact *circle* or *arc* by approximation, which means that there may be deviation in the position of the intersection or snap points that can cause errors in the design.

The new guiding lines for circles and arcs will compute intersections which are mathematically accurate. These can be used as an alternative to the 'geometrical' intersections. The guiding lines are activated in a similar way to that in the last example: they appear when the cursor is on the *circle* or *arc* and held there for an instant. As soon as the guiding line is active, the intersections taken account of for snapping will be the computed intersections rather than the geometrical ones.



Example of a circle at very low geometric resolution, with its accurate guiding line enabled.



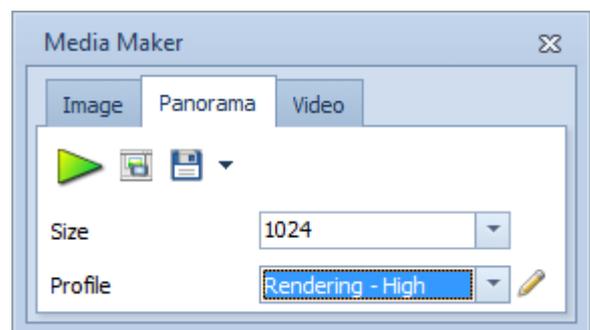
Example of the difference between the geometric intersection and the mathematically exact intersection of two circles.

Additional functions and improvements

Creating panoramas

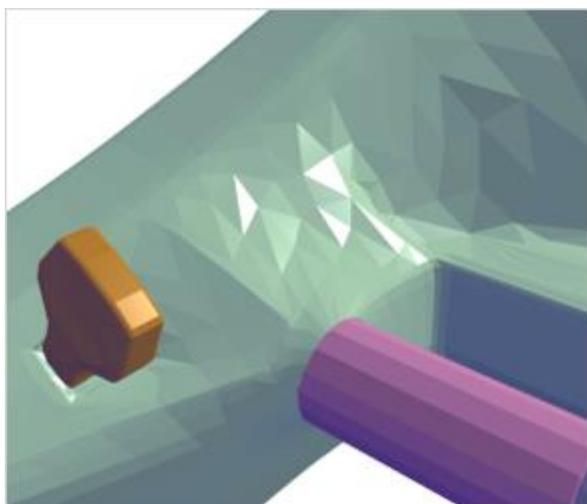
The function enabling panoramas to be created is now available in all editions of pCon.planner 6.7. Panoramas are images seen as if from the center of a sphere, so that the user has a 360° all-round view.

The Panorama function is to be found on the *Present* tab in the *Media Maker*.

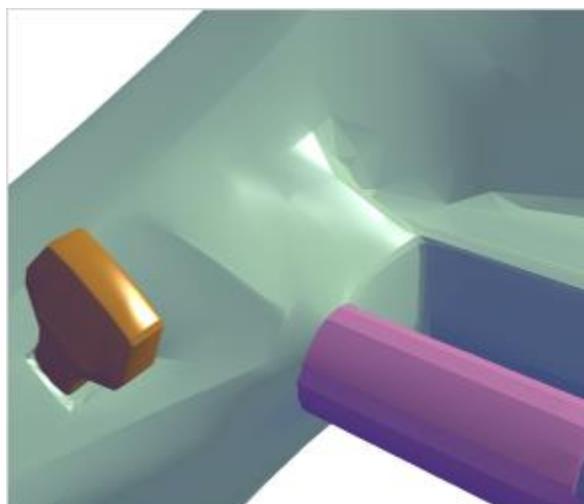


Improved compatibility with the DWG format

The new pCon.planner 6.7 is distinguished by higher compatibility with DWG format. For example, with *Sub-D-Mesh*, another type of polyhedral meshes is fully taken account of. Objects which have had their geometry modeled in this manner will now react to face smoothing and will look more realistic.



