CADMATIC eShare

User Guide | 2025H1

docs.cadmatic.com

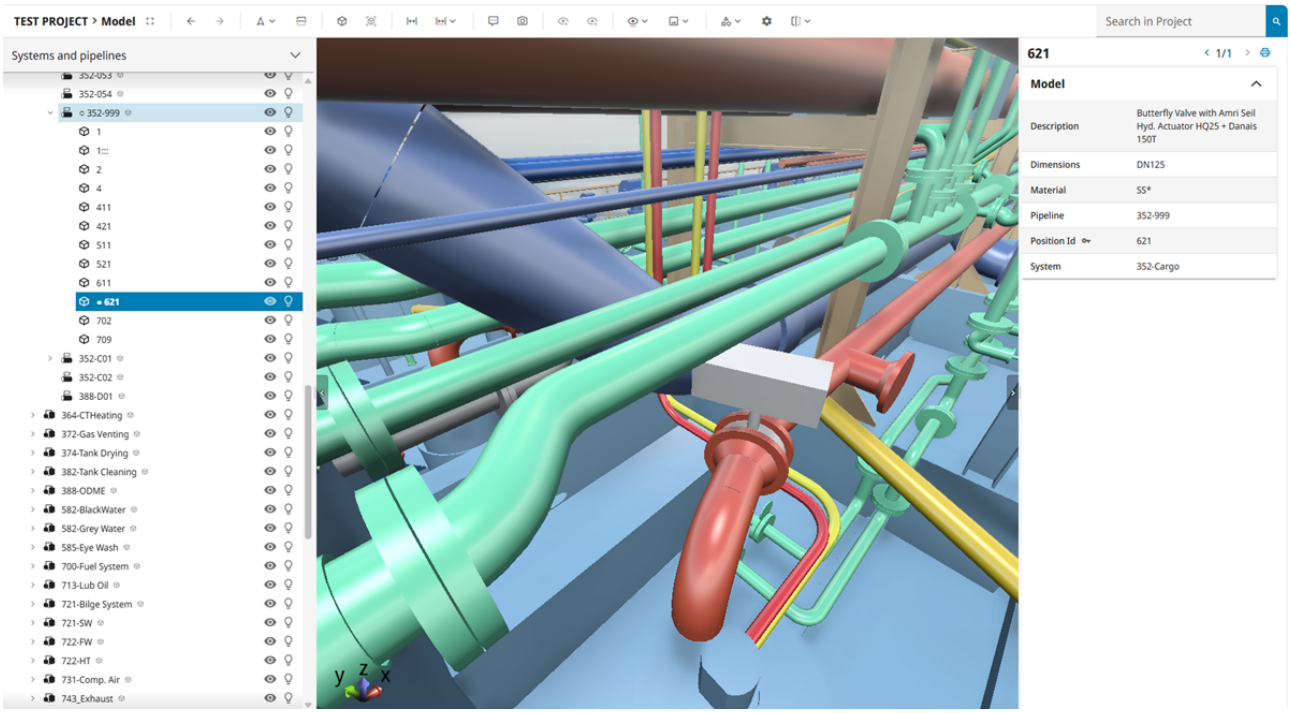
Cadmatic
Linnankatu 52
20100 Turku
Finland
Tel. +358 2 412 4500
www.cadmatic.com

Contents

1. Model

The 3D model of CADMATIC eShare is a design review and collaboration tool for construction and revamping projects in plant and marine industries. You can use it to open the 3D model of a complex design such as a power plant or passenger ship, and then move around anywhere in the model, inspecting the individual objects, checking dimensions between entities, and adding Markups to comment on the design.

- To view the model, select **Model** in the menu.



1.1. Sidebar and tabs

The sidebar of the Model displays tabs that you can use for example to define object visibility.

You can control the visibility of the sidebar by adding the parameter **treeVisibility** to the eShare URL and setting it to either "show" or "hide". This example URL hides the sidebar but shows the properties pane:

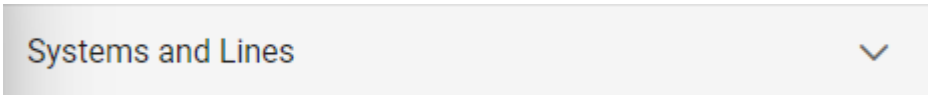
*https://<domain>:<port>/#/p/<project id>/model?**treeVisibility=hide**&attributePaneVisibility=show*

For more information on URL parameters, see URL parameters.

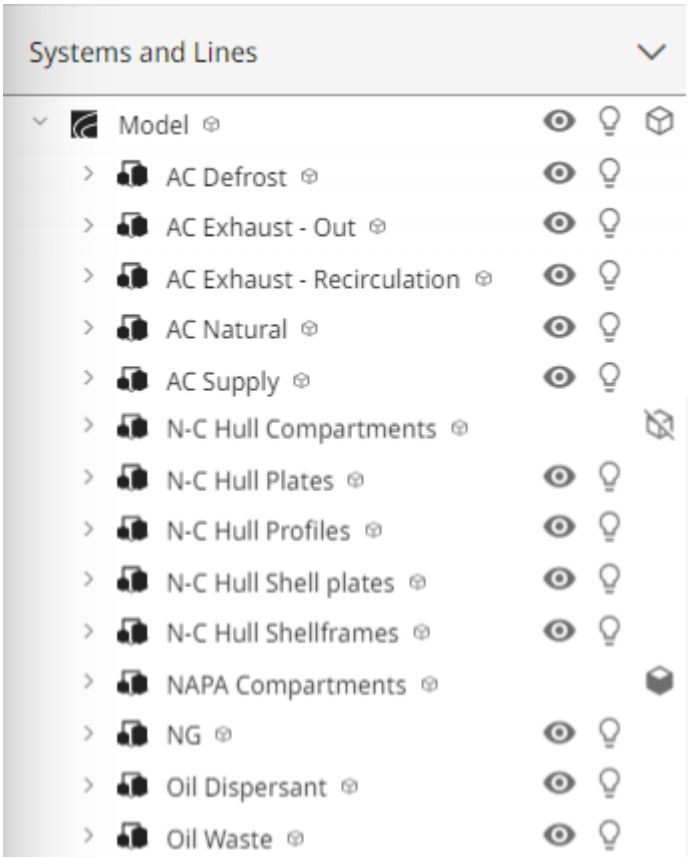
1.1.1. Model tab

The **Model** tab allows you to navigate to specific parts of the model and to select what the 3D view shows, using a drop-down menu and a hierarchical tree.

- **Hierarchy Menu** – Use the hierarchy drop-down menu to arrange the model tree using a hierarchy that an eShare administrator has defined.



- **Model Tree** – The model tree lists the objects of the model as a hierarchical entity tree; the displayed hierarchy is defined by the hierarchy menu.



1.1.1.1. Model tree

In the model tree you can do the following:

- Select one or more objects or object groups, as described in Selecting Objects and Changing Their Visibility.
- Right-click the selection and select a command from the context menu to perform some action on the specified entities. Some of these commands are also available from the context menu of the 3D view. See Context Menu.
- Double-click a single object to examine the object in the 3D view. To examine a group, select the **Examine** command from the context menu.
- Click the eye icon to hide objects, and click the closed eye to show them again.

Note: If you make changes to the visibility of examined objects in the model tree using the eye icons while in Examine Mode, the visibility changes will take effect only after exiting examine mode.

