

ARCHLine.XP® 2020

New features

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This manual was produced using *Microsoft Word* and *ARCHLine.XP*[®].

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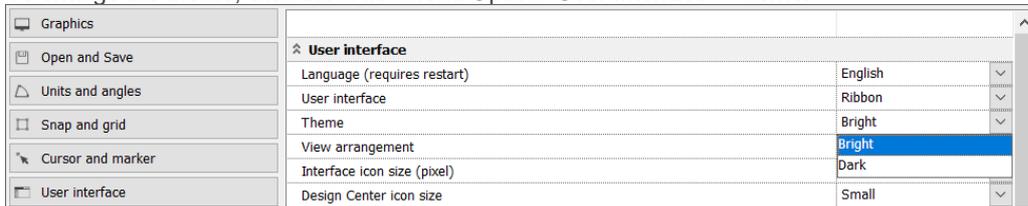
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1. Interface Enhancements

1.1. Colour schemes: Dark / Bright mode

ARCHLine.XP includes dark grey and white themes.

To change the theme, click the “File” menu Option- User Interface - Theme.

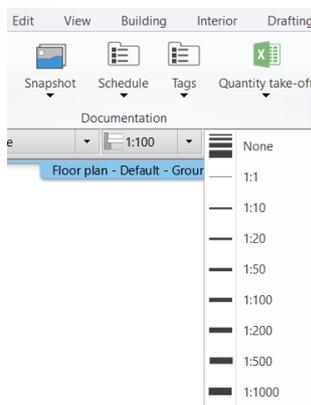


1.2. Line thickness scale

Click on the Line thickness scale combo box on the view control bar to change visual representation of Line thickness on screen. Adjusting the line thickness scale applies to the screen and does not affect print settings.

Default setting for new projects is 1:20.

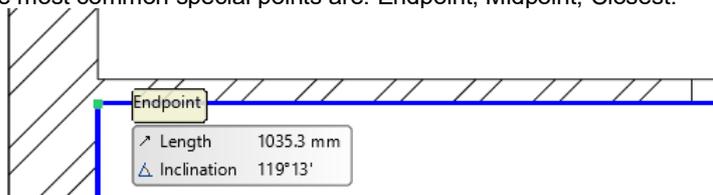
Tip: For example, if you want to print the plan later in the 1: 100 aspect ratio and want to see the associated line width on the screen, select the 1: 100 aspect ratio.



1.3. Renewed special point representation

The use of special points or object snap points is essential during the design process. Special points have been given a new style due to their importance, making them more noticeable.

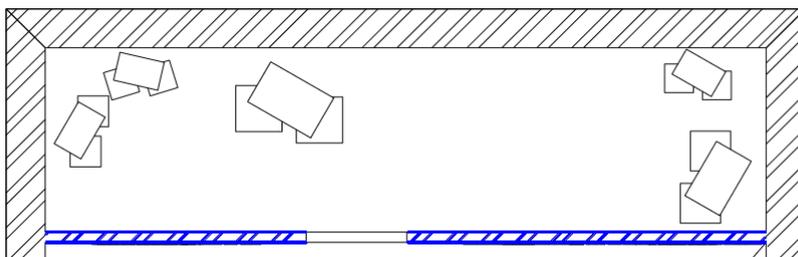
The most common special points are: Endpoint, Midpoint, Closest.



It is important that special points appear only when the Object Snap is turned on:

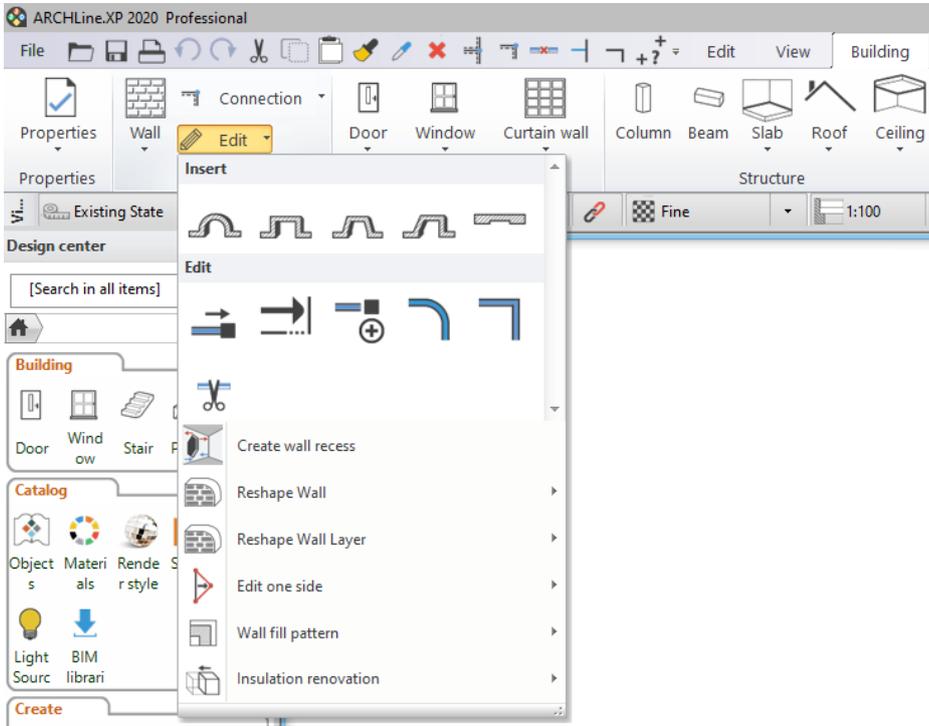
1.4. Pre-selection

Pre-Selection allows you to highlight element before selecting it. Pre-selection outlines the element, when you hover the cursor over it. Pressing the F11 key you can switch the function on / off.



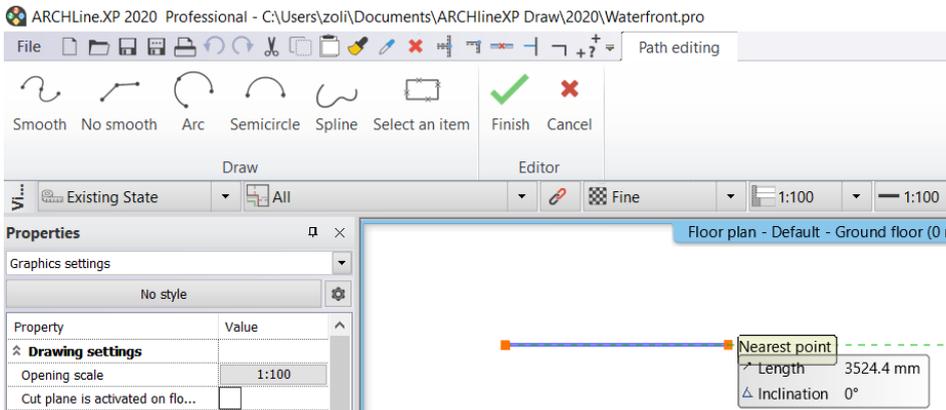
1.5. Withdrawal of deprecated user interface

The Ribbon bar appeared in 2018 as the default user interface and for two years the traditional “classic” menu and toolbar also remained available to allow enough time to transition to the new feature. In the 2020 version, the traditional “classic” menu and toolbar have been withdrawn and permanently replaced by the Ribbon bar.



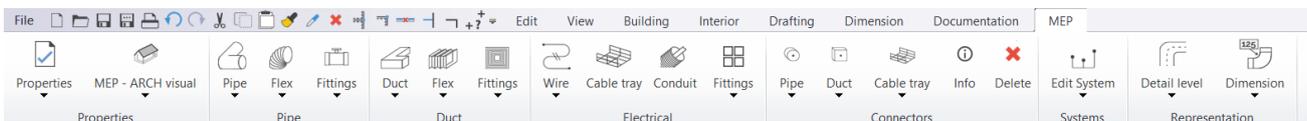
1.6. More Ribbon Submenu

Drawing line/polyline etc commands replace Ribbon main menu with a single submenu tools. It enables to choose the possible subcommands.



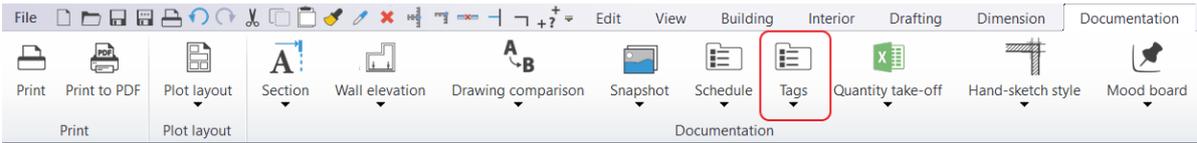
1.7. MEP menu

The new MEP Ribbon bar menu offer access to MEP tools on user interface. *Feature available in ARCHLine.XP Professional only.*



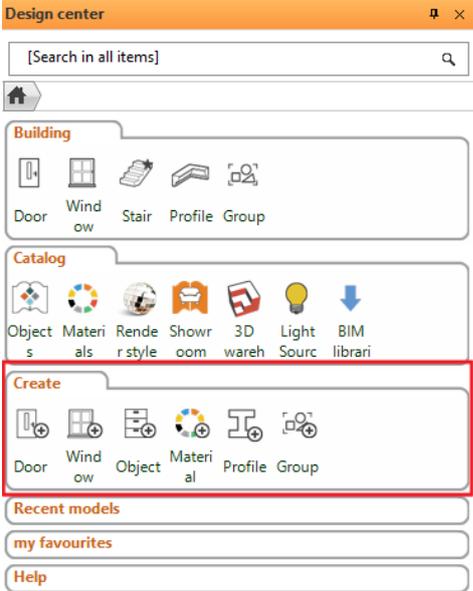
1.8. Tags

The new Tags command you find on Documentation tab.



1.9. Design Center new group – Create

The new group appears below Catalog. Here you find the commands to create various new elements for ARCHLine.XP library.



1.10. Mouse scroll step in perspective view

Mouse scroll in perspective view can now be set in the File - Options - Display - Camera - Scroll step field.
The default setting is 250 mm.

1.11. Transfer ARCHLine.XP software protection from old computer to New computer

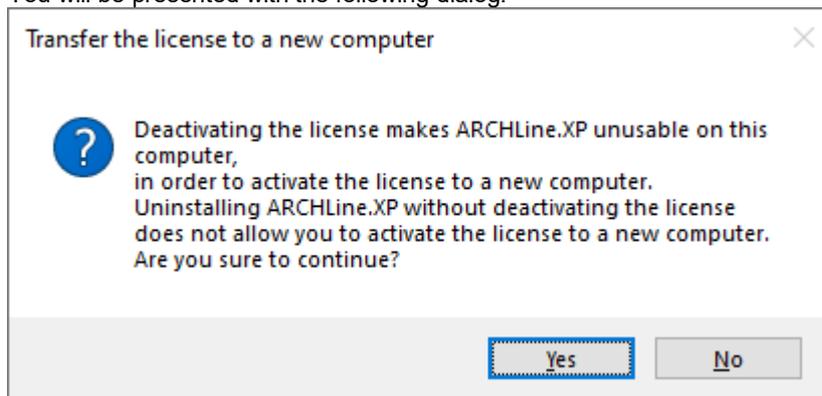
You can transfer the software protected license from one computer to another permanently. Possible reason might be you have a new computer and don't plan to use the old one any longer.

Note:

Using your license on too many computers leads to activation error. After transferring your license on a new computer you cannot use the license on old one any longer.

Use Help menu - Deactivate License

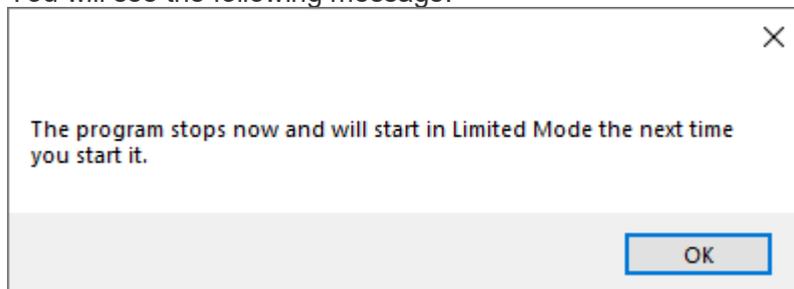
You will be presented with the following dialog:



Click **Yes** to confirm.

The license is deactivated. It requires Internet connection as it sends online a notification message to the vendor.

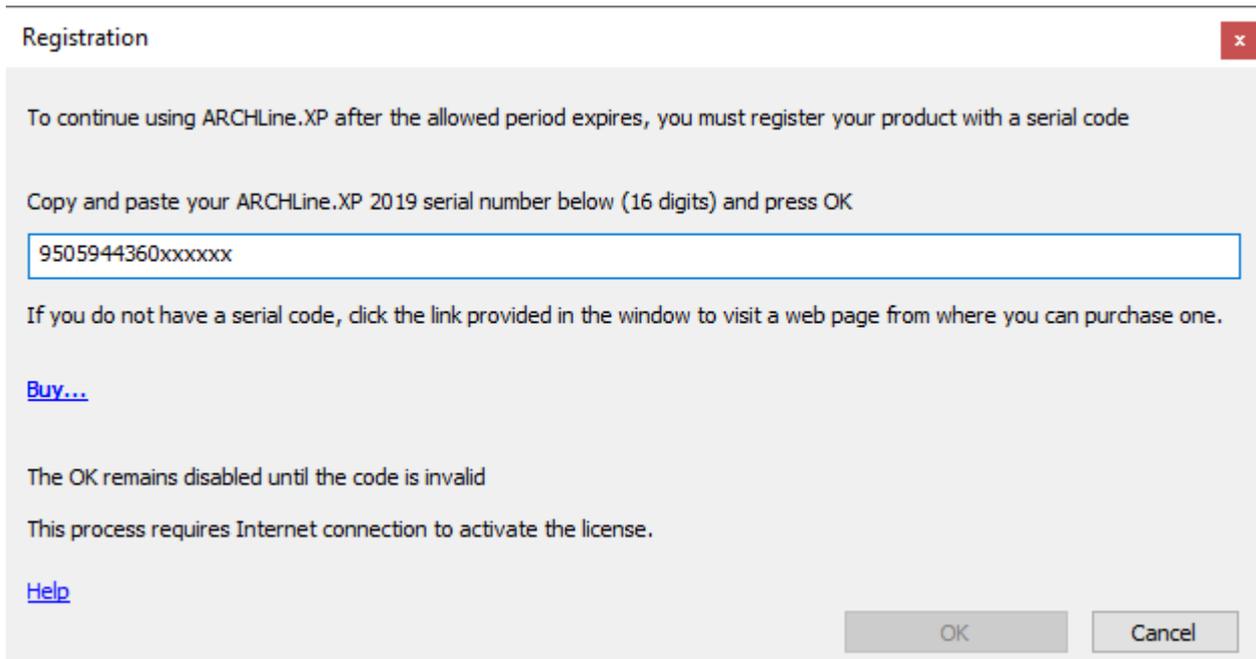
You will see the following message:



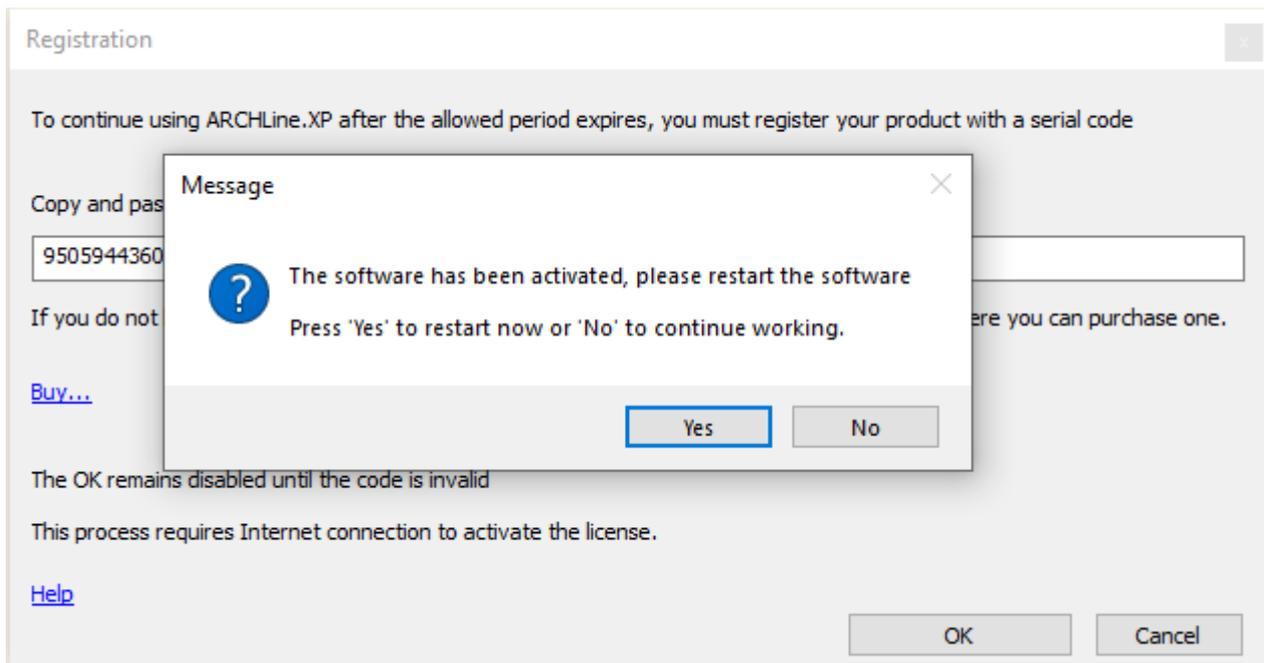
Activate license:

Use Help menu - Activate License

You will be presented with the following dialog:



Type your 16 digits ARCHLine.XP 2019 serial number. If the number is valid the OK button in enabled. Press the OK button and then restart ARCHLine.XP to complete the license activation.