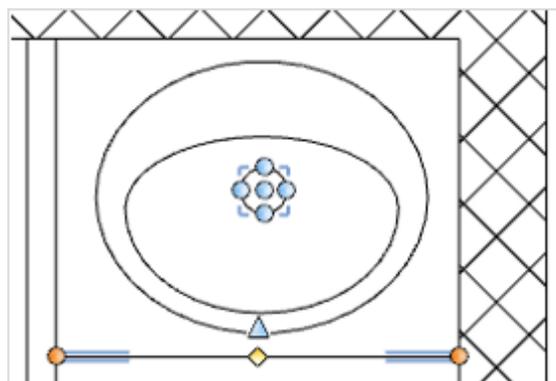
Previous rendering of certain polyhedral meshes



Improved rendering in pCon.planner 6.7

In addition, lines and circles from DWG-type drawings that were created with software systems besides pCon.planner can be modified once loaded or imported.

The hammer icon can be used to start the editing of such elements. For example, lines in floor plan sketches can be scaled or curved in retrospect. This makes corrections and modifications much easier.



Polish as application language



Another application language is now available in pCon.planner 6.7: Polish. This brings up to 14 the number of languages to select from. The option is to be found in the *Settings* dialogue.

Part II – New features in the PRO version

64-Bit Version

pCon.planner 6.7 PRO is now also available as a comprehensive 64-bit version. This is a stand-alone version which can be installed and operated alongside the existing 32-bit PRO version.

The new type generally enables more RAM to be used and administered than is the case with the 32-bit type, which is a noticeable advantage for operations requiring a lot of memory, such as loading, editing, printing and saving in the case of very extensive designs. The result is significantly higher stability for the program.

There must be at least 4 GB of RAM available for the new version to be effective. Using 8 GB of RAM is what is recommended.

Set articles

Products that can be configured are usually those which are distinguished by high complexity and much variability. More and more, instead of producing individual items, the trend is towards implementing combinations of numerous items. The consequence is that lists of articles and price quotation forms are becoming very complex and unclear.

The new *Set Articles* option in pCon.planner 6.7 PRO is an innovation enabling the structuring of the articles for commercial purposes. Any number of articles can be combined into a set and the set will be shown on the price quotation in a space-saving manner, as a single item. The set can be given specifically descriptive text. It will also display the total price for the individual items it contains.

Set functions in the toolbar

The functions that enable set articles to be created and managed are to be found on the *Configuration* tab in the *Set Articles* group.

Icon	Function	Description
	<i>Create Set Article</i>	This function creates a new set on the basis of the current selection. Grouped articles can likewise be selected: to do this open the group and combine the selected articles into a set.
	<i>Mark all Set Articles</i>	This function will highlight all articles assigned to a set. The sets contained in the design can be identified faster in this way and the articles assigned to them can be selected more easily for further operations (see image below).
	<i>Remove Article</i>	This function will remove a selected article/articles from the relevant set. It is also possible to remove grouped articles from the set once the group has been opened.



Add Article

This function will add the marked articles to a set.