- Click the light bulb to turn highlighting of objects on, and click to turn it off.
- Click to hide 3D spaces. Click to show 3D spaces.
- Right-click a point cloud to open it in a bubble view.

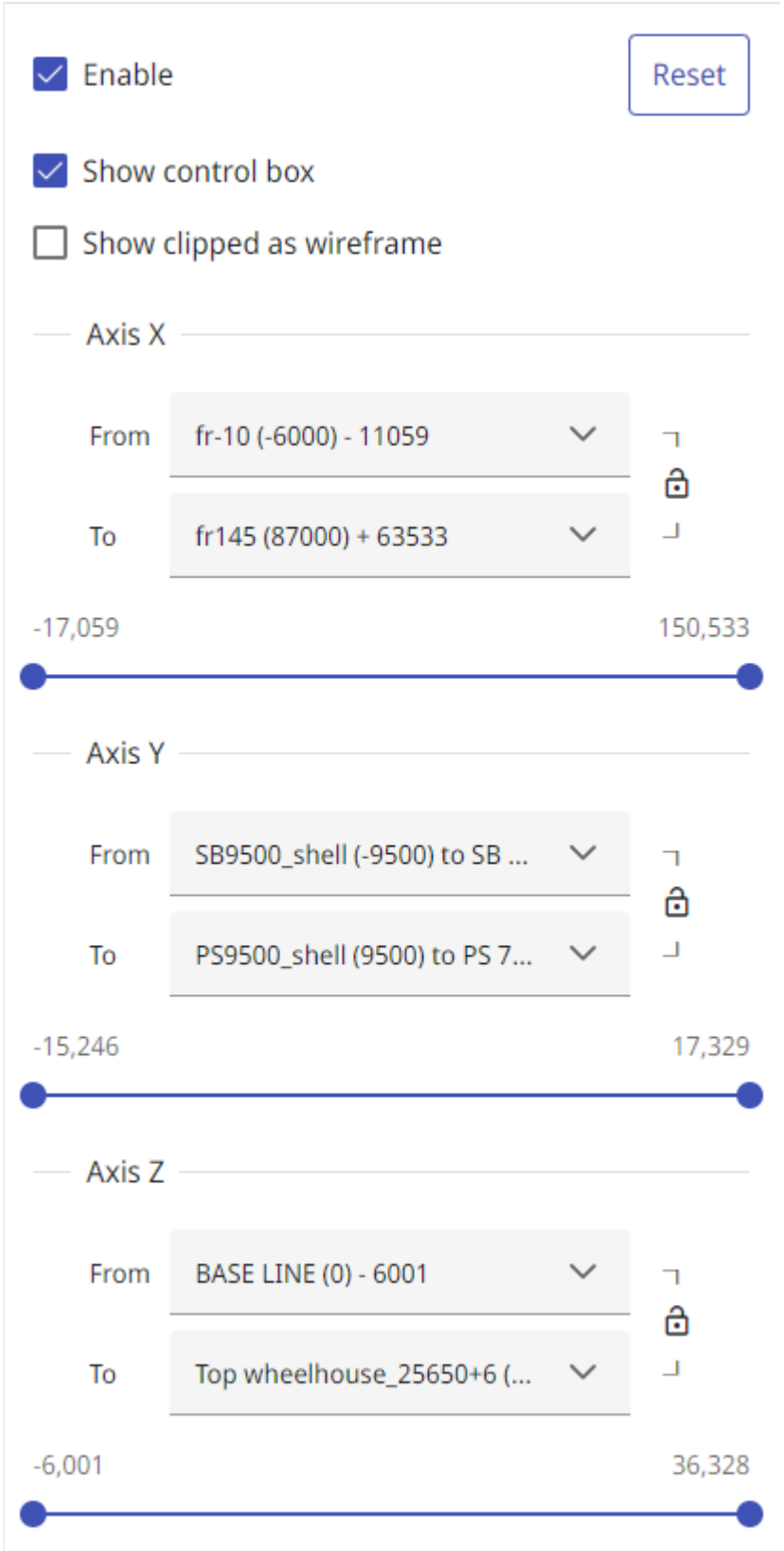
1.1.2. Clip box tab

The **Clip Box** tab allows you to resize the visible area of the model so that you can easily review all the objects inside a specific block or compartment.

You can clip the model using the sides of the clip box parallel to the model's main planes (normal to main axis X, Y, and Z). If the boundaries of the clip box intersect with an object, you will not see those parts of the object that are outside the clip box.

You can store the currently visible clip box by creating a new scene. When you return to the scene, it shows the clip box. See Scenes.

In **Settings > Visualization** you can select whether clipped objects should be visualized as solid or hollow—see Visualization.



On the **Clip Box** tab you can perform the following.

- Enable the **Enable** selection to enable or disable the clip box. When enabled, you only see the area defined by the clip box. When disabled, you see the complete model.
- When the clip box is enabled, enable the **Show control box** selection to enable or disable the control box that allows you to resize the clip box by dragging the clipping planes in the 3D view.

  You should only enable the control box when you want to adjust the clipped view, because some other functions of the 3D view such as measuring might not be available or function as expected while the control box is enabled. See Adjusting the clip box with the control box.
- **Show clipped as wireframe** – When enabled, the objects outside the clip box will be shown as wireframe.
- **Axis X, Y, Z** – Use the Axis X, Y, Z settings to specify the size of the clip box. You can relocate a clipping plane in all three directions (normal to axis) in several ways, as described in Adjusting the size of the clip box. The distance between the planes in a given direction can be locked by clicking the lock button between the sliders, so that adjusting one slider automatically adjusts the other one as well.

In addition to defining the clip box on the **Clip Box** tab, you can enable the clip box as described in Other ways to set the clip box.

1.1.2.1. Adjusting the size of the clip box

There are a number of ways in which you can adjust the clip box by moving an individual clipping plane to a different location:

When **Enable** is enabled, drag the appropriate slider on the **Clip Box** tab, as described in Adjusting the clip box with the control box.

When **Show control box** is enabled, drag the appropriate clipping plane with the *right* mouse button pressed down, as described in Adjusting the clip box with the control box.

Select a predefined plane from a drop-down menu on the **Clip Box** tab.

Write the distance into the edit field using Cartesian coordinates or type the position using named planes. For example, **CL –X 995** means that the clipping plane is 995 mm from the CL plane in –X direction (CL plane and –X direction are defined in Plant Modeller‘s coordinate reference).

Note: Named coordinates are supported only if the model has been published with Plant Modeller version 6.0 or newer.

Note: Only the planes that are inside the model's bounding box are shown in the drop-down menus.

1.1.2.2. Adjusting the clip box with the control box

The Control Box function visualizes the clipping planes in the 3D view. Move the cursor in the 3D view to highlight the clipping plane that you want to adjust, and then press down the *right* mouse button and drag the highlighted side of the box to adjust its location. When sides are dragged, they snap to named planes exported from Plant Modeller's coordinate system (if present).