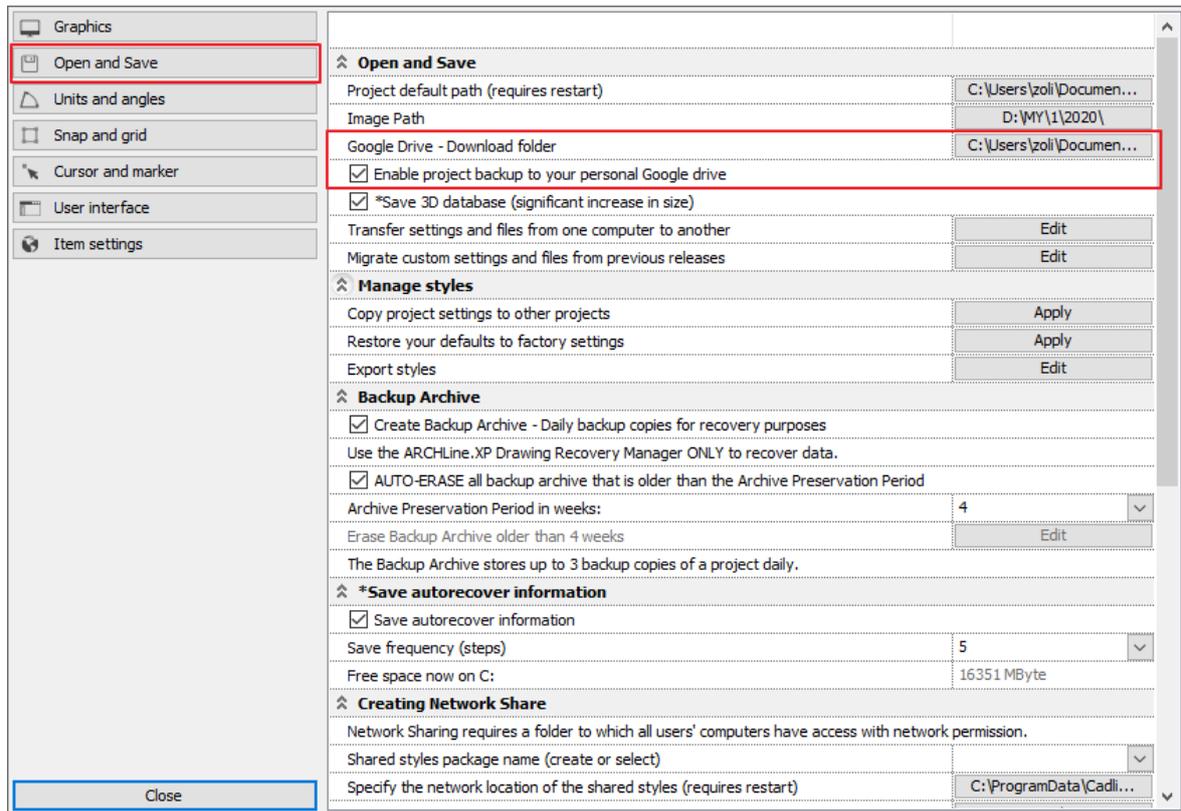


1.12. Work on the ARCHLine.XP project on Google Drive

Google Drive is cloud-based service that means the files are not stored on a computer, but on the Internet. The service is free and currently offers 15GB of storage.

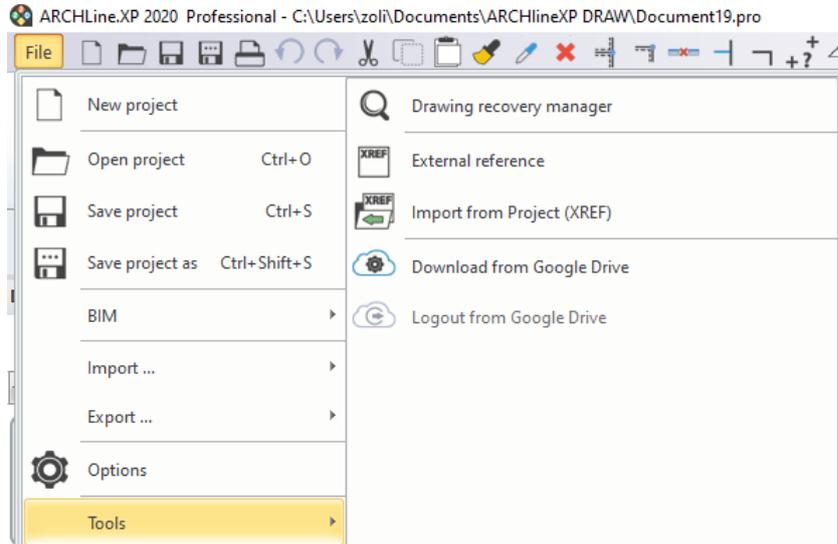
Enabling Google Drive saves your project in two locations in parallel, in a directory set up in the program as project default path and uploads to Google Drive as a backup.

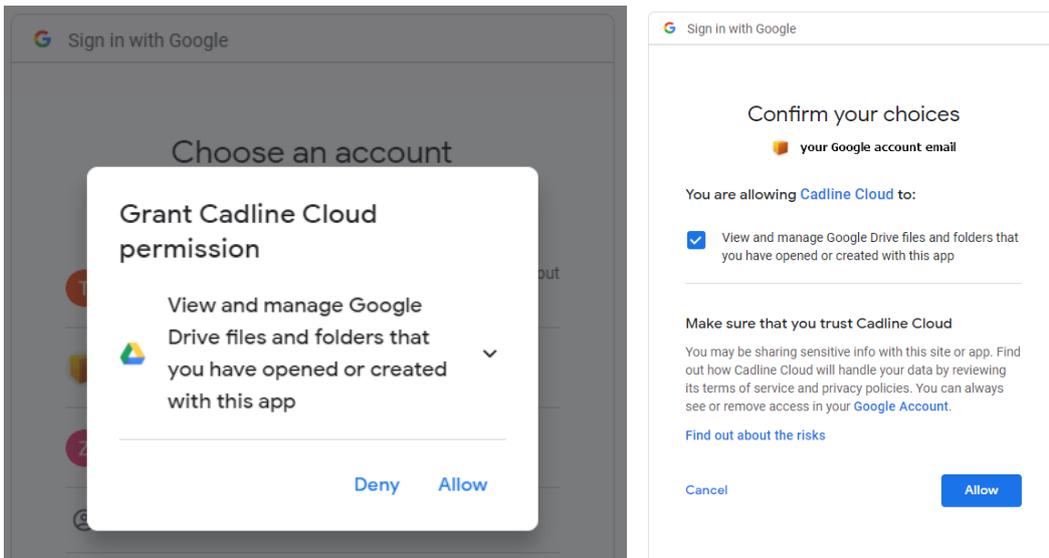
Setting: File – Open and Save - Enable project backup to your personal Google Drive account.



1.12.1. Download from google Drive

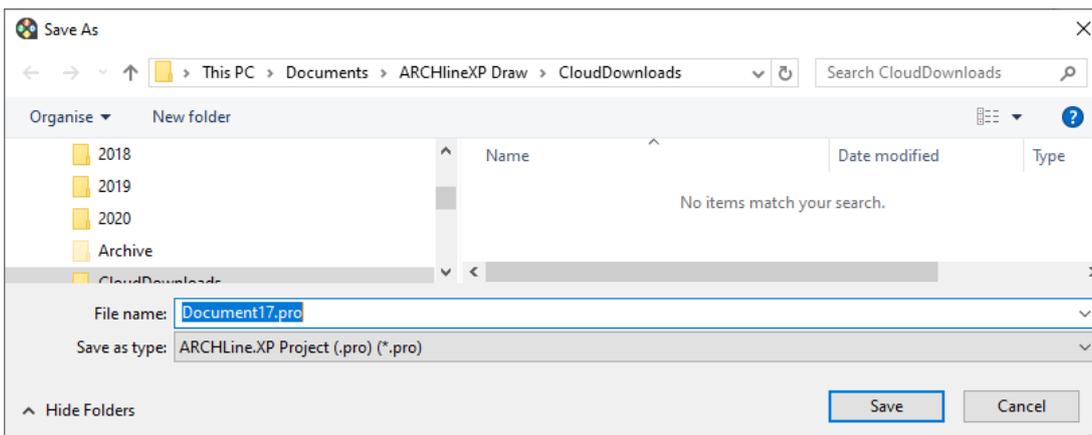
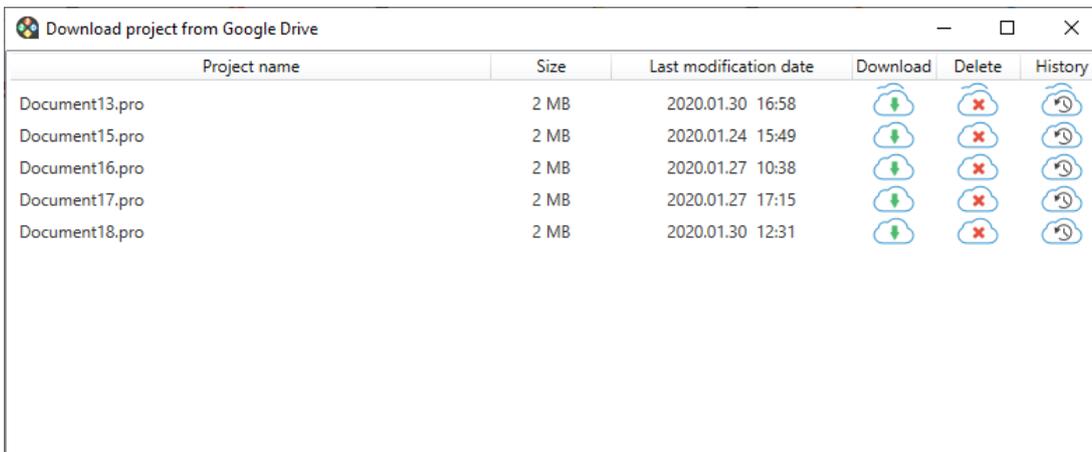
To open Google Drive, first time you have to login with your Google account email and password.





When you signed in to your Google Account, you have access to Cadline Cloud where you can see and manage your projects.

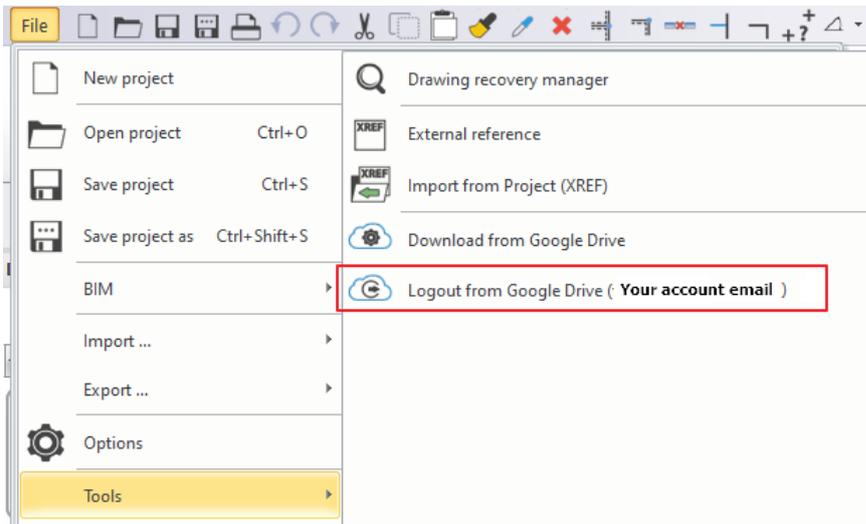
Default path for projects downloaded from the Google Drive: File – Open and Save - Google Drive - Download folder



When download is finished, ARCHLine.XP opens the project automatically.

1.12.2. Logout from Google Drive

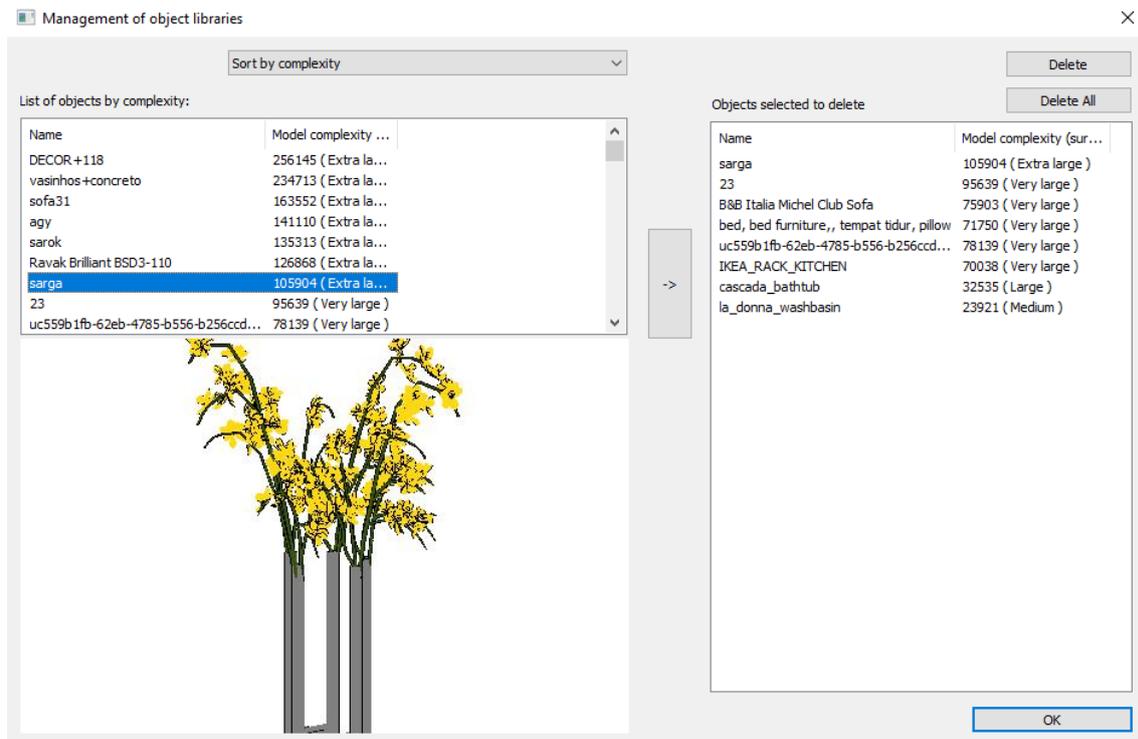
If you no longer want to use Google Drive, use this command. This way you can prevent other users from accessing your device and files.