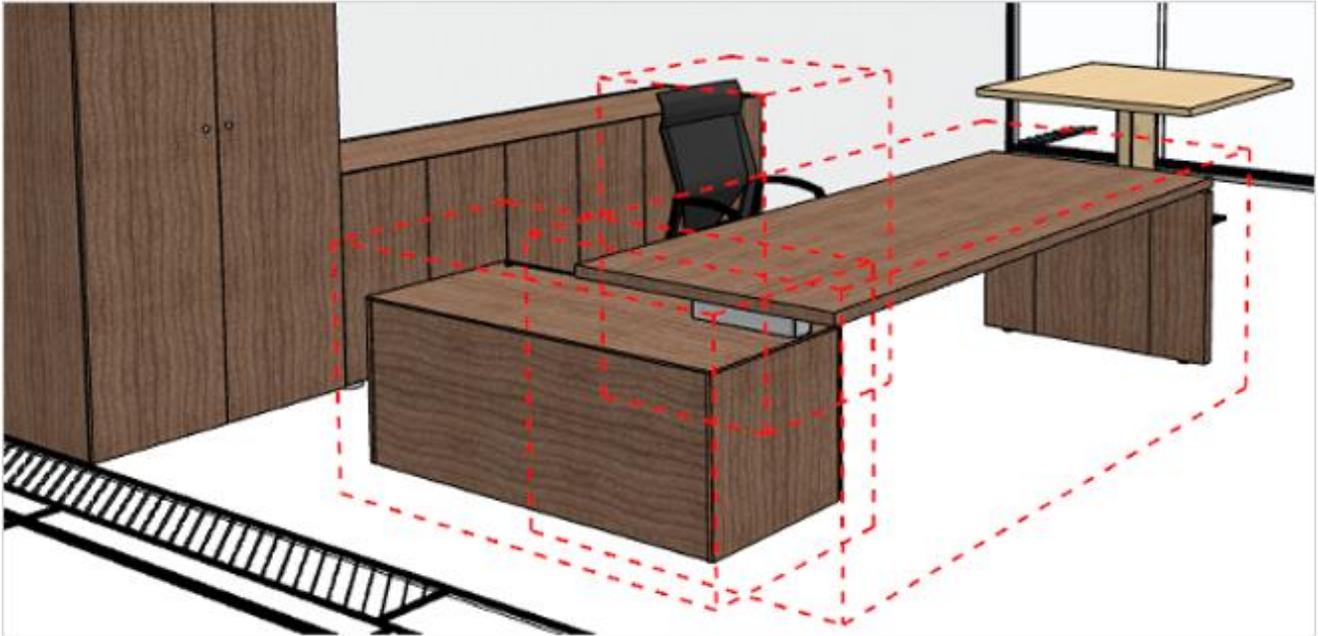
It is necessary to select not only the article which is to be added but at least one further article which is in an existing set. If the selection contains articles from different sets, the function will not work. It is also possible to use this function for grouped articles.



Delete Set Article

This function will delete the selected set/s.

It works on the basis of the article selected. All sets will be deleted in which at least one article from this selection is contained.

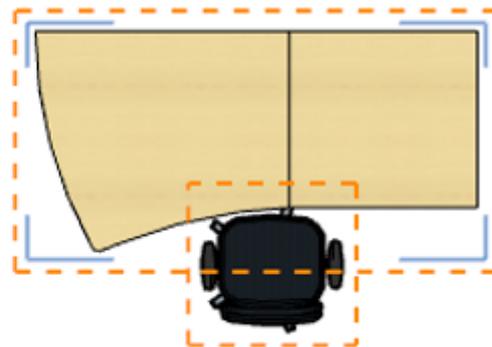
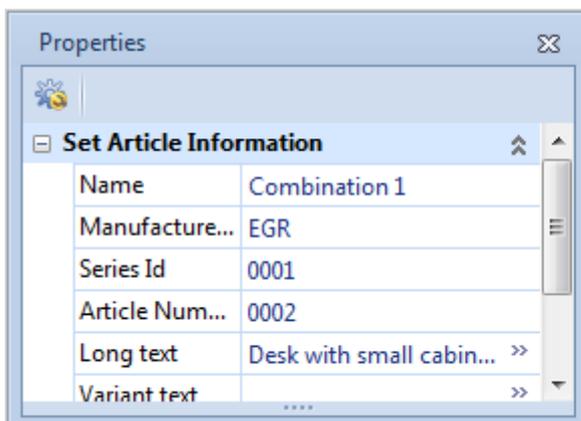


Set of a desk combination composed of three individual items

Features of set articles

Set articles possess a number of features to enable them to be described in more detail. These include *Name*, *Long Text*, *Article Number* and *Manufacturer ID*.