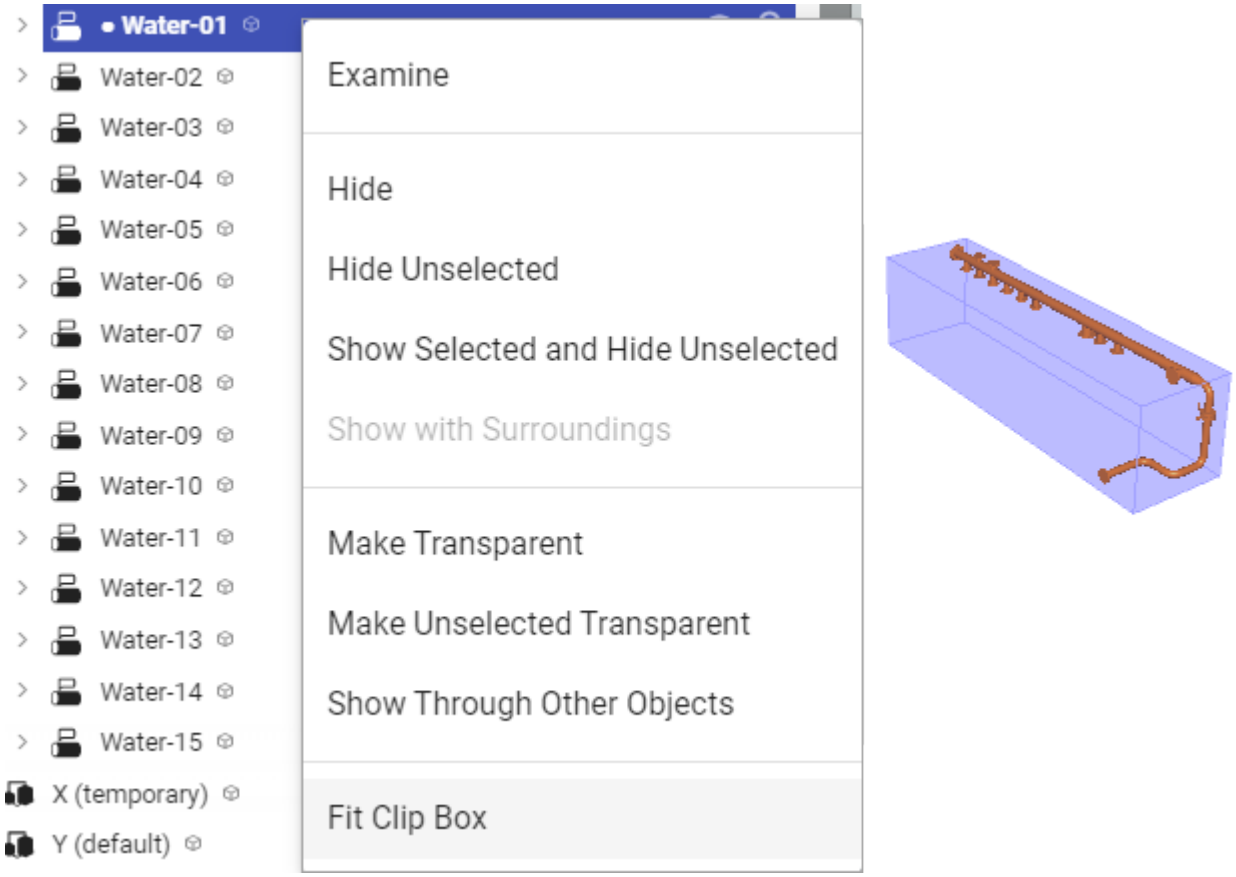
1.1.2.3. Other ways to set the clip box

- Enabling clip box from the model tree
- Enabling clip box from the 3D view
- Enabling clip box in examine mode

1.1.2.3.1. Enabling clip box from the model tree

On the **Model** tab, you can right-click an entity in the model tree and select to fit the clip box to the specified object or object hierarchy such as pipeline, system, or cable tray. The sidebar automatically switches to the **Clip Box** tab.

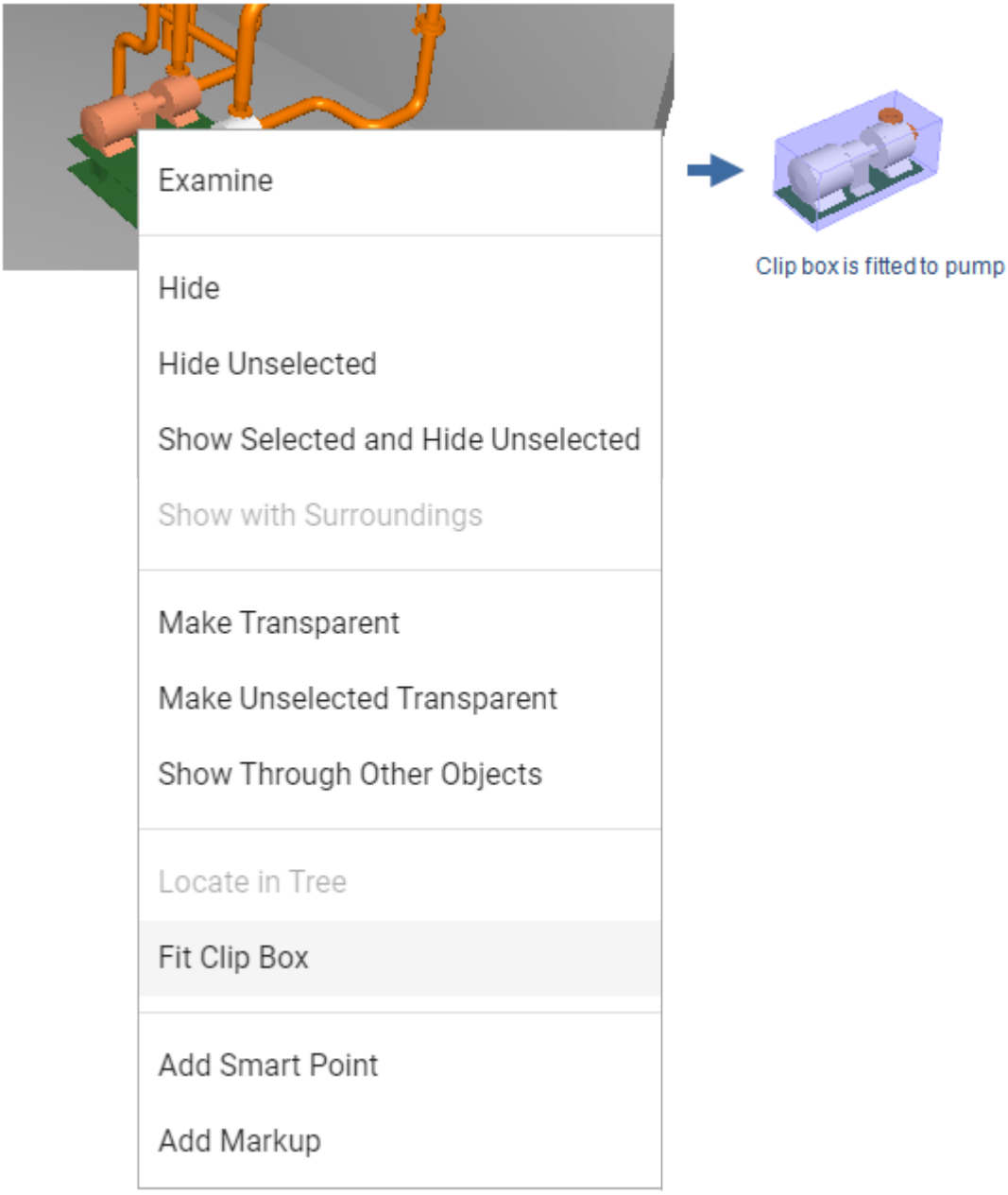
In the picture below, the clip box is fitted to pipeline Water-01 and all other objects are hidden so that the 3D view only shows the pipeline.