1.13. Size based listing of library objects

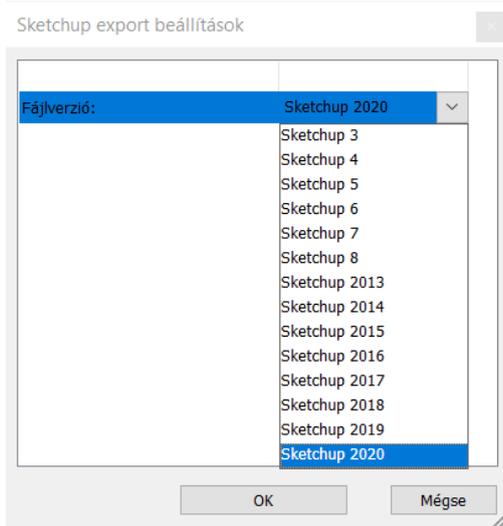
Every now or then, we need to purge the objects we do not need anymore.

In order to make this easy, you can easily filter your objects in the Design Center based on their sizes, complexity or date, so that you can single out the items you want to get rid of.



1.14. Skp export version - selection

The SKP export extended with SketchUp version selectivity.



2. Documentation Enhancements

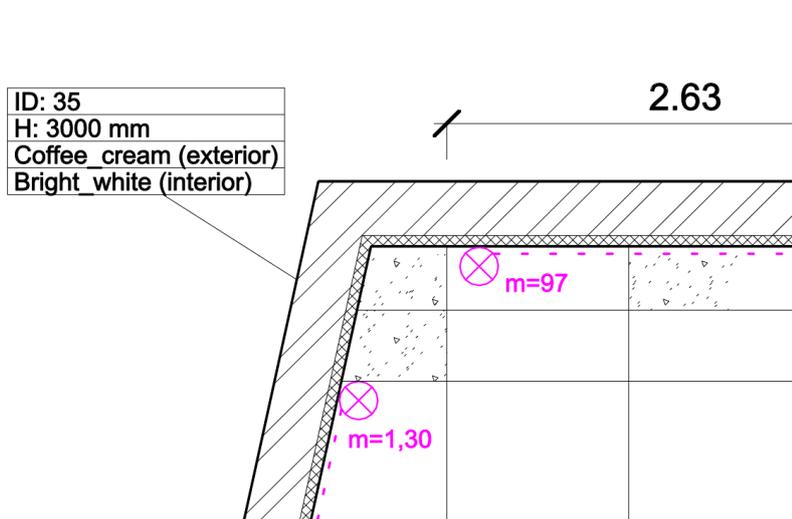
2.1. Tags

A tag is a label, which helps you to identify elements on your drawing, by showing data, which has been assigned to that item.

You can create and place tags at any stage of your work - place them onto your floor plan, or save them into Excel tables. Tags can be customized, meaning that the values ordered to the item can be re-organized, and changed anytime. What's more, the tags will always refresh, and follow the changes on your project.

The sequence of the command:

- a. Creating a template for the element type
- b. Apply a tag automatically to each item of the same type or manually one by one
- c. Tag is editable, it means the tag affects the related element
- e. Update tags function can be on / off.



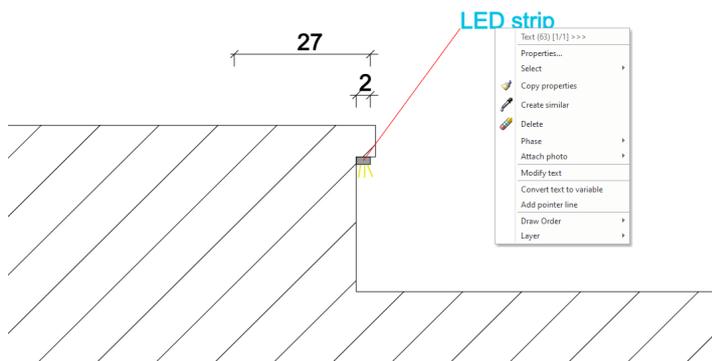
2.2. Text with leader

This tool links up a selected element with a single- or multi row text with a pointer line.

If the text is moved, the line will follow it.

You can add arrowheads to either end of the lines, and you can modify the linetype, too.

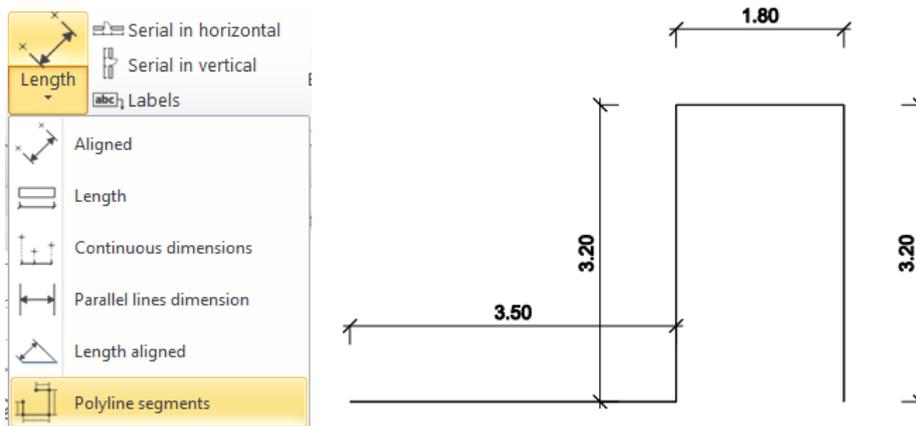
FRONT DOOR STEP Step LED detail drawing



2.3. Polyline segments dimension

You can place length dimensions on polyline segments in one step.

1. Click on the polyline.
2. Place the dimensions on the drawing.



2.4. RTF - customized template layout to create company standard report formats

<https://support.office.com/en-us/article/field-codes-mergefield-field-7a6d24a1-68a6-4b05-8359-1dc087daf4e6?ui=en-US&rs=en-US&ad=US>

This command associates ARCHLine.XP XML output data to customized layout elements in an RTF format template. It provides advanced technique for creating complex company standard report formats.

If you are using Microsoft Word to create RTF templates, see [Creating RTF Templates Using the Template Builder for Word](#) before reading this chapter.

The samples in RTFTemplates folder provided in the ARCHLine.XP installation can orient you to the process of creating your own templates in Microsoft Word. It is not required to have Microsoft Word to create RTF templates.

Rich Text Format (RTF) is a file format used by common word processing applications, such as Microsoft Word. When you save a document, RTF is a saving option.

When you design the customized template layout, you must associate the ARCHLine.XP XML output data to the RTF MergeField field codes.

Creating an RTF template means to add MergeField field codes to the RTF document. MergeField displays the name of a data field within the "chevron" merge characters — for example, «BuildingName».

Example for Template:

 «ArchitectCompanyName» «ArchitectAddress» COMPANY	DOOR AND WINDOW CONSIGNMENT
<i>Name of the builder:</i> «OrganizationName»	<i>Name of the building:</i> «BuildingName»
<i>Builder address:</i> «OrganizationAddress»	<i>Place of construction:</i> «BuildingAddress»
<i>Phone:</i>	<i>Name of the level:</i> «Floor»
<i>Date:</i> «Date»	<i>Project Number:</i> «ProjectNumber»
<i>Product name:</i> «TypeName»	<i>Consignment:</i>
<i>Overall size (w / h):</i> «Width»/«Height» mm	<i>Quantity:</i> «Quantity»
<i>Frame size (case size):</i> «FrameWidth»/«FrameHeight» mm	<i>Opening dir:</i> «OpeningDirection»

Example for output reports:

<table border="1"> <tr> <td style="text-align: center;">  Wohnungsbau GmbH Stroothof, 49509 Recke COMPANY NAME </td> <td style="text-align: center;"> DOOR AND WINDOW CONSIGNMENT </td> </tr> <tr> <td><i>Name of the builder:</i> Jan Swagen</td> <td><i>Name of the building:</i> Apartment building</td> </tr> <tr> <td><i>Builder address:</i> 27244 Traunstein</td> <td><i>Place of construction:</i> 48366Falkenweg</td> </tr> <tr> <td><i>Phone:</i></td> <td><i>Name of the level:</i> Ground floor</td> </tr> <tr> <td><i>Date:</i></td> <td><i>Project Number:</i> 2018-33</td> </tr> <tr> <td><i>Product name:</i> TU01-W</td> <td><i>Consignment:</i></td> </tr> <tr> <td><i>Overall size (w / h):</i> 885/2135 mm</td> <td><i>Quantity:</i> 2</td> </tr> <tr> <td><i>Frame size (case size):</i> 885/2135 mm</td> <td><i>Opening dir:</i> R</td> </tr> <tr> <td><i>Thickness:</i> 100 cm</td> <td><i>Installation method:</i></td> </tr> <tr> <td colspan="2"><i>Case type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction</td> </tr> <tr> <td colspan="2"><i>Leaf type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction</td> </tr> <tr> <td><i>Case color:</i> White RAL 9010</td> <td><i>Leaf color:</i> White RAL 9010</td> </tr> <tr> <td><i>Hardware:</i> By type</td> <td><i>Threshold:</i></td> </tr> <tr> <td><i>Lock:</i></td> <td><i>Handle:</i> By type, in white</td> </tr> <tr> <td colspan="2"><i>Glazing:</i> 4 + 16 + 4 mm flat, insulating glass LOWE 1,1K</td> </tr> <tr> <td colspan="2"><i>Panel:</i></td> </tr> <tr> <td><i>Outer Sill:</i> No</td> <td></td> </tr> <tr> <td><i>Inner Sill:</i> No</td> <td></td> </tr> <tr> <td colspan="2"><i>Shutter:</i> No</td> </tr> <tr> <td><i>Remote control:</i> No</td> <td><i>Mosquito Net:</i> No</td> </tr> <tr> <td><i>View:</i></td> <td style="text-align: center;"></td> </tr> </table>	 Wohnungsbau GmbH Stroothof, 49509 Recke COMPANY NAME	DOOR AND WINDOW CONSIGNMENT	<i>Name of the builder:</i> Jan Swagen	<i>Name of the building:</i> Apartment building	<i>Builder address:</i> 27244 Traunstein	<i>Place of construction:</i> 48366Falkenweg	<i>Phone:</i>	<i>Name of the level:</i> Ground floor	<i>Date:</i>	<i>Project Number:</i> 2018-33	<i>Product name:</i> TU01-W	<i>Consignment:</i>	<i>Overall size (w / h):</i> 885/2135 mm	<i>Quantity:</i> 2	<i>Frame size (case size):</i> 885/2135 mm	<i>Opening dir:</i> R	<i>Thickness:</i> 100 cm	<i>Installation method:</i>	<i>Case type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction		<i>Leaf type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction		<i>Case color:</i> White RAL 9010	<i>Leaf color:</i> White RAL 9010	<i>Hardware:</i> By type	<i>Threshold:</i>	<i>Lock:</i>	<i>Handle:</i> By type, in white	<i>Glazing:</i> 4 + 16 + 4 mm flat, insulating glass LOWE 1,1K		<i>Panel:</i>		<i>Outer Sill:</i> No		<i>Inner Sill:</i> No		<i>Shutter:</i> No		<i>Remote control:</i> No	<i>Mosquito Net:</i> No	<i>View:</i>		<table border="1"> <tr> <td colspan="2" style="text-align: center;"> DOOR AND WINDOW SCHEDULE </td> </tr> <tr> <td><i>Customer:</i> Jan Swagen</td> <td><i>Order No.:</i></td> </tr> <tr> <td><i>Address:</i> 27244 Traunstein</td> <td><i>Completion Date:</i></td> </tr> <tr> <td><i>Product name:</i> TU01-W</td> <td rowspan="5" style="text-align: center;"></td> </tr> <tr> <td><i>Overall size (w / h):</i> 885/2135 mm</td> </tr> <tr> <td><i>Qty:</i> 2</td> </tr> <tr> <td><i>Threshold:</i></td> </tr> <tr> <td><i>Leaf type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction</td> </tr> <tr> <td><i>Leaf color:</i> White RAL 9010</td> <td></td> </tr> <tr> <td colspan="2"><i>Case type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction</td> </tr> <tr> <td colspan="2"><i>Glass:</i> 4 + 16 + 4 mm flat, insulating glass LOWE 1,1K</td> </tr> <tr> <td colspan="2"><i>Hardware:</i> By type</td> </tr> <tr> <td colspan="2"><i>Handle:</i> By type, in white</td> </tr> <tr> <td colspan="2"><i>Outer Sill:</i> No</td> </tr> <tr> <td colspan="2"><i>Inner Sill:</i> No</td> </tr> <tr> <td colspan="2"><i>Shutter:</i> No</td> </tr> </table>	DOOR AND WINDOW SCHEDULE		<i>Customer:</i> Jan Swagen	<i>Order No.:</i>	<i>Address:</i> 27244 Traunstein	<i>Completion Date:</i>	<i>Product name:</i> TU01-W		<i>Overall size (w / h):</i> 885/2135 mm	<i>Qty:</i> 2	<i>Threshold:</i>	<i>Leaf type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction	<i>Leaf color:</i> White RAL 9010		<i>Case type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction		<i>Glass:</i> 4 + 16 + 4 mm flat, insulating glass LOWE 1,1K		<i>Hardware:</i> By type		<i>Handle:</i> By type, in white		<i>Outer Sill:</i> No		<i>Inner Sill:</i> No		<i>Shutter:</i> No	
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<i>Address:</i> 27244 Traunstein	<i>Completion Date:</i>																																																																						
<i>Product name:</i> TU01-W																																																																							
<i>Overall size (w / h):</i> 885/2135 mm																																																																							
<i>Qty:</i> 2																																																																							
<i>Threshold:</i>																																																																							
<i>Leaf type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction																																																																							
<i>Leaf color:</i> White RAL 9010																																																																							
<i>Case type:</i> SPECTUS TK 60 type four-chamber weather and impact resistant PVC profile construction																																																																							
<i>Glass:</i> 4 + 16 + 4 mm flat, insulating glass LOWE 1,1K																																																																							
<i>Hardware:</i> By type																																																																							
<i>Handle:</i> By type, in white																																																																							
<i>Outer Sill:</i> No																																																																							
<i>Inner Sill:</i> No																																																																							
<i>Shutter:</i> No																																																																							

Project Properties:

Date
 BeginDate
 EndDate
 Status
 BuildingType
 BuildingName

ProjectNumber

GrossArea
 Area_available_for_Building
 Maximum_height_of_the_Building

Region
 Country
 Town
 Location
 Location.Name
 Location.Description
 Location.Longitude
 Location.Latitude
 Location.Elevation

Location.ZipcodeOrPostalCode
 Office_area
 Height_above_the_sea

ArchitectName
 ArchitectCompanyName
 ArchitectAddress

OrganizationName
 ClientName
 ClientAddress

Door/Window properties:

OpeningFromRight;
 DistanceFromWallEndPt;
 Height;
 ParapetHeight;
 FrameWidth;
 FrameThick;
 FrameDistance;
 FrameDistance_fromOppositeSide;
 Niche;
 ExtSill;
 IntSill;
 ExtSillHeight;
 IntSillHeight;
 ExtSillWidth;
 IntSillWidth;
 PositionFromEnd;
 PositionByAxis;
 ExtIntDiff;
 Area;
 Compass;
 Name;
 ReferenceName;
 ExtMaterial;
 IntMaterial;
 InnerMaterial;
 MacroName;
 Remark;
 isShoulderOnTop;
 isShoulderAround;
 isRoofWindow;
 ConsiderForWofivFactor;
 ConsiderForWofiv;
 OpeningDir;
 OpeningDirection;
 BubbleNum;
 uValue;
 FrameStructureKind;
 FrameStructureID;
 GlassStructureID;
 PanelStructureID;
 SunShadeAndDivider;
 FrameWidth_Left;
 FrameWidth_Right;
 FrameWidth_Top;
 FrameWidth_Bottom;
 Effective_clear_width;
 LintelName;
 LintelIdentifier;
 FrameName;
 Outer_SillName;
 Inner_SillName;
 ShutterName;