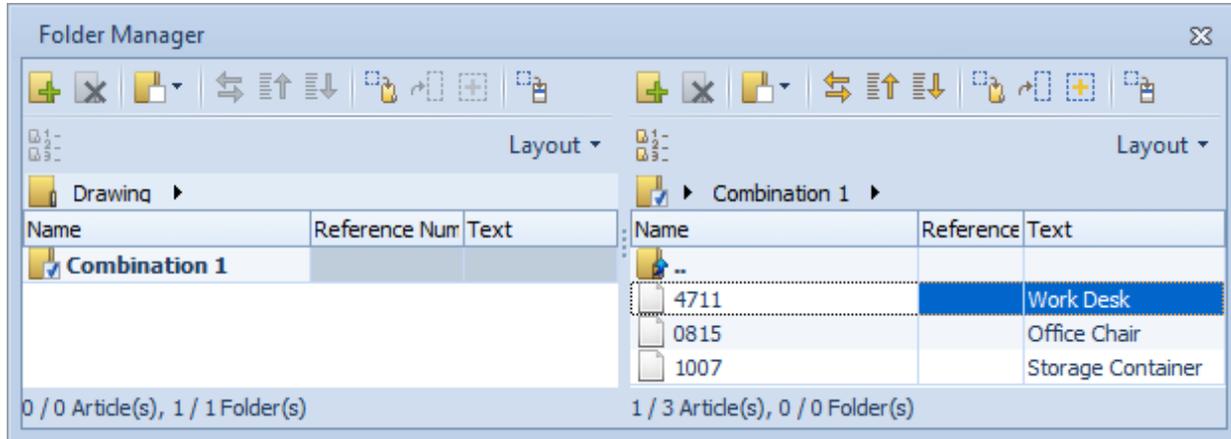
They are displayed in the *Set Article Information* category if at least one of the articles belonging to the set has been selected. For this, it is not necessary to open the article for configuration purposes. The text which has been entered will be displayed in the *Folder Manager*, the *Article List* and the price quotation form.



Features of the set selected in the Properties Editor

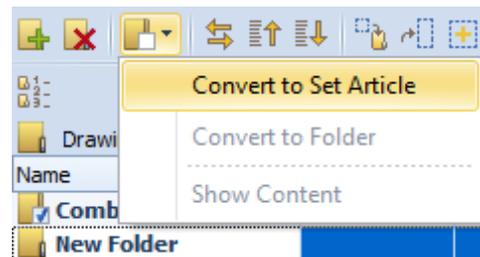
Editing sets in the Folder Manager

The *Set Articles* created during the design process will be synchronized automatically with the *Folder Manager*. The sets are another type of element that behaves similarly to folders and articles in functional terms. The set features that have been entered into the *Properties Editor* will be displayed and can be modified in the *Folder Manager*. The articles assigned to the set can be called up as sub-elements.



Screenshot of the set example in the Folder Manager.

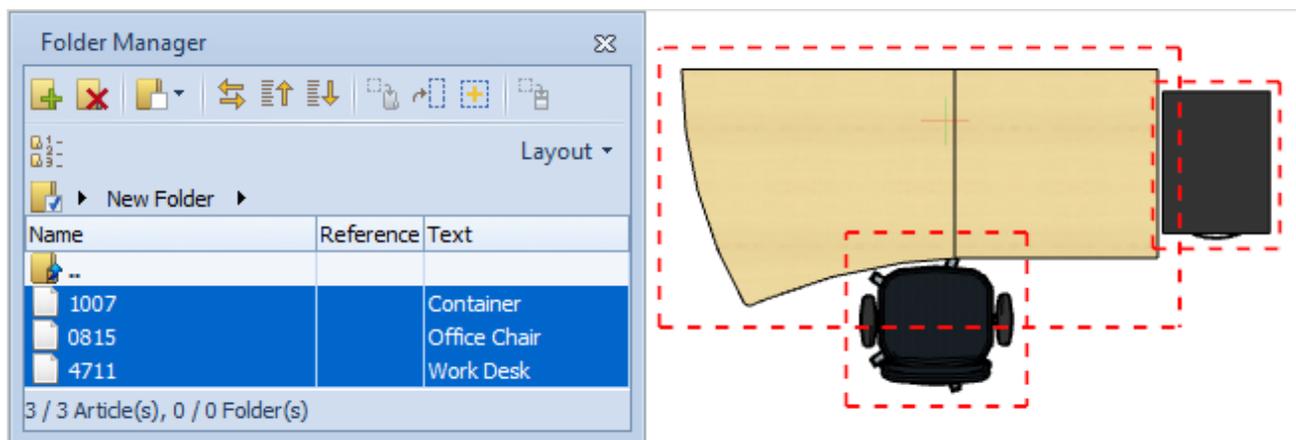
In the *Folder Manager*, not only textual alterations can be made to the sets, but also sets can be created and deleted. The function *Convert to Set Article* can be used to convert a selected folder together with all the articles it contains into a set and this function is to be found both on the toolbar and in the context menu.