Use the **Clip Box** tab to disable the clip box.

1.1.2.3.2. Enabling clip box from the 3D view

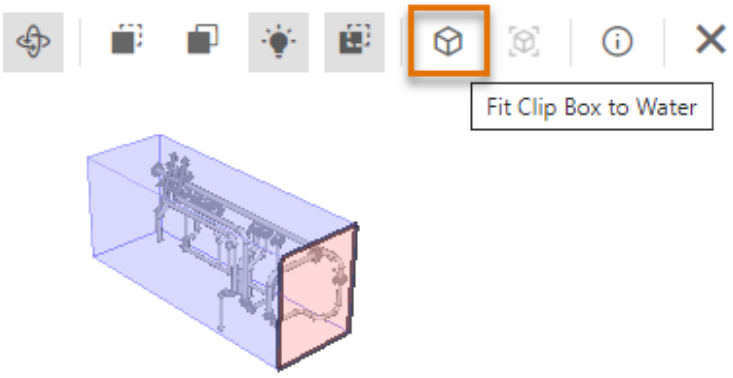
In the 3D view, you can right-click an object and select to fit the clip box to it.



Use the **Clip Box** tab to disable the clip box.

1.1.2.3.3. Enabling clip box in examine mode

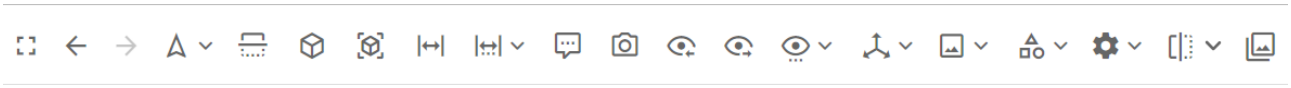
When you are examining an object, you can click the fit button of the Examine toolbar to fit the clip box to the examined object.



Click the fit button again to remove the clip box.

1.2. Main toolbar

This section describes the commands that are available in the main toolbar in **Model** view.



1.2.1. Toggle full screen

Views eShare in full screen mode or closes full screen mode.

1.2.2. Previous/next camera position

When you are navigating in the 3D model, the **Previous and Next Camera Position** buttons allow you to revisit the viewing locations where you were standing still.

1.2.3. Navigation menu

Opens a menu of commands for navigating the 3D model. See Navigation menu.

1.2.4. Flip model upside down

Toggles the 3D view upside down and back to normal.

1.2.5. Enable/disable clip box

Enables or disables clip box.

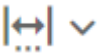
1.2.6. Show/hide control box

Shows or hides control box when clip box is enabled.

1.2.7. Measure

Activates or deactivates the measuring tool. See Measure.

1.2.8. Measure settings



Opens a menu for specifying measuring options. See Measure.

1.2.9. Show coordinates under cursor

Toggles the displaying of coordinates when the cursor is next to a point it can snap to.

The coordinates are shown in named coordinates, if available, and otherwise in Cartesian coordinates. Named coordinates are available in models that have been published with Plant Modeller version 6.0 or newer.

1.2.10. Take snapshot image

Saves a snapshot image of the currently displayed view on the clipboard.

1.2.11. Undo/redo last visibility change

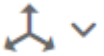
The **Undo/Redo Last Visibility Change** buttons undo or redo recent object visibility changes that you have made using either the model tree or the context menu.

You cannot undo or redo object transparency changes.

1.2.12. Visualization control

Opens a menu for configuring the appearance of the 3D view. See Visualization control.

1.2.13. Coordinate systems



Opens a menu, where you can select the coordinate system that is used to view the 3D model. These local coordinates can be defined in Plant Modeller. If the Plant Modeller project, where the EBM is published from has local coordinates, all of them are shown in the published EBMs regardless of which coordinate system the published model is using.

When selecting a coordinate system, all geometry is transformed to the selected coordinate system and all the coordinates shown are in the selected coordinate system like Measure, Coordinate tool, Coordinate display and Clip Box.

Models without local coordinates: If the 3D model has reference planes defined, the coordinate system called "modelname coordinates" has these reference coordinates defined.

1.2.14. Scenes

Opens a menu of predefined scenes that have been specified in the application that published the model, or defined for the project or by the user. See Scenes.

1.2.15. Visual styles

Opens a menu of visual styles to select from, including Smart Points.

See Displaying objects with Smart Points as a visual style.

1.2.16. Settings

Opens the **Settings** menu. See Settings.

1.2.17. Split screen

Opens the **Split Screen** menu. See Split Screen.

1.2.18. Select submodels

Opens the **Select Submodels** view. See Submodels.

1.2.19. Navigation menu

The **Navigation Menu** button opens a menu that contains commands for navigating in the model. For example, if you are not sure which way you are currently looking, you can restore the horizontal alignment or jump to an isometric view of the model.

1.2.19.1. Restore horizontal

Aligns the view with the horizon.

1.2.19.2. Turn to look down

Turns the view directly downward.

1.2.19.3. Turn to look up

Turns the view directly upward.

1.2.19.4. Turn to look X+

Turns the view to point to the positive direction of the X axis.

1.2.19.5. Turn to look X-

Turns the view to point to the negative direction of the X axis.

1.2.19.6. Turn to look Y+

Turns the view to point to the positive direction of the Y axis.

1.2.19.7. Turn to look Y-

Turns the view to point to the negative direction of the Y axis.

1.2.19.8. Top view

View the model from the top.

1.2.19.9. Bottom view

View the model from the bottom.

1.2.19.10. Right view (Fore)

View the model from the right.

1.2.19.11. Left view (Aft)

View the model from the left.

1.2.19.12. Front view (SB)

View the model from the front.

1.2.19.13. Back view (PS)

View the model from the back.

1.2.19.14. Isometric view

View the model from isometric direction.

1.2.19.15. Zoom to area

Zoom to a specific area in the model. To define the area, hold down the left mouse button and drag the rectangle to the required size.

1.2.20. Visualization control

The **Visualization Control** button opens a menu for configuring the appearance of the 3D view.

1.2.20.1. Edges

- **No Edges** – Objects have no distinct edge lines. This is the fastest visualization mode and recommended for very large models.
- **Edges** – Objects display feature edges (sharp edges and seams, such as welding joints).

1.2.20.2. Insulations

- **Hide Insulation** – Insulations are not visible.
- **Show Transparent Insulation** – Insulations are transparent. Objects that are inside or behind the insulation are clearly visible.
- **Show Opaque Insulation** – Insulations are completely rendered. Objects that are inside or behind the insulation cannot be seen.

1.2.20.3. Welds

- **Show Welds** – If selected, welds are visible.

1.2.20.4. Markups

- **Show Markups** – If selected, markups are visible.

If markups are visible, you can select which statuses to display. You can also filter the markups by type. If both status and markup type are selected, only markups matching both are visible.

1.2.20.5. Smart Points

- **Show Smart Points** – If selected, Smart Points are visible in the 3D view and map.

If Smart Points are visible, you can select which types to display.