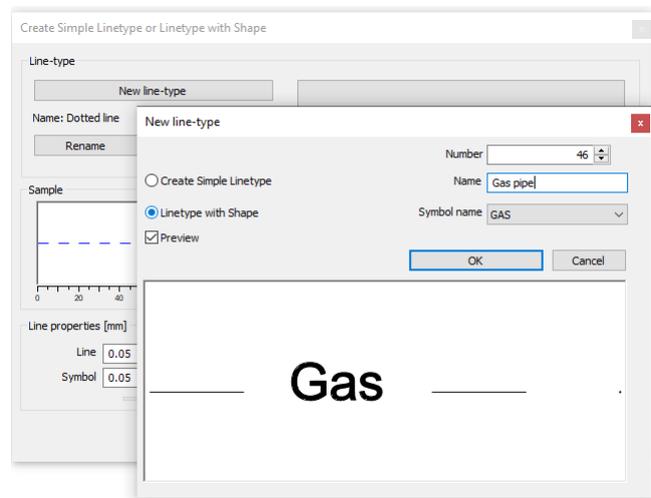
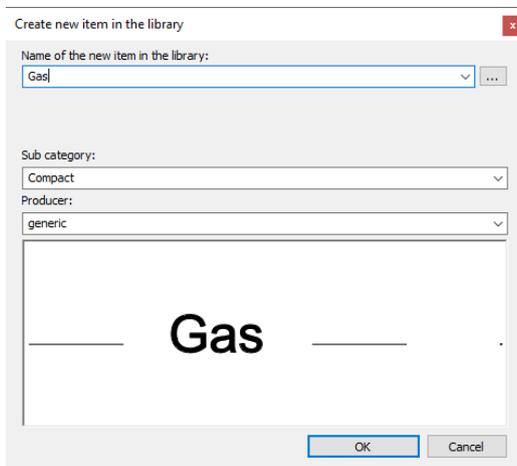
```

LeafName;
ThresholdName;
HardwareName;
Remote_control;
Mosquito_net;
Accessories;
Covering;
Glazing;
Opening_handle;
Leaf_color;
Case_color;
Material_of_receiving_structure;
Installation_method;
Production_size;
Picture1; //Frontal View

```

2.5. Custom linetype definition with text

The extended linetype definition enables to incorporate text shapes into the linetype definition.



2.6. Rotate Views: Project North and True North

In ARCHLine.XP you can manage two north orientations: Project North and True North.

Project North is mostly based on the predominant axis of the main walls of the building.

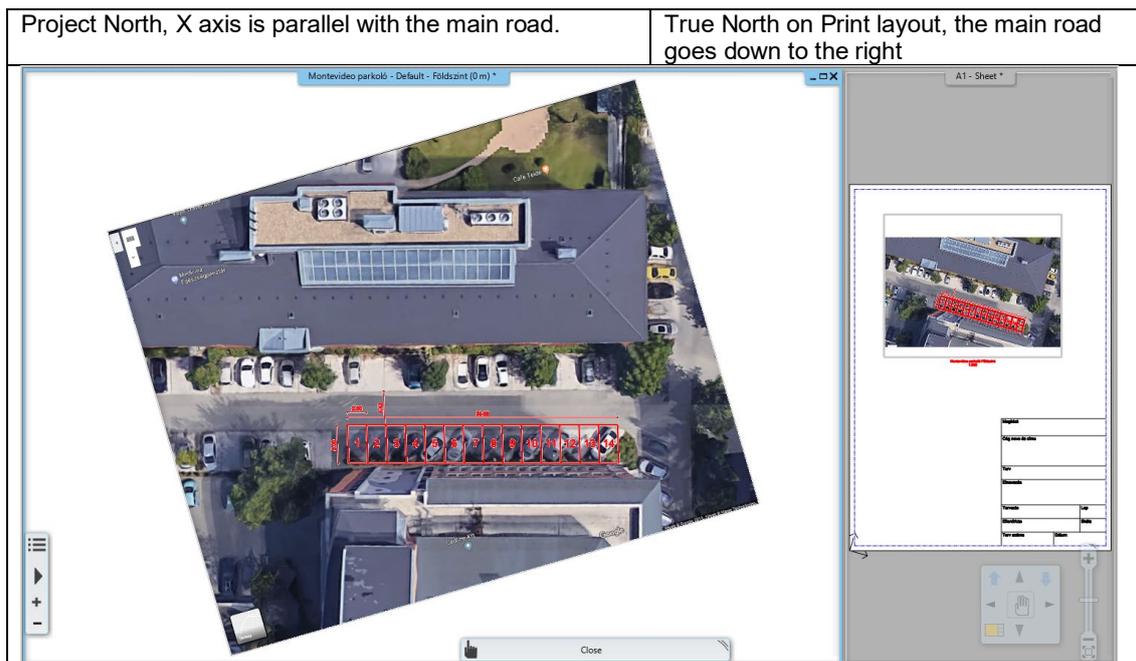
Using Project North simplifies the modelling process, you can input most of the value in horizontal and vertical directions.

True North means the real-world north direction based on site conditions

By rotating your drawing, you can align the main walls of your building with the horizontal and vertical axes. This results in easier design, where you can snap to orthogonal directions.

The drawing can be set back to its original orientation anytime, and you can toggle between the True North and Project North.

Switching between these modes will not affect the 3D model or the print layouts.

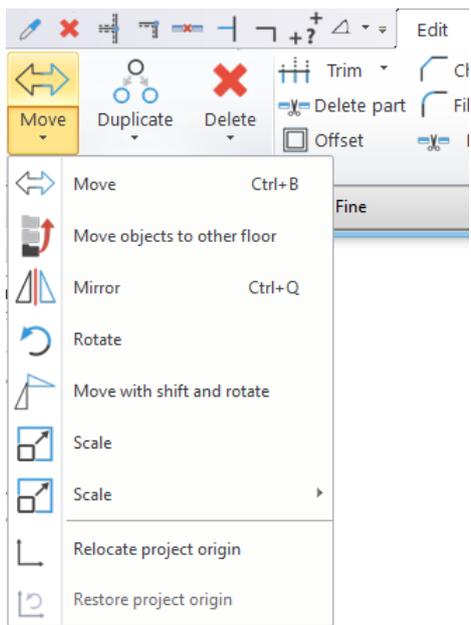


2.7. Working with large coordinate values

Lot of CAD drawings use large coordinate values e.g. architectural site models, urban planning or landscape design. External files such as DWG may contain elements with large coordinate values.

If the drawing has a large offset from the coordinate system origin (X, Y and Z have a value of 0) this might lead to calculation inaccuracy.

In this case you should move the drawing near to coordinate system origin.



Relocate Project origin

The Relocate Project Origin command moves the drawing with referenced point to coordinate system origin(0,0).

Restore Project origin

The Project Origin Restore command restores elements to its original location so that coordinates retain their original values.

You can then save the model with the original exact coordinates e.g. DWG file.

3. Architectural Enhancements

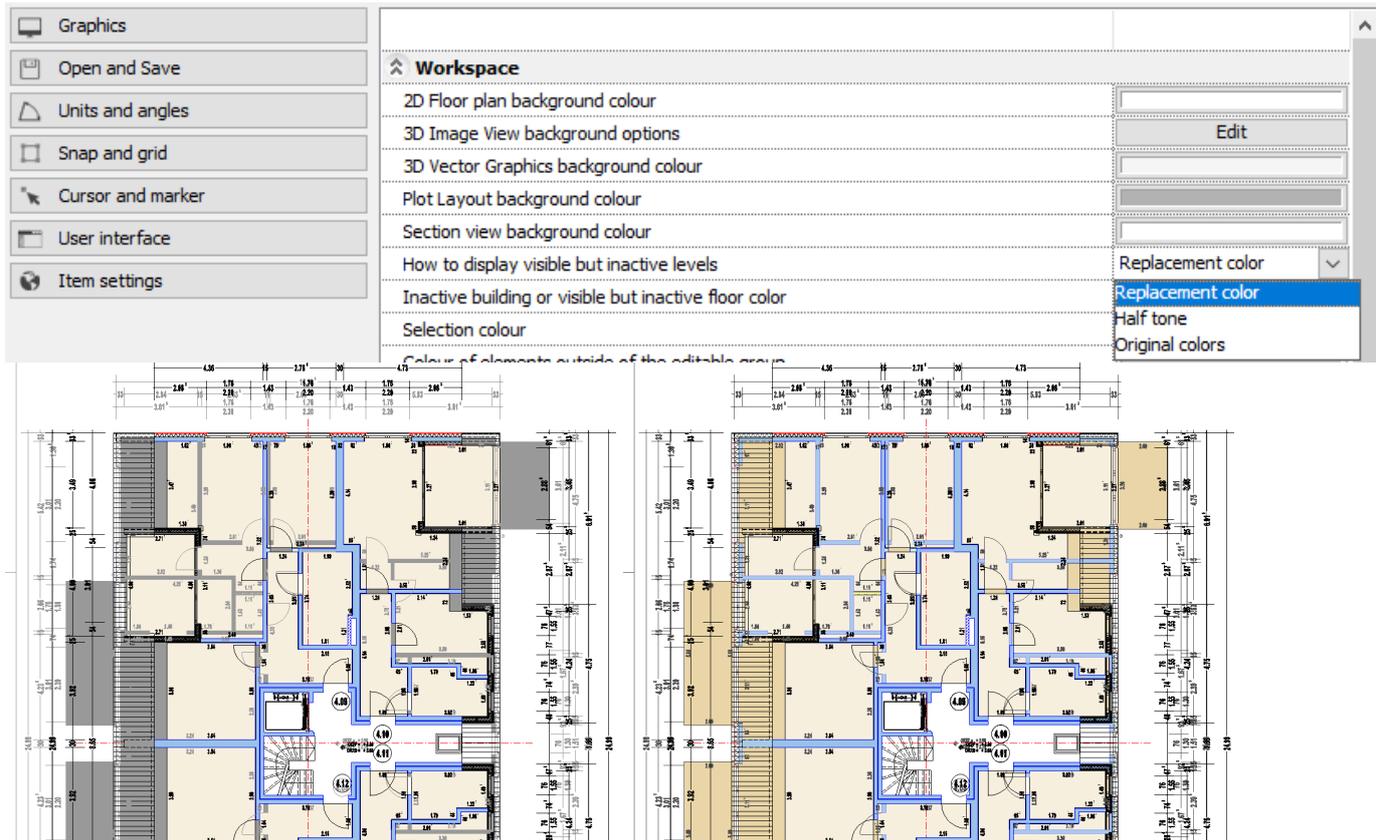
3.1. Adjustable colour levels for visible but inactive floors

There are 3 ways to represent visible, but inactive floors on your floor plan:

- ❖ With substitute colours
- ❖ With halftone
- ❖ With original colours

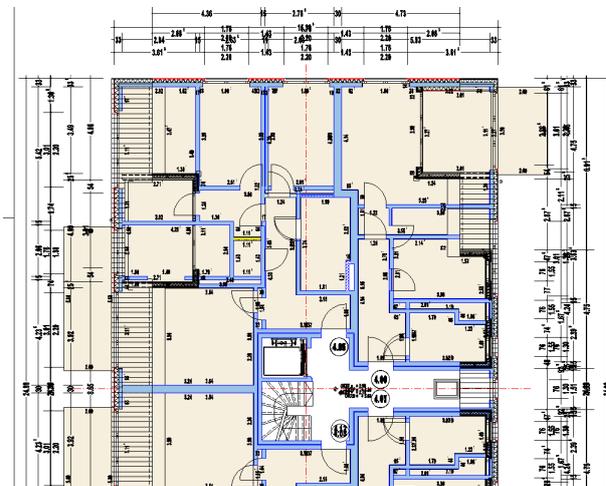
When replacement colour is the selected option the colour for visible but inactive levels is equal to inactive building's colour.

Also, you can now switch between visible floors by using the CTRL + arrow hotkeys.



Visible floor by replacement colour

Visible floor by half tone



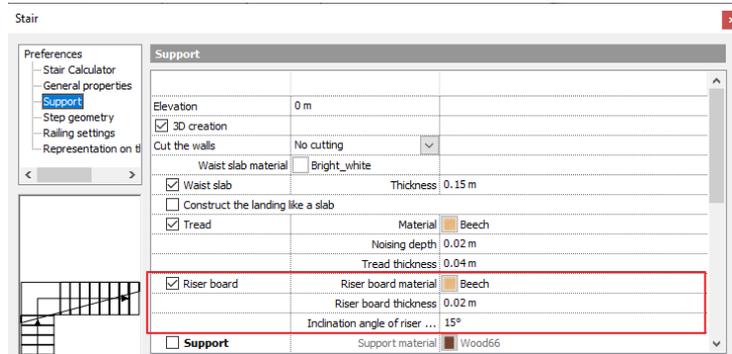
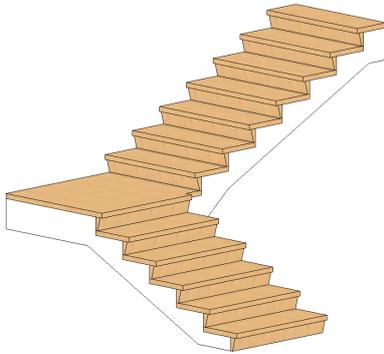
Visible floor by original colours.

3.2. For doors and windows, different materials can be used on the two surfaces (indoor, outdoor)

Separate material for each window can be assigned to the outside / inside of the frame and wing (s).

3.3. Stair steps with slope

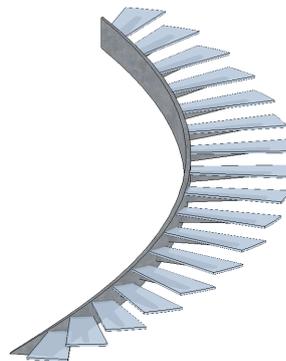
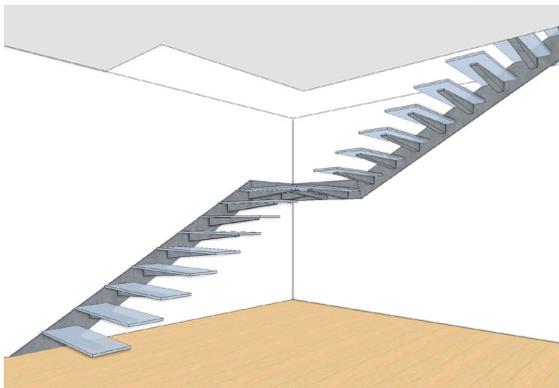
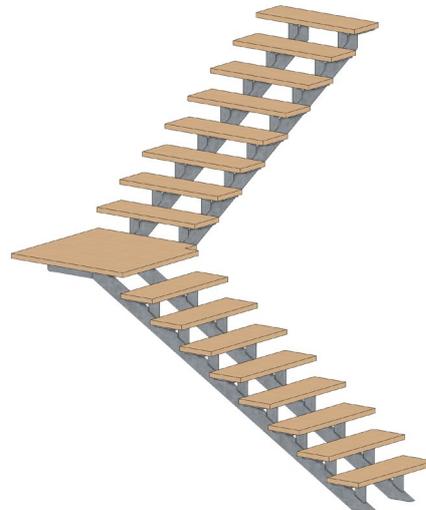
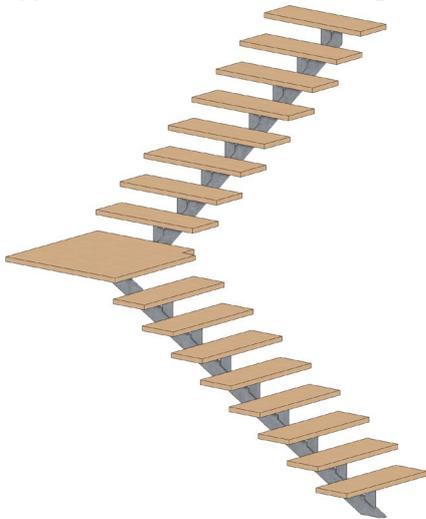
The degree of comfort of the stairs can be increased by the use of inclined steps in addition to the space requirements of the stairs. Higher tread depths can also improve the safety of the stairs.