The conversion can also happen in reverse, i.e. from set to folder.

Converting a folder into a set

It is also possible to assign articles to a set or to delete them from a set very conveniently using the *Folder Manager*. The procedure is similar to that for managing files in folders: the articles are dragged into the set or dragged out of it. It is also possible to assign articles which have been selected in the design, just as in the case of folders.



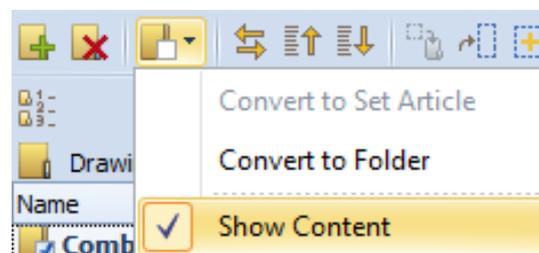
Folder Manager Moving articles with Drag&Drop

Representation in the Article List and on the offer form

The *Set Articles* are taken account of when the *Article List* is called up and they are compatible with the set principle found in the pCon.basket. They can be fully made use of if exported or directly transferred using the clipboard for the commercial application. This reduces the time spent in post-editing and the commercial structuring can take place early during the design process.

The *Folder Manager* offers the option *Show Content* to enable the representation of sets in the *Article List* and in the offer form to be controlled.

If this option has been enabled, the articles assigned to the set will be displayed as a drop-down box. If it has not been enabled, the articles will be hidden and the set will be displayed on the *Article List* and the form in reduced mode.



The appropriate icons appearing in the *Folder Manager* will make it easy to see whether you are working on a *Set Article* or a conventional folder.

Pos	Description	Quantity	PU/EUR	IT/EUR
1	1400 Work Desk with Office Chair Work Desk with Metal Stand combined with Office Chair with Arm Rest.	1.00	1.558,00	1.558,00
	Position net:			1.558,00
1.1	 0815 Office Chair with Armrest	1.00	699,00	699,00
	Position net:			699,00
1.2	 4711 Work Desk with Metal Stand	1.00	859,00	859,00
	Position net:			859,00
	Net total:			3.116,00
	Net:			3.116,00
	Value Added Tax (19,0 %)			592,04
	Gross:			3.708,04

Offer form with one set open as drop-down

Pos	Description	Quantity	PU/EUR	IT/EUR
1	1500 Work Desk with Office Chair	1.00	1.558,00	1.558,00
	Position net:			1.558,00
	Net total:			3.116,00
	Net:			3.116,00
	Value Added Tax (19,0 %)			592,04
	Gross:			3.708,04

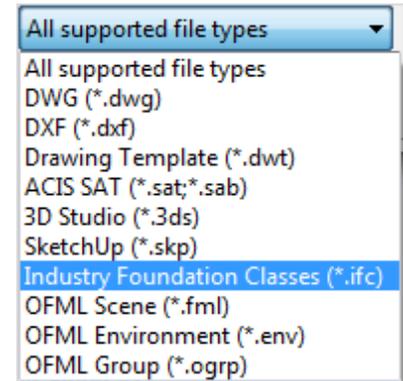
Offer form with one set left closed

Import for IFC format

IFC (Industry Foundation Classes) is an open and standardized specification, a system used mainly for digitalised description of architectural plans and buildings.