1.2.20.6. Point clouds

- **Show Point Cloud Scanner Points** – If selected, the point cloud scanner points are visible.

1.2.20.7. Coordinate

- **Show Coordinate Display** – If selected, the current camera coordinates are displayed at the bottom of the 3D view. By default it shows named coordinates, but if named coordinates are not available, Cartesian coordinates are shown instead.
- **Show Coordinate Marker** – If selected, a main axis marker is displayed in the bottom-left corner of the 3D view.
- **Show Reference Coordinate Grid** – If selected, a reference coordinate grid is displayed in the 3D view. Coordinate planes must be defined in the model using CADMATIC Plant Modeller.

  By default you can toggle z plane grid visible by clicking the plane label in 3D view. If the selection in 3D view does not work, in **Grid settings** tab in you can select which planes are visualized This is helpful if the model contains a lot of reference planes and toggling labels from 3D view becomes complicated. See Grid settings tab.

  The color of the grid line can be configured in the Settings menu. See Visualization.

  Measure can be enabled to be used with the coordinate grid in the Measure settings. See Measure.

1.2.21. Measure

The **Measure** button activates or deactivates the measuring tool. You can use this tool to measure the distance between two points, the distance and angle between two lines, or the length and angle of a single line.

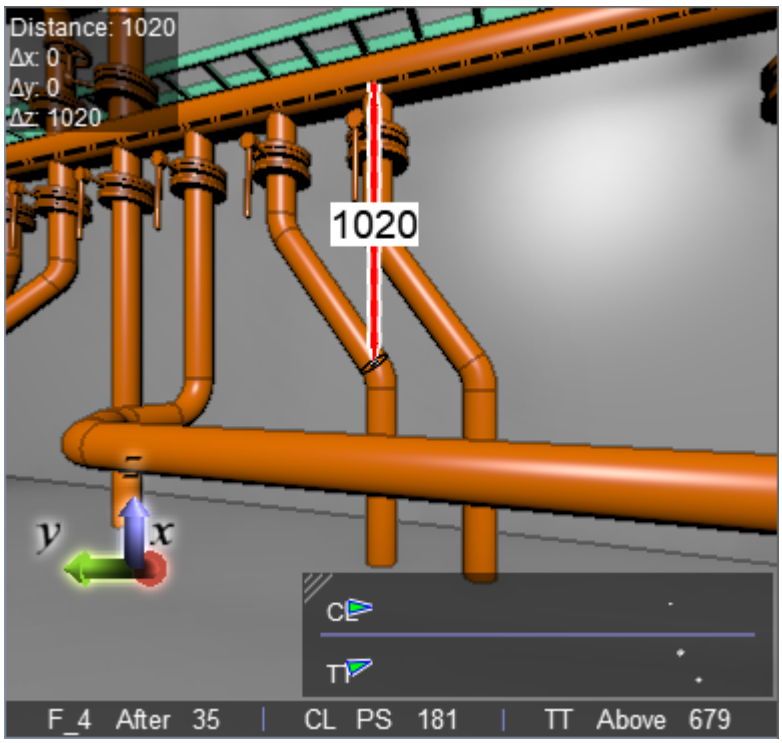
1.2.21.1. Using the measure tool

Do the following:

1. In the toolbar, select **Measure** to activate the measuring tool.
2. Enable or disable measuring options as needed. See Measure Tool Options.
3. Right-click the location from which to start measuring. This can be any point or line in the 3D model; if relevant snapping options are enabled, you can first snap the cursor for example to a connection point (node point) to start the measuring from there.

   The top-left corner of the 3D view displays the straight distance from the starting point to the current cursor location, as well as the traveled distance in X, Y and Z direction. The straight distance is also shown next to the measurement line.

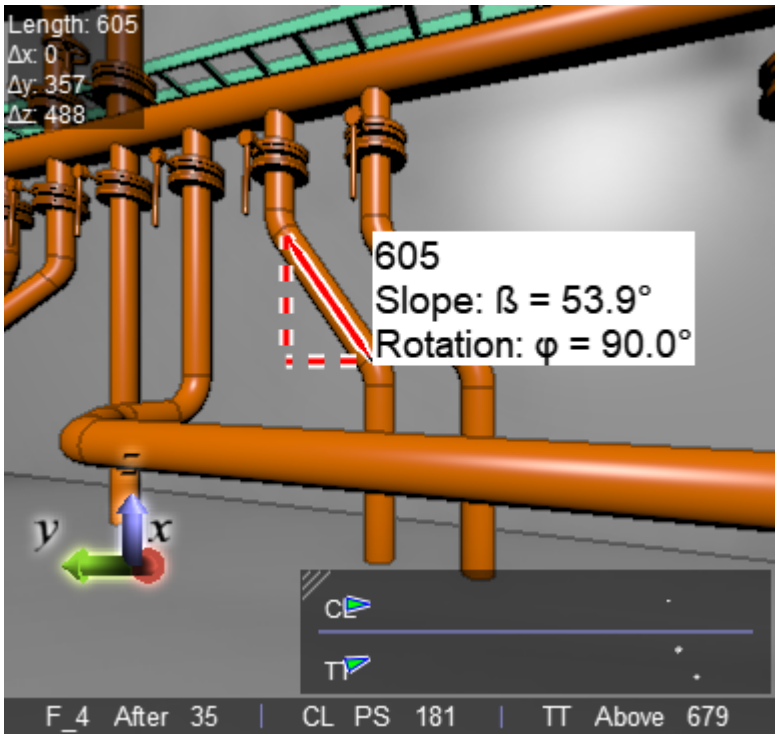
   In this example, a pipe connection point is 1020 mm from the centerline of another pipe.



4. Right-click the target location, which again can be any point or line in the model. The measurement information is shown next to the measurement line, and it stays on the screen until you start a new measurement or deactivate the measuring tool.

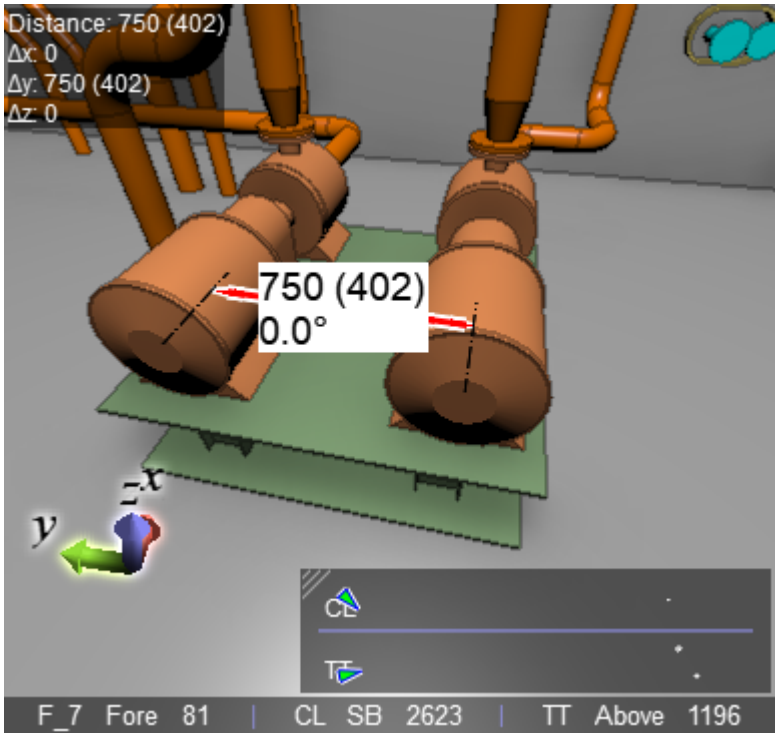
   If you selected a single line (such as a pipe centerline) as both the starting point and the end point, the tool displays the length of the line. If the **Show Angle for Lines** option is enabled, it also shows angle information for that line.