3.4. Floating stairs

The term "floating stairs" is used to describe a stair with treads that are supported in a way to look as if they "float" in space. This can include a single stringer, double stringer or hidden stringer for supporting the stair treads. Stringer consist of two components, the tube and the tread support object.

Most of the time stringer shape is rectangular or round tube but it is allowed to select any shape from Profile library. Tread support between the tread and stringer tube is a separate object from Object library.



3.5. Roof window enhancement

Skylights: No more check of skylight contour intersection with the roof contour, only the collision between skylights, but partly common contour line is allowed.



3.6. Wall Framing 3D representation

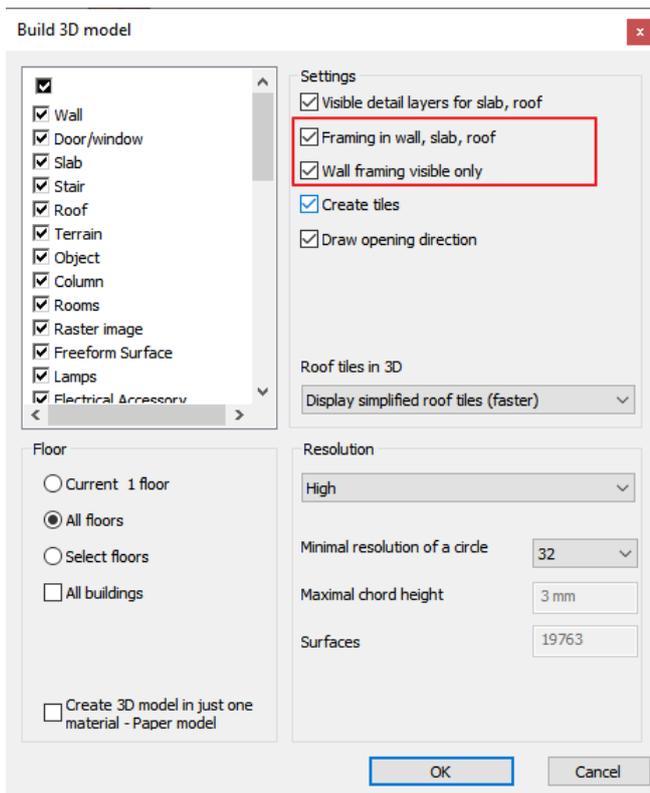
The new checkbox in Build 3D model dialog allows to create the wall framing model without the wall layers. This kind of functional 3D model could be useful for design work you need to do on a 3D view.

Wall Framing only:



Wall with layers:





3.7. Grid lines

Grid lines are often used to help organise the design.

Grid lines are usually used to locate Structural columns and structural beams. Grid lines can be straight lines or arcs.

Grid lines appear across subsequent floors.

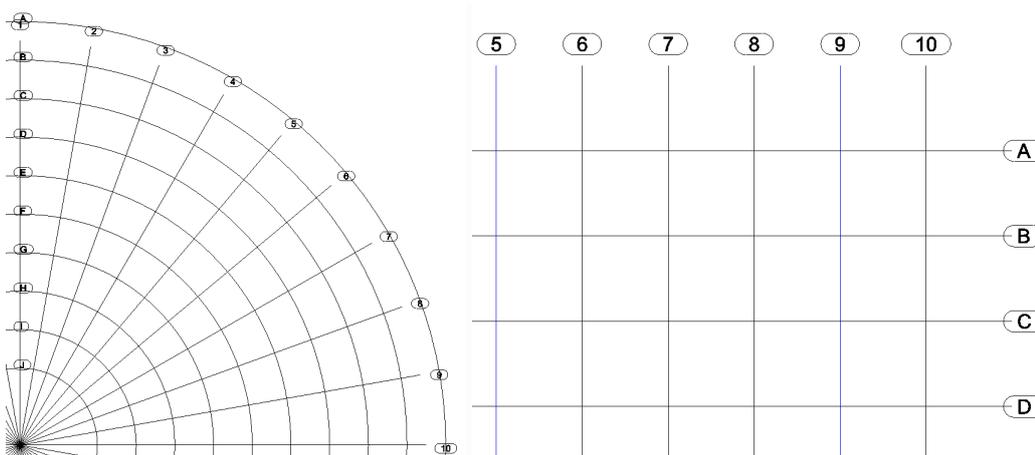
Grid line consist of two main parts. The grid line itself and the Grid Header.

By default the grid lines have a grid header at both ends.

Grid Lines can have a prefix and are numbered automatically in primary and secondary directions.

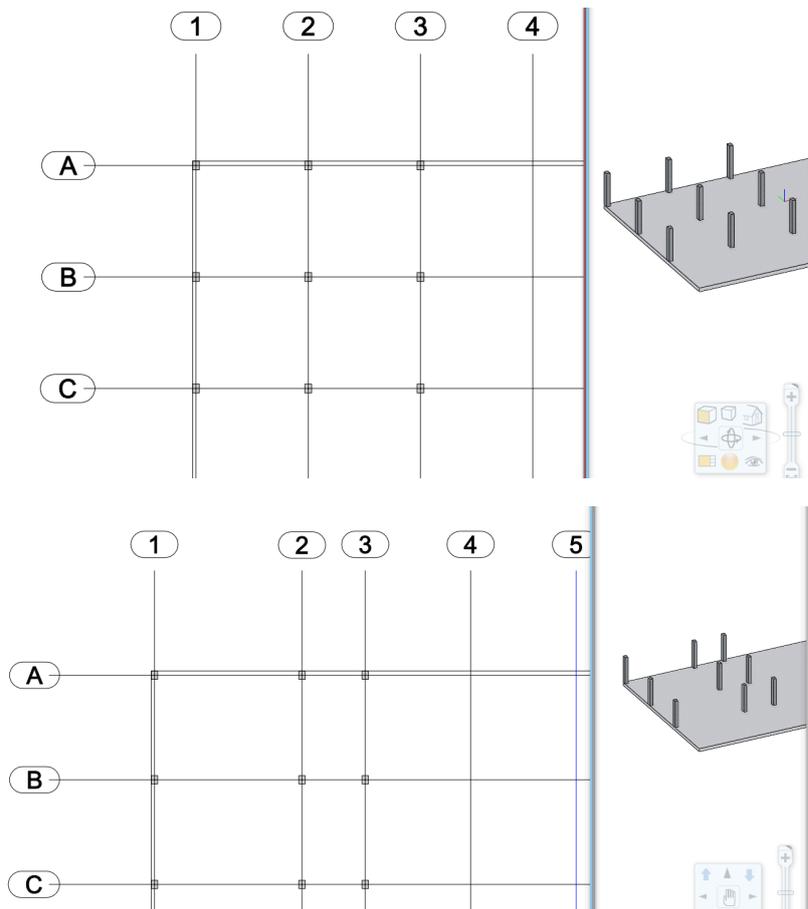
The number (or letter) increments each time for a new grid line.

Grid command you find on Ribbon bar – Drafting – Tools – Grid



ARCHLine.XP automatically links objects, column, beam, to gridlines or intersection point of two gridlines.

It means moving a gridline, ARCHLine.XP also moves the position of the linked elements to keep them at the gridline intersections.



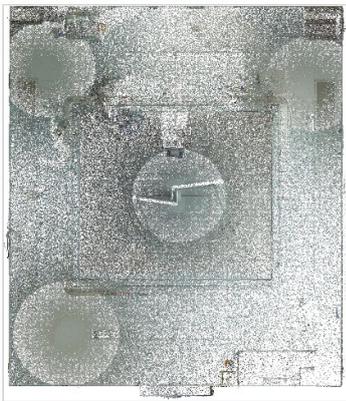
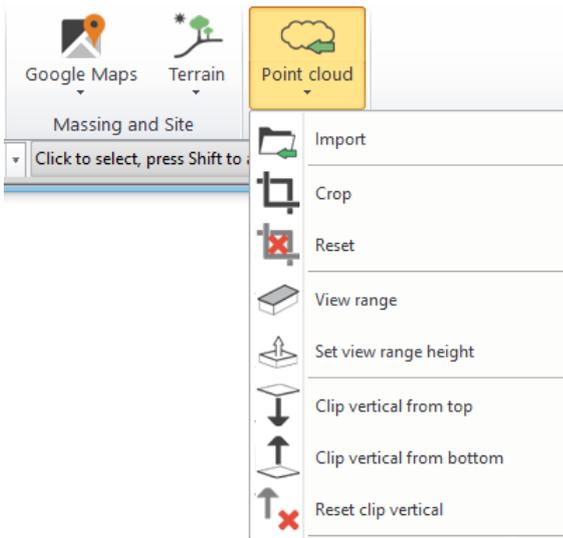
Grid properties:

General properties	
Layer	Grid
Colour	
Line type	Dotted
Type	Rectangular grid
Text style	Arial 800
All floors	<input checked="" type="checkbox"/>
Drafting grid	
Prefix in primary direction	P
Prefix in secondary direction	
Sign in primary direction	Number
Sign in secondary direction	Letter
From top to bottom	<input checked="" type="checkbox"/>
From left to right	<input checked="" type="checkbox"/>
Gap between lines in primary direction	3000 mm
Gap between lines in secondary direction	3000 mm
Number of lines in primary direction	10
Number of lines in secondary direction	10

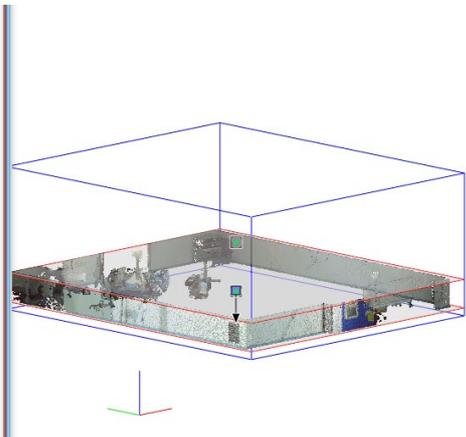
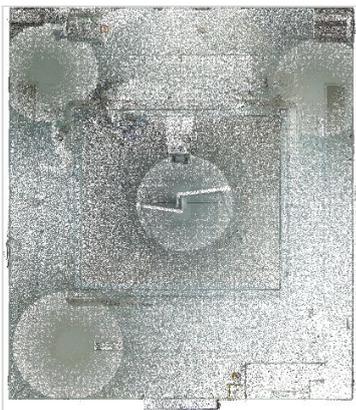
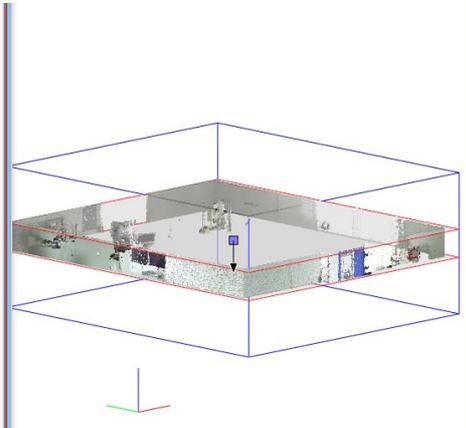
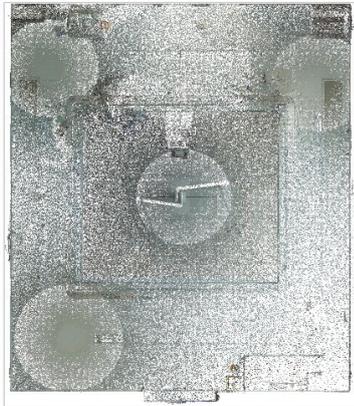
3.8. Clip point clouds with parallel planes

The section represents two parallel planes that control the visibility of the point cloud. The two planes can be moved together and the section height can be adjusted. The section is an effective way to temporarily filter the point cloud data.

The program shows the visible points inside the section as a raster image on the floor plan. Elements outside the section will not be displayed. The purpose of the section can be e.g. creating walls, doors and windows precisely on the floor plan.



After issuing a point cloud section command, the section can be moved with the black arrow:



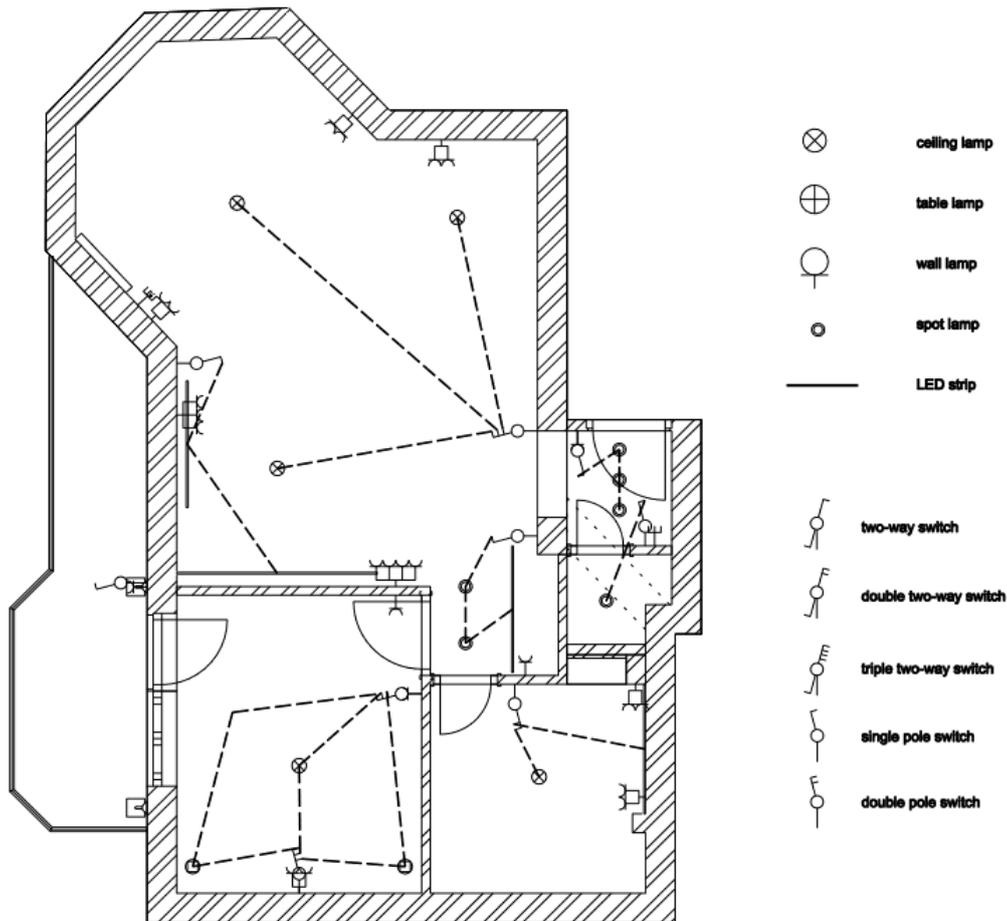
4. Interior Design Enhancements

4.1. Lighting and Switch layout

Create lighting plans by organizing and ordering your switches and lamps together.
With the schematic representation of your electrical items, a unified 2D appearance is made possible.

The method is as follows:

- ❖ Define the type of your lamps: ceiling, wall, desk, pendant, spot, etc.
- ❖ The lamps are "turned" into a symbolic 2D representation
- ❖ The switches and lamps are linked up together
- ❖ The connection between the items is checked: are there any non-connected elements? Are there any switches that have ways that are not yet taken?
- ❖ Eventually, we yield necessary data, such as the needed wattage of a room.