The new pCon.planner 6.7 supports both loading and import of data in the IFC format. The format serves as standard exchange format for Building Information Modelling (BIM) as a means for interchange between the specialised software programs of the different building trades.

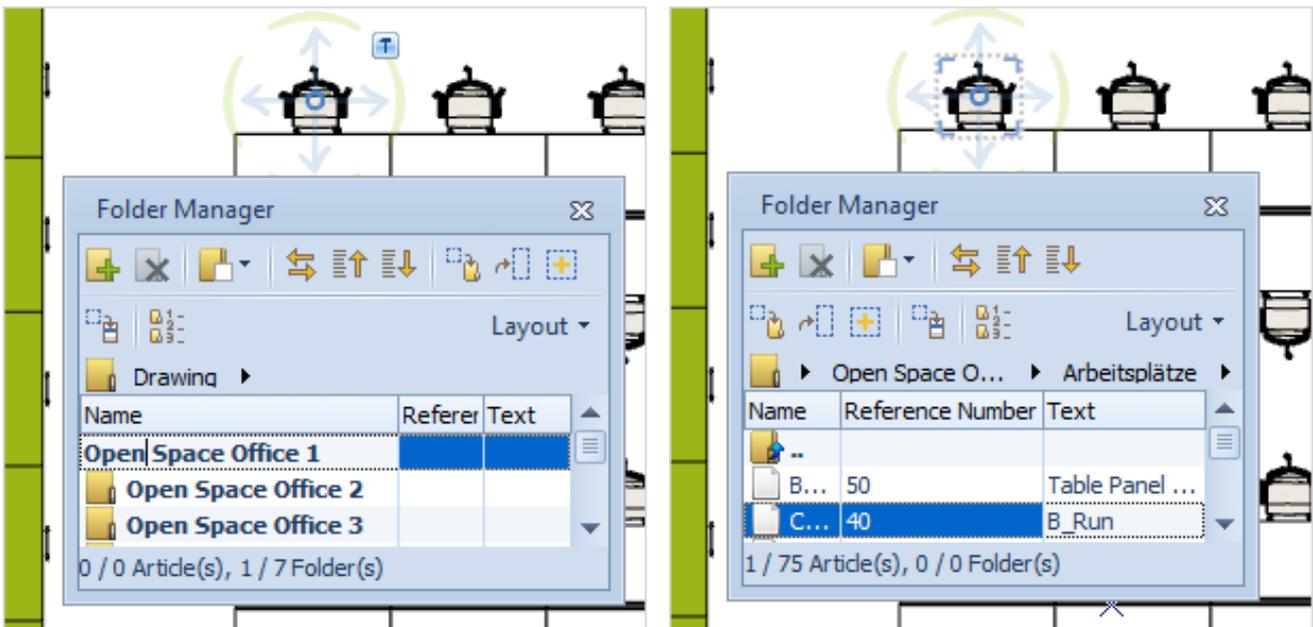
For this reason, almost all the relevant architectural systems offer the possibility of importing or exporting data in the IFC format.



Example of a building model imported from an IFC-type file.

Extension to the Folder Manager

There is a new function in the *Folder Manager* enabling articles to be found more quickly. The article has to be selected in the design and the *Folder Manager* has to be started from the symbol on the toolbar. When this is done, the *Folder Manager* goes straight to the folder containing the article and highlights it. There is an example in the following screenshots.