In this example, the slope angle between the pipe and the XY-plane is 53.9°, and the pipe is rotated from the X-axis by 90°.



If you measured the distance between two pipes or cylinders, the tool displays the distance between their centerlines. If the **Distance to Pipe Surface** option enables measuring of free distance, the tool also shows the amount of free space between the two objects in parenthesis.

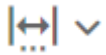
In this example, the distance between the centerlines is 750 mm, and the free distance between the objects is 402 mm.



5. Do another measurement, or select **Measure** to deactivate the measuring tool.

Note: The **Take Snapshot Image** tool does not include measurement information in the snapshot image.

1.2.21.2. Measure settings



Use the **Measure Settings** button to specify measuring options. You can toggle these options anytime—also during measuring.

- **Show Angle for Lines** — If selected, the measuring tool shows angle information. This can be the angle between two lines or the angle of a single line in reference to the XY-plane.
  - "Slope: **b**" shows the angle between the line and the XY-plane. The value can be between 0° and 90°.
  - "Rotation: **F**" shows the angle between the line's projection in the XY-plane and the X-axis. The value can be between -90° and 90°, with counter-clockwise rotation as a negative value and clockwise rotation as a positive value. If slope is 90°, rotation is not displayed.

- **Distance to Pipe Surface** — Opens a submenu for selecting whether measurements taken from pipe centerline should also show what is the distance from the surface of the pipe.
  - **Disabled** – Measuring tool does not show free distance from pipe surface.
  - **Direct Line of Sight** – Measuring tool shows free distance from pipe surface to the other measurement point in parenthesis, but only if the line of sight is clear from other objects.
  - **Direct or Obstructed Line of Sight** – Measuring tool shows free distance from pipe surface to the other measurement point in parenthesis, even if the line of sight is obstructed by some other object.

Note: Free distance is not calculated if objects are insulated, or if the measurement point is on a pipe centerline that is projected outside the pipe object.

- **Multiple Measures** — If selected, multiple measures can be selected at the same time.
- **Chain Measures** — If selected, a continuous point-to-point measure line can be drawn. Can be used to measure, for example, the diameter of objects.

Note: Chain measures mode is not available with markups.

- **Baseline Measures** — If selected, the first measure point fixes the axis directional plane and the following points calculate the distance to this fixed base plane in axis direction. This mode resembles baseline measuring familiar in drawings. The axis direction of baseline can be changed from Baseline direction or using short cut keys 'x', 'y' and 'z' when measure is active.
- **Baseline direction** — Specifies the used axis direction of baseline measures.
  - **X axis (x)**
  - **Y axis (y)**
  - **Z axis (z)**

Note: Baseline measures mode is not available with markups.

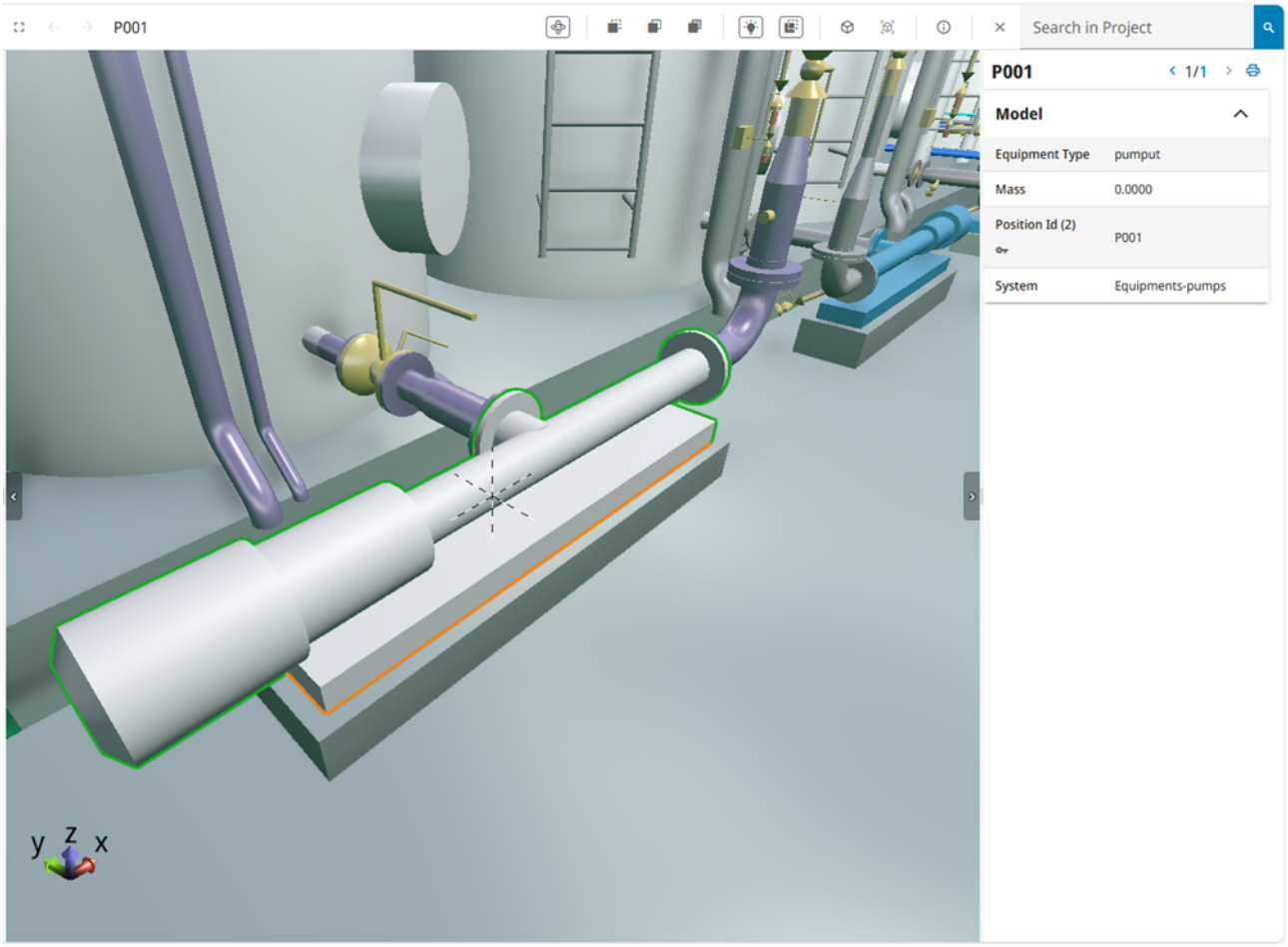
- **Enable Snapping** — If selected, you can choose the entities that the cursor of the measuring tool can snap to.