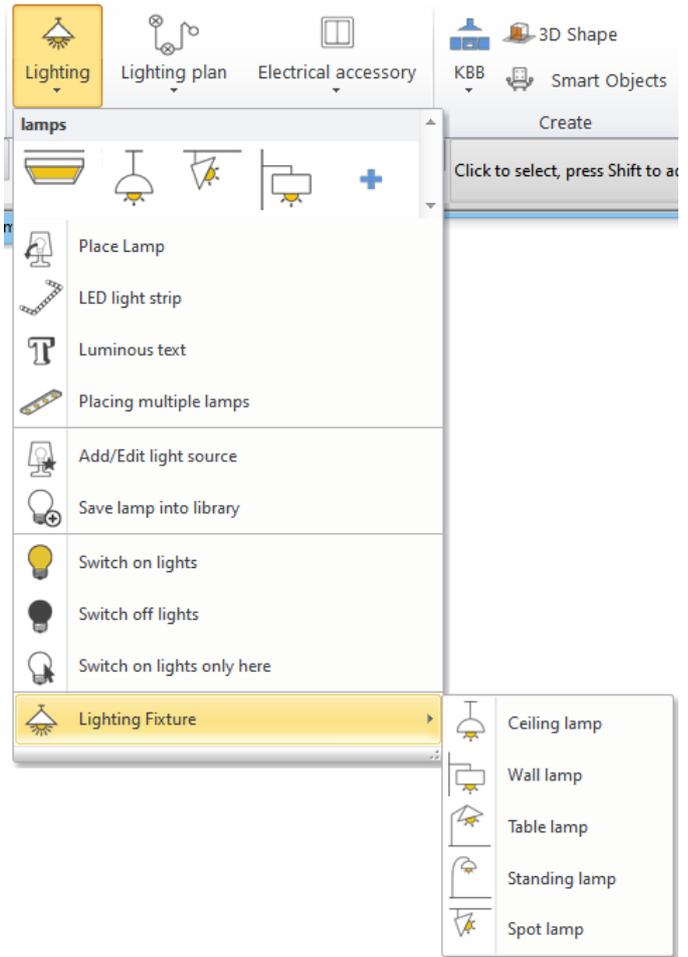


4.1.1. Type of lamps

It is recommended to assign the type of luminaire to the lamps on the floor plan to make the lighting plan. Depending on the types, a uniform floor plan can be created by turning on the symbolic mode.

To get the right lighting design, you need to assign one of the five lamp types, depending on whether it is a ceiling, wall, table, floor or spot lamp.

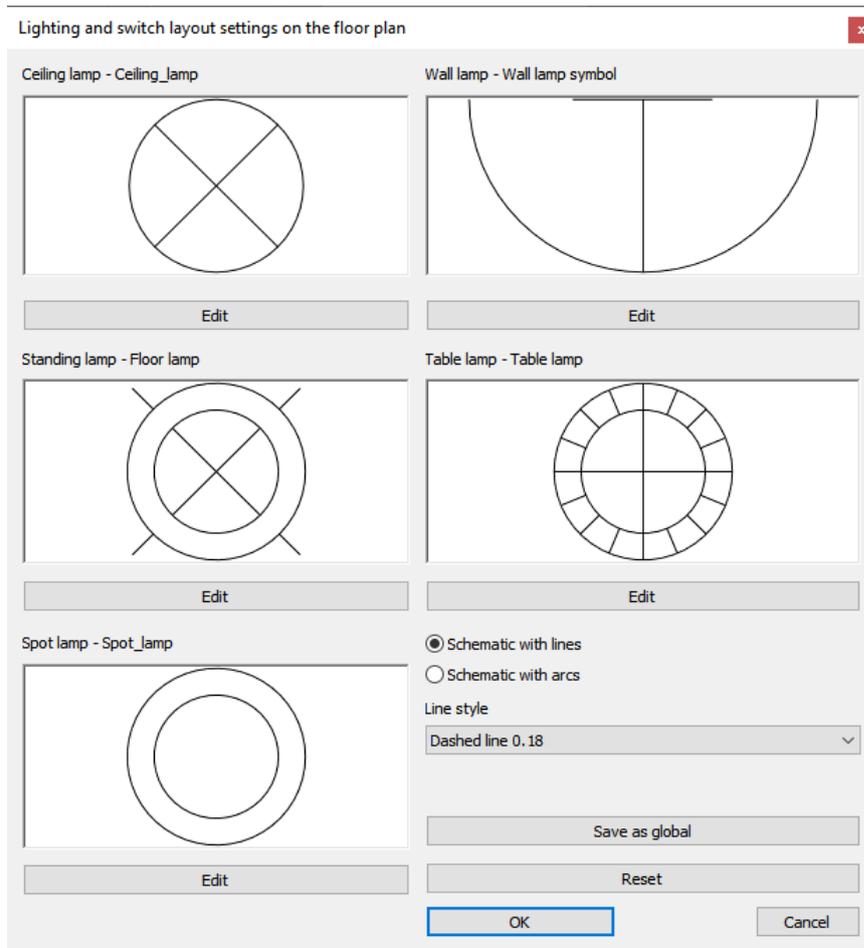
Assignment can be made from the Lighting menu, the lamp shortcut menu, or the Lamp settings in the Property Manager.



4.1.2. Settings

You can use symbols selected in the Lighting and Switch setting layout dialog to replace the individual representation of the lights on the floor plan. For this function to work properly, the luminaire type of the lamps must be specified: one of the five lamp types (ceiling, wall, table, standing, spot) must be assigned to the lamps.

It is also possible to choose line or arc to indicate the connection between switches and lamps.



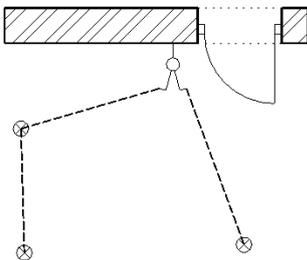
4.1.3. Switch lighting fixture symbolic and top view representation

The command switches between the symbolic representation assigned to the type of luminaire on the floor plan and the top view representation.

4.1.4. Assignment of switches and lamps

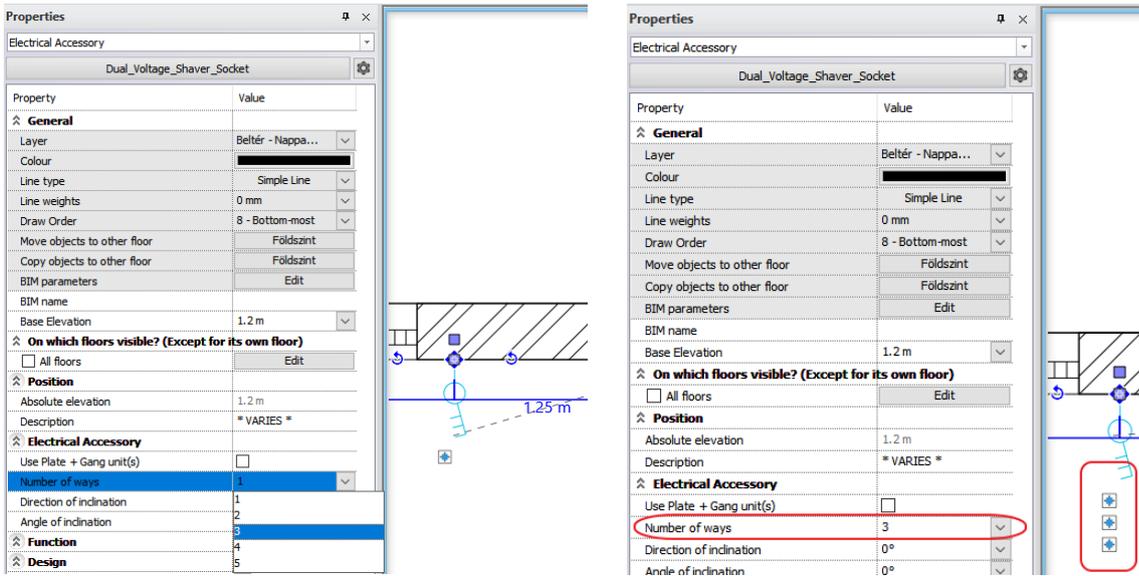
The lighting plan represents the relationship between switches and lamps as a 2D line or arc. The lighting plan does not appear in 3D.

- Select the switch and then the luminaire.
- Draw a line or arc to the switch starting from the center of the lamp.
- If there are multiple lamps on a single circuit, select the other lamps.



4.1.5. Multi-pole switches

For multi-pole switches, the second and additional poles must be assigned in the Number of ways field of the Properties panel, selecting the number of ways (independent circuits).

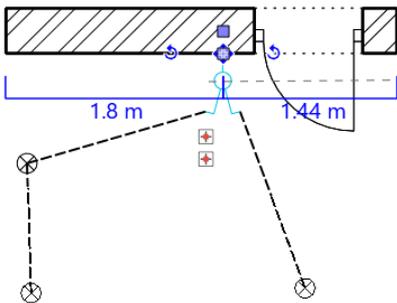


4.1.6. Delete lighting plan connection

The connected poles are shown in red when the switch is selected.

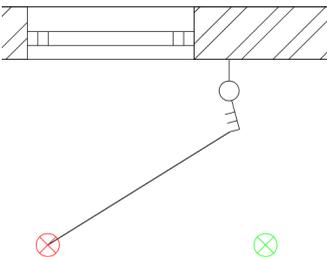
Depending on the selected element, the command releases one of the following connections:

- ❖ Lamp selected: Lamp connection to switch is deleted
- ❖ Connection element: the connection element is deleted, the lamps and switch pole become unconnected
- ❖ Switch selected: All connections of the switch will be disconnected.



4.1.7. Display lamp statuses

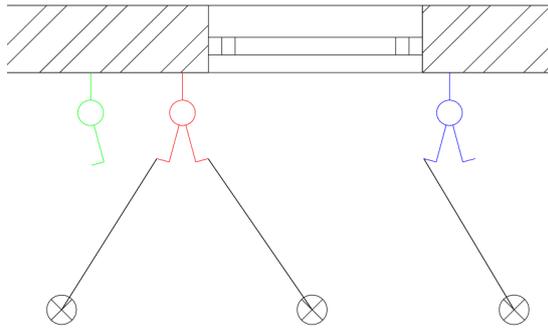
The command displays lights with red colour on the lighting plan that are already connected and blue the free lights that are not yet assigned to a switch.



4.1.8. Display switch statuses

The command shows in red the switches connected to each pole in the lighting plan and the free switches in green that are not yet assigned to any lamp.

Switches that are partially free, that is, already connected but with additional free poles, will appear in blue.



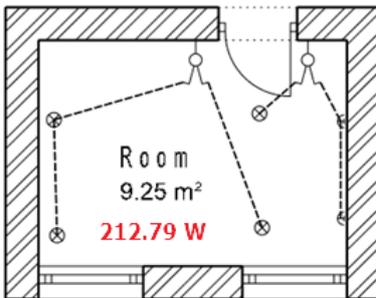
4.1.9. Room build-in power

The purpose of this command is to determine the approximate power requirement for a room illumination.

Basic information required:

- ❖ floor space of the room
- ❖ lighting efficiency,
- ❖ the required illumination value (lx),
- ❖ average luminous efficacy of light sources (lm / W)

The built-in power (W) is an indication to provide the luminous flux (lumen) planned for the room.



Determine the lighting needs in a room ✕

Gross area	15.32 m ²
Environmental factor	1.25 - Clean interior space
Illumination (100 lx < E < 500 lx)	500 - Workplaces
Lighting Efficiency (Direct - Indirect)	0.5 - Direct lighting
Luminous flux to be integrated [lm]	19151.2 lm
Average luminous efficiency index of light sources	LED light source 90 lm/W
P - Built-in power [W]	212.79 W

i The heat transfer coefficient (U_w) relates to the entire window. U_w incorporates the U-values for the glazing and the frame. U_w is also influenced by the linear heat transfer coeff. (g = glazing) and the window size.

* PRODUCER SHALL NOT BE LIABLE IN ANY MANNER WHATSOEVER FOR THE RESULTS OBTAINED THROUGH THE USE OF ANY PROGRAM OUTPUT

OK
Cancel

4.2. Sketch Mode – multiple object saving in library

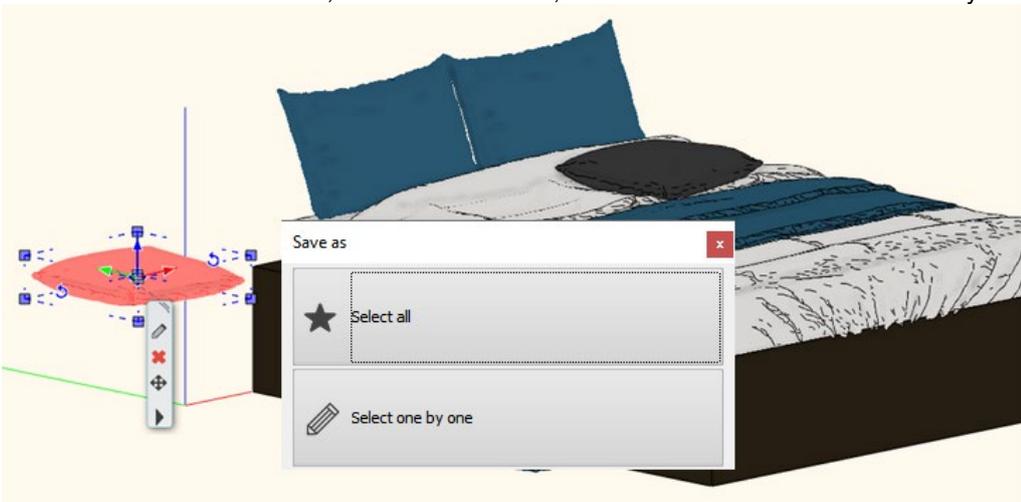
We often need to edit downloaded models. It is often the case that we want to use several elements from an existing composite model separately.

A good example is the following model:

I want to use the bed shown without the brown pillows, but I would use the brown pillow separately and the bedspread separately with the decor.



In Sketch Mode, you can save only the selected items, and after saving, you can continue working with another selected item or items. In the meantime, we can delete items, move them or rotate them if necessary.



4.3. Tiling with randomly rotated tiles

When a surface is tiled in reality, the contractor lays the tiles frequently randomly rotated. This results in a natural outcome, and this you can also achieve on your design.

This option allows a randomized placement of tiles, so that the individual tiles will be rotated arbitrarily. With the repeated use of this tool, the end result becomes even more lifelike.