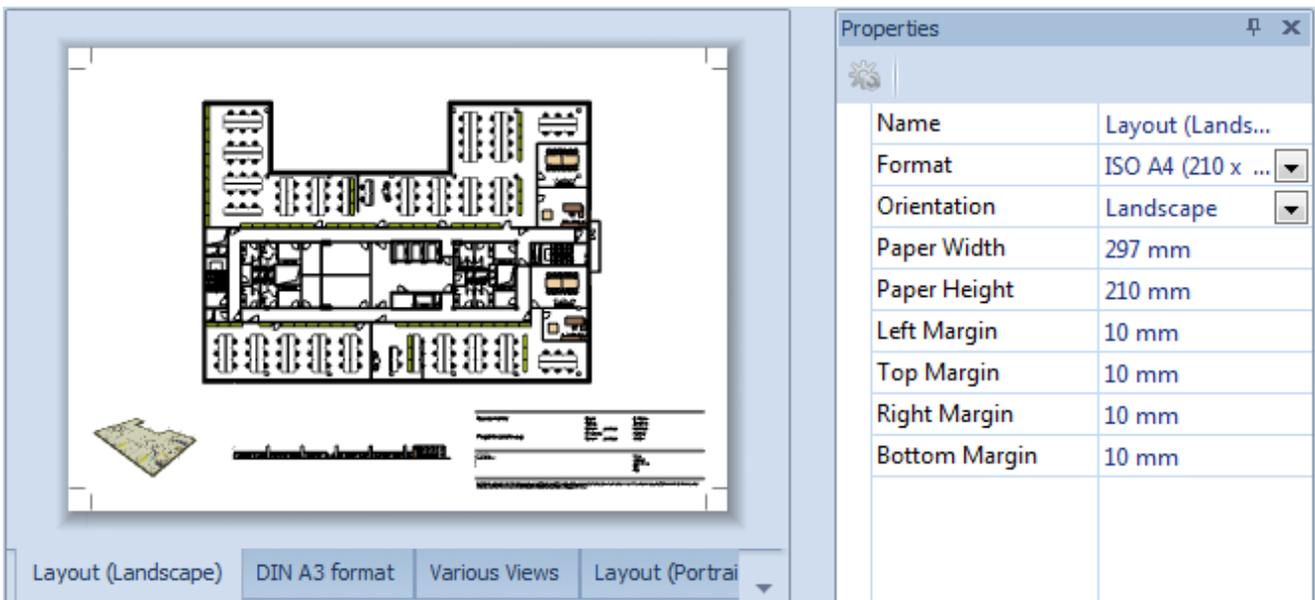


Selection of an article in drawing (left), with the associated folder highlighted in Folder Manager (right)

Improvements in the Layout area

Quicker selection of Layout pages

The *Layout* pages available in the new pCon.planner 6.7 are shown at the bottom of the *Layout* area in the form of tabs which make it immediately apparent how many *Layout* pages there are in the drawing. Switching between the layouts is thus much easier than it was. The name of the *Layout* pages can be changed in the *Properties Editor* as was always the case.

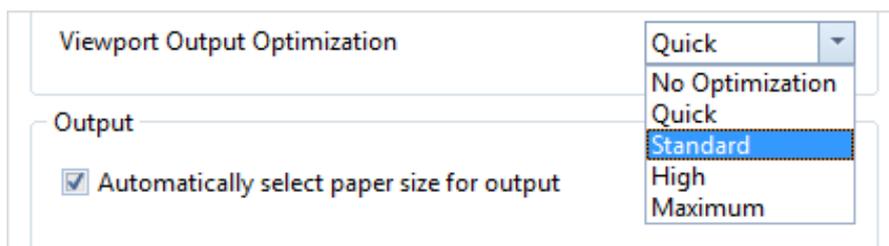


Sample design with four Layout pages

New option for vector printing

The extended *Settings* in the *Pages* group, *Layout* area, include a new option, *Viewport Output Optimization*. This function improves vector printing by ignoring hidden elements (which are, of their nature, unnecessary to the printing).

The amount of data transferred to the printer is thus reduced and less RAM is required as a consequence, so that the print process is much more stable. If the printing is as PDF, the resulting PDF files are distinguished by their reduced size, faster loading and better performance when the display is changed for the document – for example, by using the zoom function.



There is a choice of values available for setting the degree of optimization. It should be noted that print speed will be reduced as degree of optimization is raised.

The setting will apply only to *Layout* windows that are printed as vectors. The viewport property *Print as image* must be disabled.