  Snap to
  - **Cylinder Ends**
  - **Cylinder Center Lines**
  - **Sharp Edges**
  - **Sharp Corners**

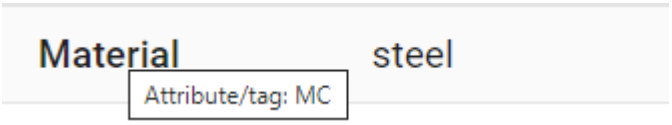
- Point Clouds
- Polygon Sets
- Connection Points
- Coordinate Grid Lines

1.3. Properties pane

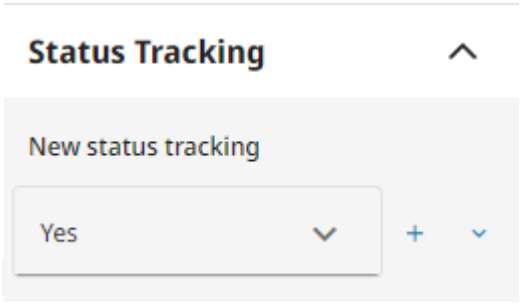
In the Model view of CADMATIC eShare, the pane on the right side of Model shows the properties of the currently selected entity, such as its name and attributes. If the selected entity is a segment or a node of a cable, the details of the cable are shown in a collapsed category. If the object has related nodes, the details of the node are shown in a collapsed category. It can also display any additional information that might be available from different data sources that administrator has enabled for the project: links to design drawings which describe the selected entity, links to online catalogs maintained by component manufacturers, and so on.



- The print button allows the information, together with a snapshot of the current 3D view, to be printed out. Note that also collapsed sections of the properties pane will be visible in print-outs. When a print-out contains a QR code, CADMATIC eGo can read the QR code to open the same entity in its 3D viewer, using the camera location and viewing direction specified in the QR code.
- If the pane contains links to web pages, clicking a link will open a new browser/tab or always the same tab, as specified by administrator in the hyperlink adapter settings.
- If the pane contains links to documents, clicking the document name opens the document. The document automatically zooms to the correct location in the document.
  If the linked documents contain indexed documents, **Select metadata** will be available to enable viewing document metadata.
- If the pane shows attributes, hovering the mouse cursor over an attribute displays its tag:



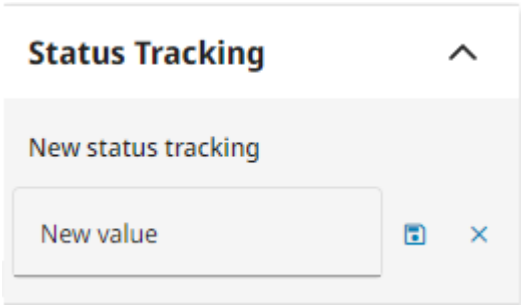
- If the pane shows status tracking values, clicking the value field shows the possible status changes if there are any, and clicking the blue arrow next to the value field shows a log of previous status changes.



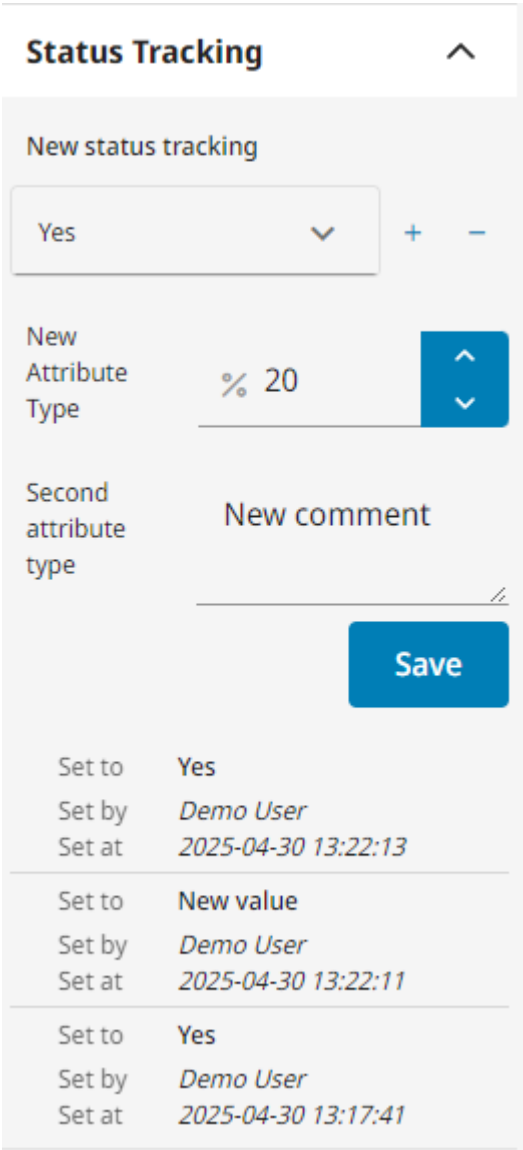
You can select multiple objects and change their status to the same target status. The objects can have different source statuses.

Note: If you are examining an object and the visual style menu is set to color objects according to status, after changing the status value you must close the examination mode to see the updated color in the 3D view.

To add new status tracking value, click the + button (if adding values is enabled). Type the new value or select from the drop-down menu and click Save button.



When the status tracking is expanded, new attribute types can be modified or added and change saved with **Save** button.



You can control the visibility of the properties pane by adding the parameter **attributePaneVisibility** to the eShare URL and setting it to either "show" or "hide". This example URL shows the sidebar but hides the properties pane:

*https://<domain>:<port>/#/p/<project id>/model?treeVisibility=show&**attributePaneVisibility=hide***

For more information on URL parameters, see URL parameters.

1.3.1. Weight and center attributes

If the pane shows weight and center attributes, you can display the center of gravity as a marker in 3D view by selecting . The marker has a label with the attribute description. Different types of attributes have markers in different colors to help distinguish between them.

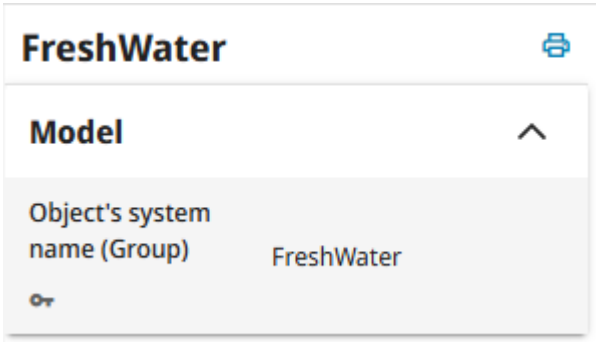
Previously created markers are retained, if new items are added or items removed from the current selection. The labels of old points are appended with an index with the format [1] to indicate that they are not current information. When the item selection is cleared, or a completely new object is selected (Ctrl is not pressed while selecting), the previous markers are cleared as well.

If there are markers added for a given attribute type, clear the markers by selecting .

You can select to show or hide center of gravity attributes by type by selecting or . When an attribute type is hidden, no operations can be performed on that type.