Tiling properties

Tiling pattern

Rectangle

Width: 0.2 m

Height: 0.4 m

Random rotation of tiles

Material: Indian_Juparana

No rotation:

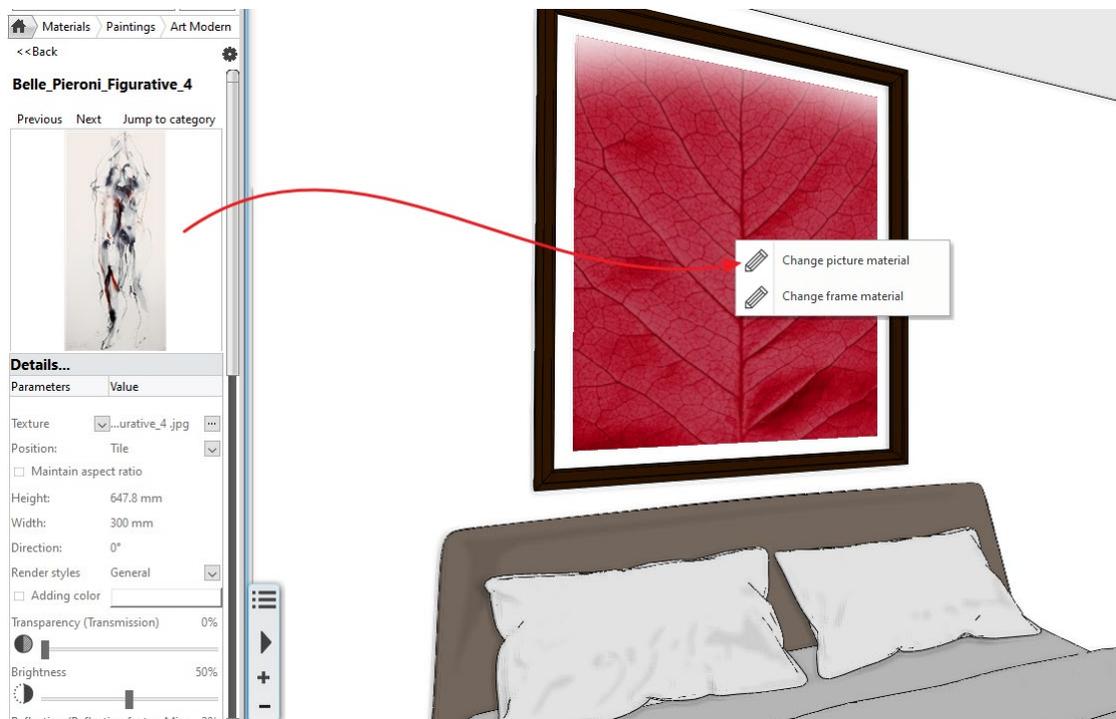


Randomly rotated



4.4. Changing the material of pictures from the design center

The frame material or even the picture itself can be changed directly from the Design Center. When we change the picture, the frame size will update, too



4.5. Skylight curtains on attic window

The 'Curtain tool can be used on roofs, also on attic windows. The tilt of the roof, i.e. the inclination of the curtain relative to the horizontal, must be specified.

Depending on the direction of the curtain placement, the angle is between 0-90 or 180-90.

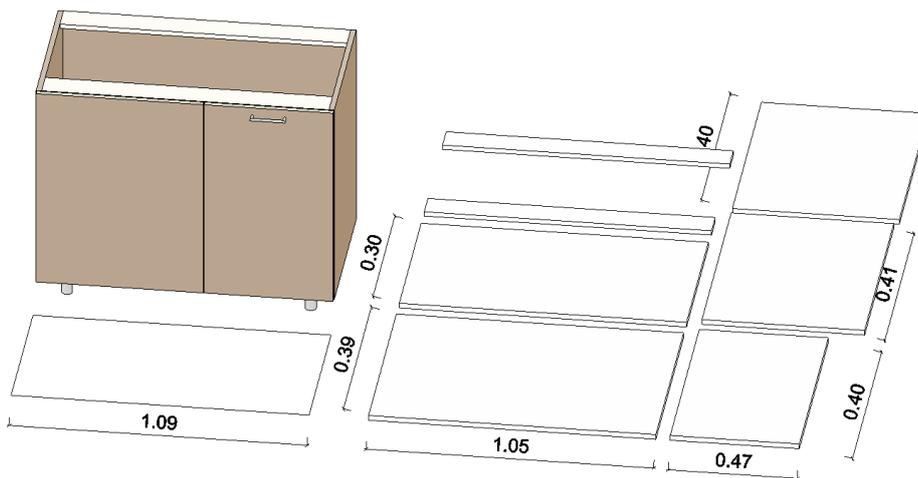


4.6. New corpus outputs

4.6.1. CNC Output in DXF format

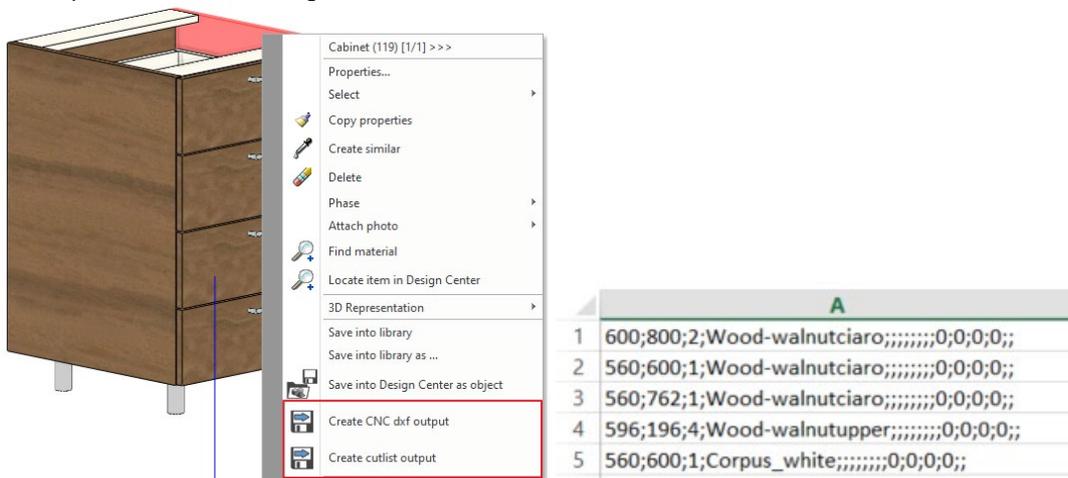
All corpus components are individually exported in DXF format.

CNC Output Meaning is a new DXF export command to the corpus sheets one file per file, shifted to 0 0 and rotated sheets into the XY plane grip points help the editing of the selected element.



4.6.2. New csv output for cutter optimization programs

Save all corpus components in CSV format (dimensions to be cut) for optimal cutting. Excel spreadsheet with cutting list:



5. Visual Enhancements

5.1. Rendering – Depth of Field

Depth of Field, well known effect, borrowed from professional photography, enhancing and highlighting the main focus of your images. You can define where the photo should be the sharpest, while blurring out items located in the foreground or background.



5.2. Panorama 360

You can create elaborate 360 walkthroughs of large buildings. You can connect cameras - even if they are on different floors.

To do this, it is enough to make the other level visible. Use CTRL + Arrow keys.

6. Material editing

6.1. Alpha channel

We often need an image with a transparent background. Such a picture eg. a wall sticker.

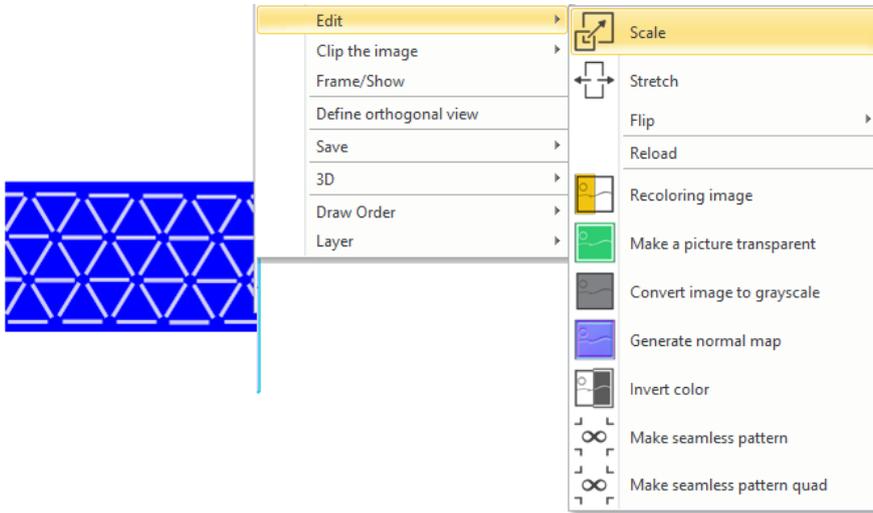
We also use a transparent image when we want to display a lamp shade that is cut with a pattern and the lamp shines through that pattern.



Such result we can achieve with Alpha Channel.

Right click on a raster image and choose the command Make a picture transparent.

Select colors on your image, which you want to turn transparent. The result is a transparent bitmap, that you can save as a new material.



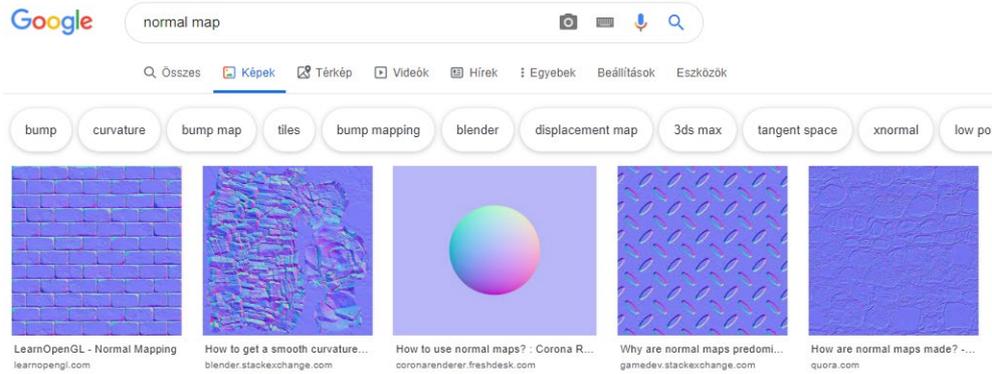
6.2. Bump mapping – with custom Normal Maps

Bump mapping results the illusion of depth and texture on the surface of a 3D model

In ARCHLine.XP 2020 you can use textures with custom Normal Maps.

Normal map uses RGB information that corresponds directly with the X, Y and Z axis in 3D space. This RGB information defines the exact direction of the surface normal in 3D.

Normal Maps you can simply download from the Internet, or you can create your own, by using textures.



6.3. Coloring materials and textures

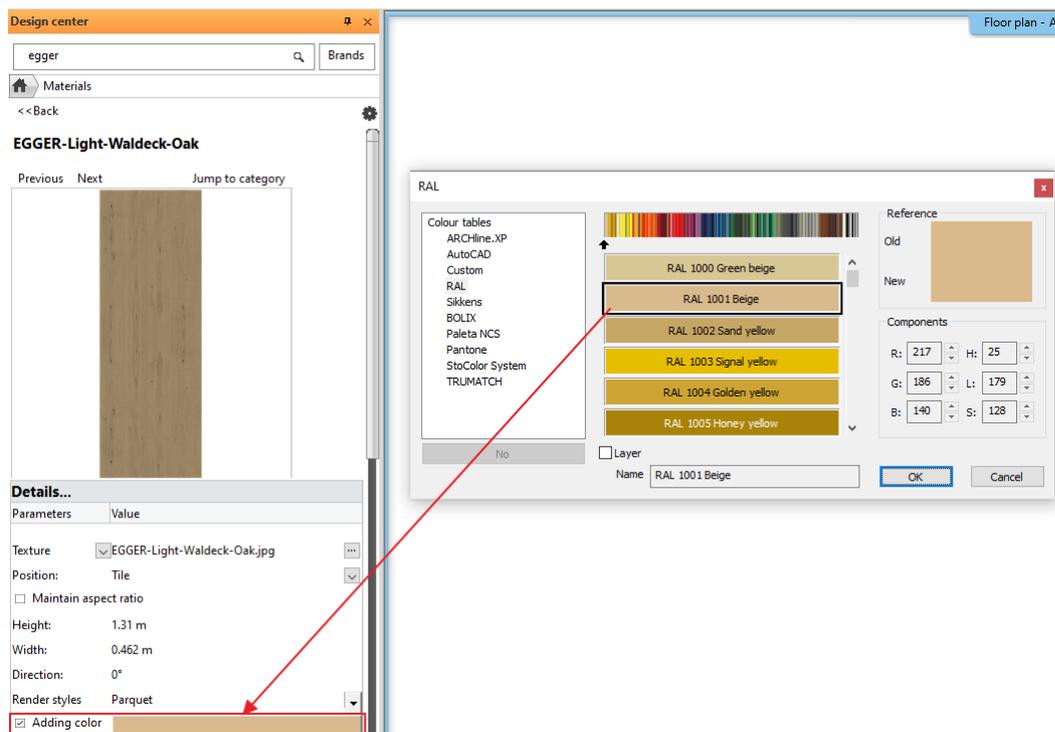
Coloring materials

As an additional material property, we have introduced *Adding color*. This can be switched on/off at will, and it will only affect the appearance of the material, while leaving the original texture intact.

As a result, you can try several color schemes of the same material, with the result instantly showing.

Coloring textures: adding color correction

The image patterns you import into your projects can be re-colored, and saved as an additional material. Contrary to the "coloring materials" feature, here you'll end up with textures, which are re-colored.



6.4. Creating seamless patterns

Turn your imported textures into seamless ones. A seamless pattern means that its vertical and horizontal repetition is without breaks, therefore resulting in a natural and realistic outcome.

No need for an external image manipulation software to achieve this result - you can do this in ARCHLine.XP directly. Process your textures, define their boundaries manually, and use them as seamless patterns.

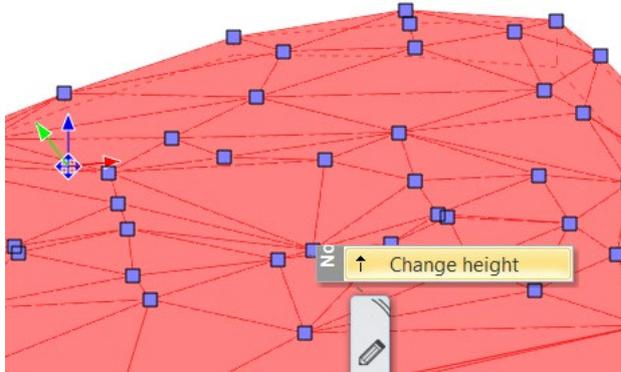
"A pattern is actually a tiny image that, if you repeat it in all directions, it will form a spreading pattern, and you can fill it up with the space you want repeatedly. Because the pattern is repeatable, you won't see the image break anywhere. "



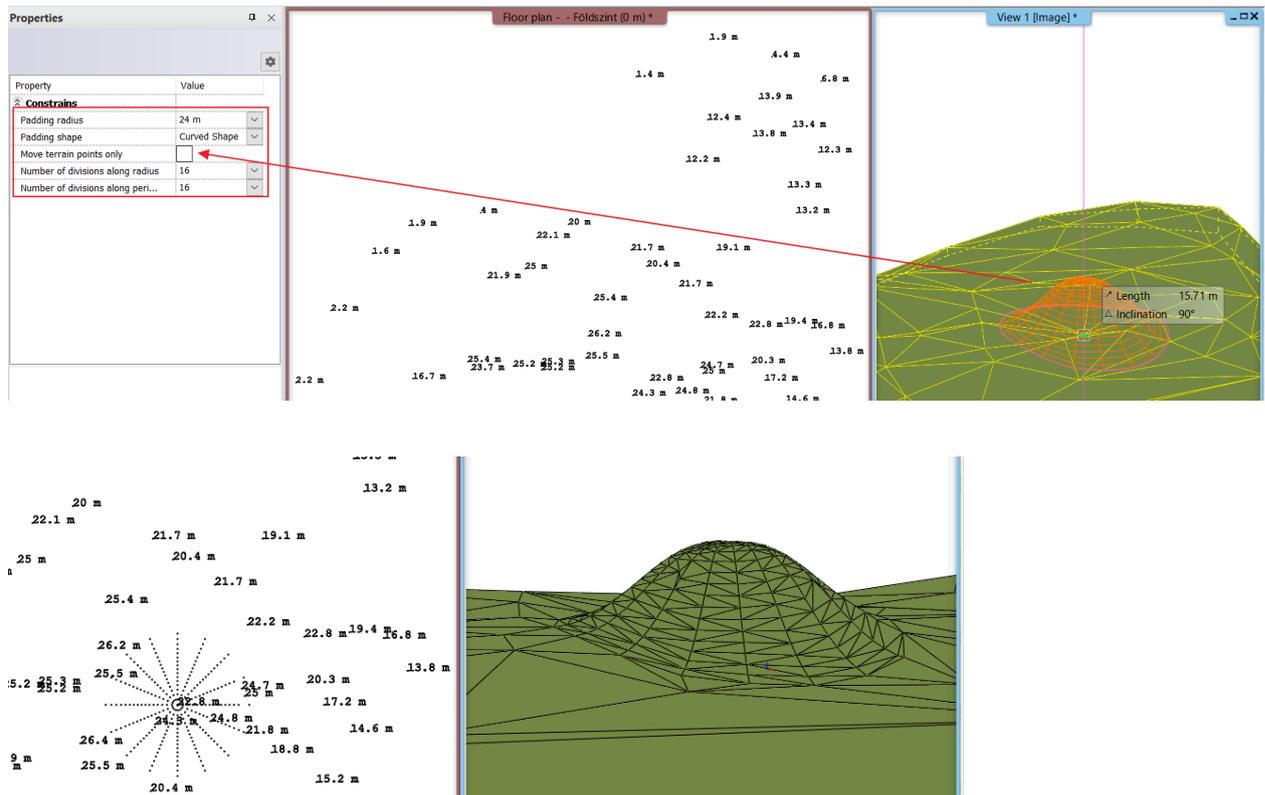
7. Minor new features and feature extensions

7.1. Terrain – adding hills and valleys

Imported terrain or the terrain created from scratch often requires minor changes to the surface shape. The extended Change node height command enables to create hills and valleys and the combination of them.

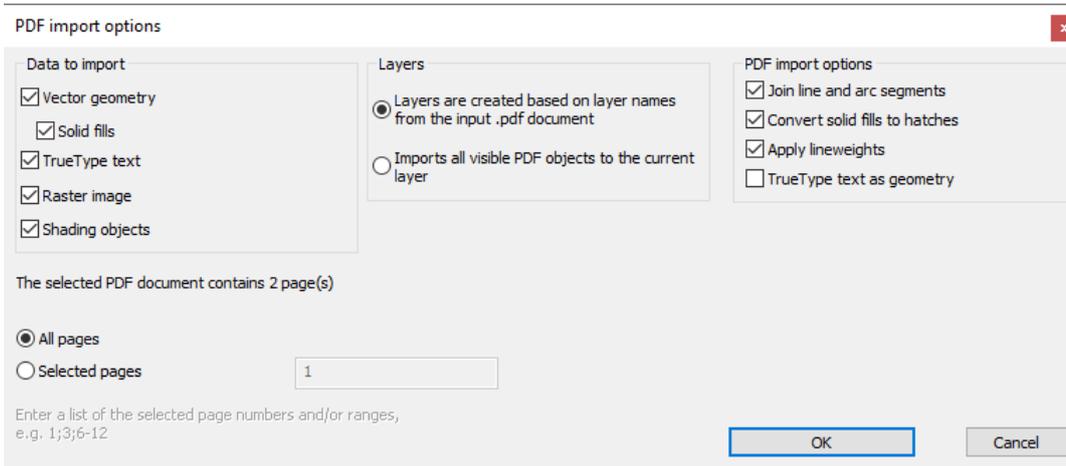


By default, the command changes the elevation of the selected node only. If you wish to add hill or valley you have to switch off the Move terrain points only checkbox. See below. In the properties you can change the hill radius, shape (curved or line) and the density of newly created nodes.

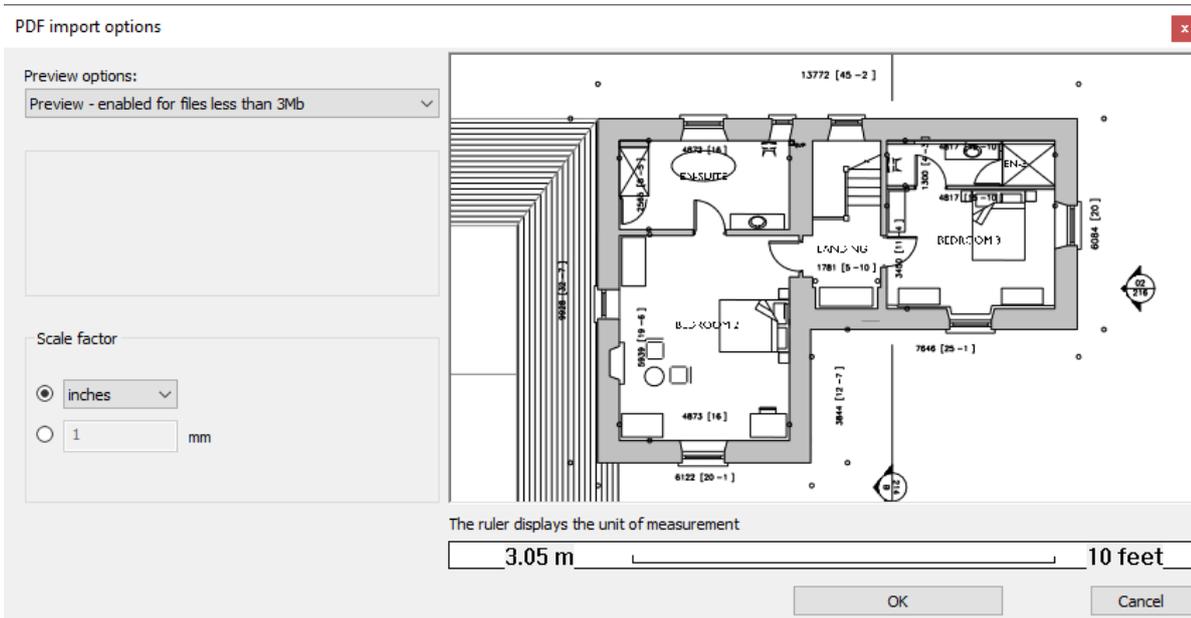


7.2. Pdf vectorization import

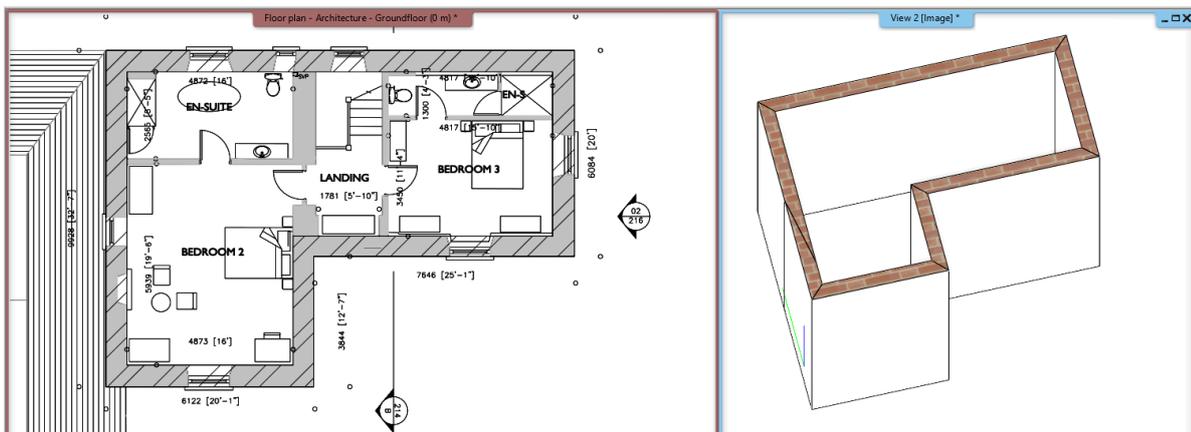
ARCHLine.XP 2020 comes with a new way of importing .pdf files. Import options includes vector geometry, raster image, true type texts, layers, scale and other minor features.



Similar to DWG import you can set the scale on the preview dialog.



Use Walls on DWG drawing command to track on wall contour lines to create 3D walls.



8. MEP tools in ARCHLine.XP

8.1. MEP Toolbox

For MEP Engineers

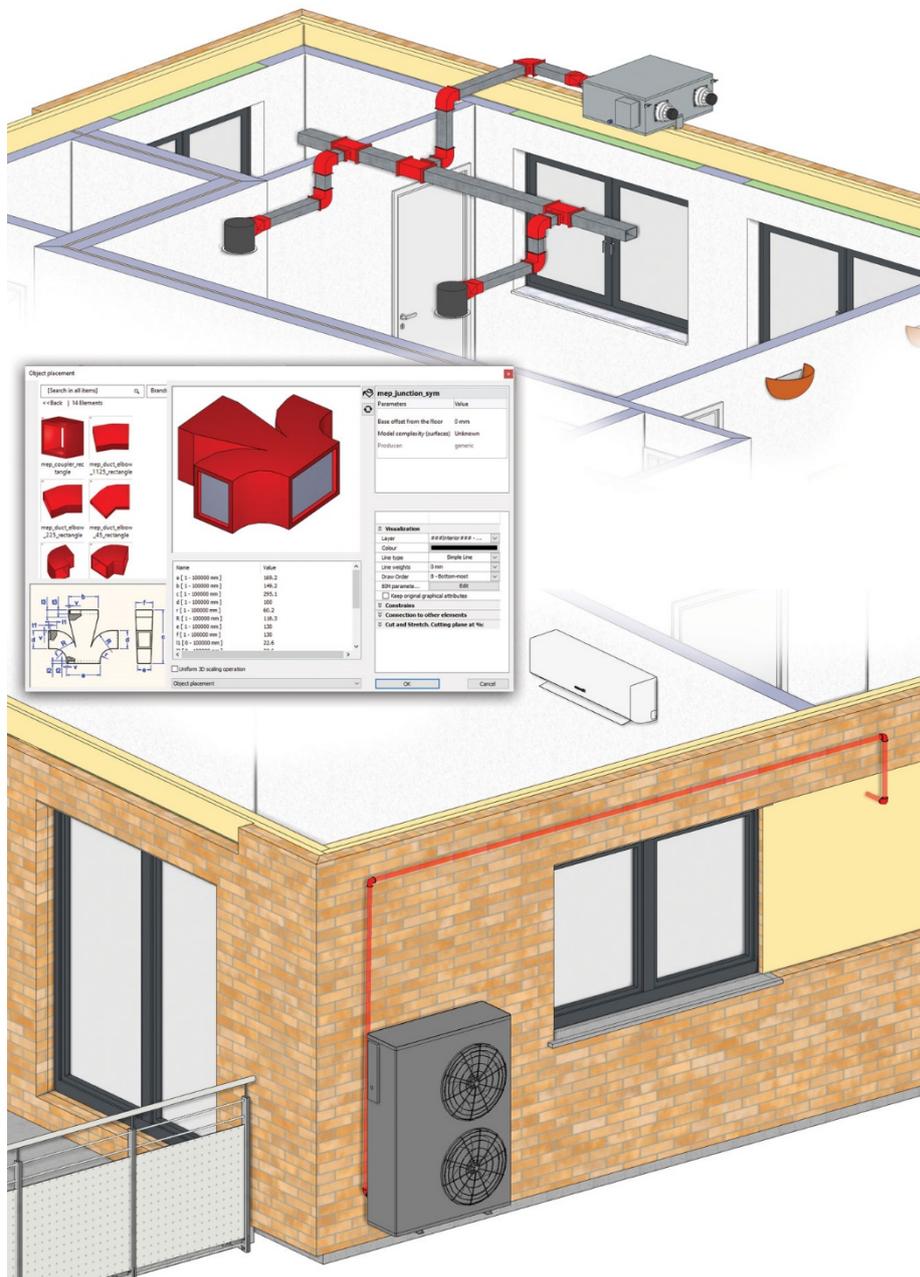
The ARCHLine.XP MEP makes it easy for MEP engineers to model and visualize MEP systems in 3D together with the architectural 3D model.

For Architects

Architects can import the MEP model into ARCHLine.XP using the IFC format. In addition to this ARCHLine.XP MEP provides perfect connection with Revit via IFC.

The ARCHLine.XP MEP Toolbox provides tools to create MEP-systems:

- ❖ HVAC pipes, ducts, electrical and cabling trays.
- ❖ MEP objects with connection points.
- ❖ Fittings to connect MEP objects through connectors. Fittings are parametric, enabling the creation of custom fittings.



8.2. MEP Content Library

This MEP-specific Library contains MEP objects with connection points for automatic connection during routing of MEP systems. Objects by manufacturers as plumbing fixtures, solar systems, heating objects, etc. are extended with connection points and connection points have MEP-related parameters.

8.3. Auto Routing

The Auto Routing function allows designers to connect pipes, ducts and MEP elements with automatic route guidance. Auto Routing is available in floor plan and 3D view.

8.4. Step by step design

By clicking the connection node, you can precisely add additional MEP elements to the MEP system in floor plan and 3D view as well.

8.5. MEP Systems

MEP system means a group of elements that are managed together. When new elements are added to an existing MEP system, they automatically take the connection shape parameters: diameter or width and height.

8.6. View Templates

View Templates help to alter the appearance of the views content to suit the intended use of architecture and MEP disciplines.

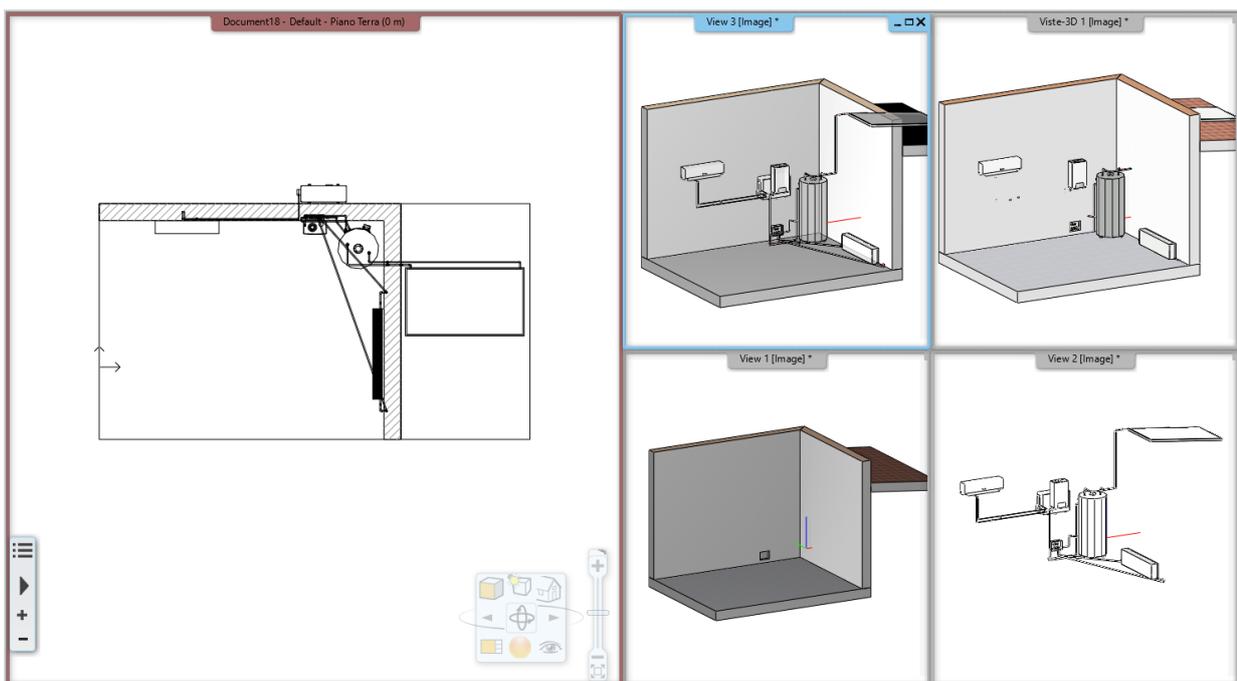
Options:

- ❖ MEP only
- ❖ MEP primary
- ❖ Architecture only
- ❖ Architecture primary
- ❖ MEP and Architecture

MEP primary view shows the building in the background and MEP elements clearly in the foreground.

Architecture primary view is exactly the opposite.

MEP only shows the MEP elements only and Architecture only view shows the building only.



8.7. Underfloor heating

Underfloor heating path planning is a special application of MEP tools.

Underfloor heating can be created within a closed polygon shape. Draw the shape and press Enter to finish shape. Enter the midpoint of the inlet and outlet pipeline axes.

Specify in the dialog the pipeline diameter, elevation and distance between pipeline axes.

Underfloor heating settings

Pipe diameter	<input type="text" value="0.02 m"/>
Distance between the incoming and outgoing	<input type="text" value="0.2 m"/>
Base Elevation	<input type="text" value="0.1 m"/>