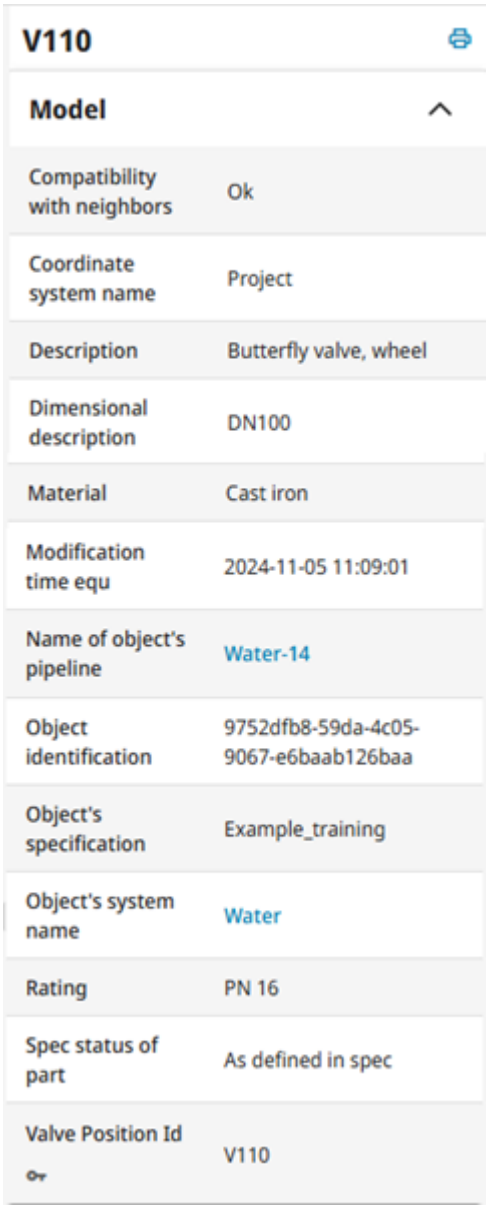
1.3.2. Object group properties

When an object group such as a System is selected, the properties pane shows the group name and group attributes. If using status tracking, you can change the status tracking value of the group.



1.3.3. Model object properties

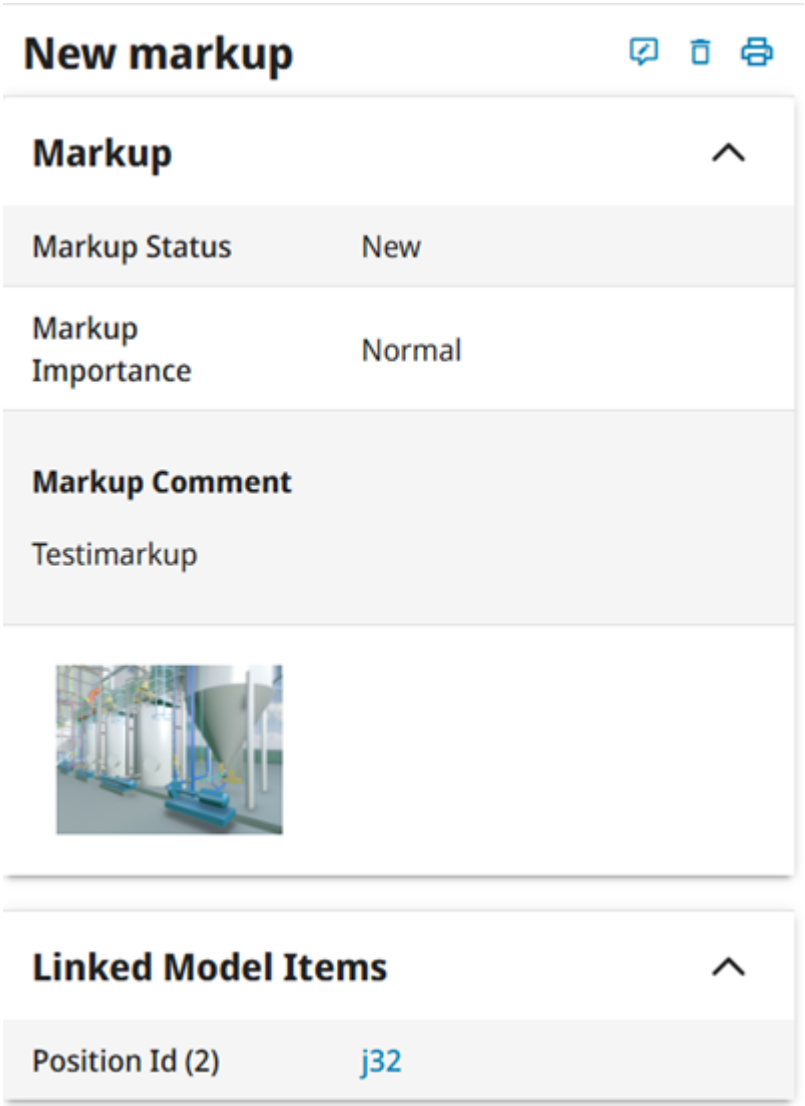
When a single model object is selected, the properties pane shows the object name, object attributes, and any additional information available to the object. The properties include also information on the used coordinate system, if it is defined in the EBM.



1.3.4. Markup properties

When a Markup is selected, the properties pane shows the Markup's name, type, status, importance, latest comment, thumbnail picture, and additional properties such as assignee if defined in the Markup Type configuration. Also linked model items are shown in a collapsed category.

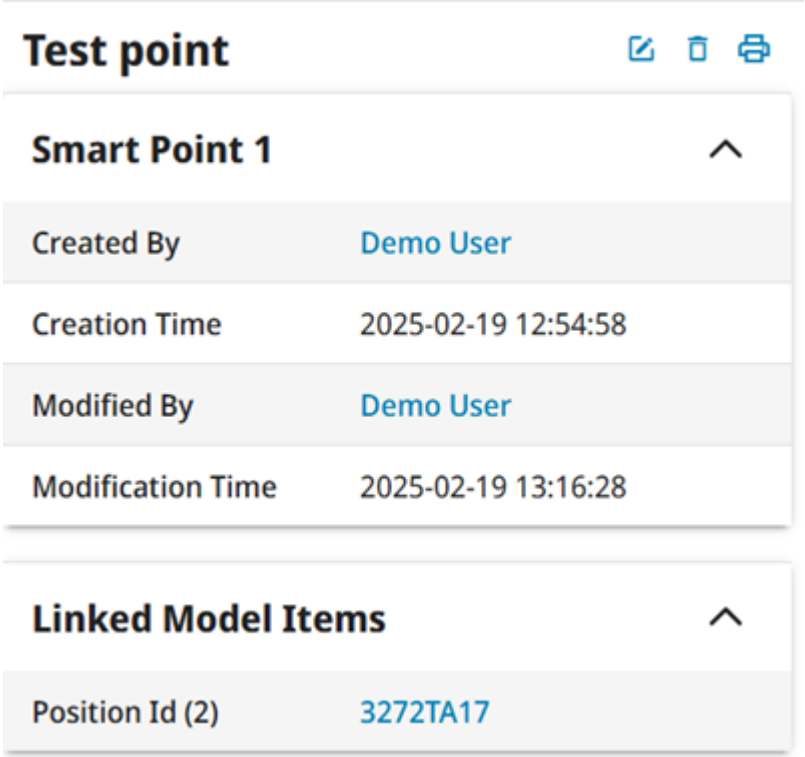
- – Select to edit the Markup.
- – Select to delete the Markup.



1.3.5. Smart Point properties

When a Smart Point is selected, the properties pane shows its name, type, and attributes.

- – Select to edit the attribute values.
- – Select to delete the Smart Point.



Related topics

Documents Viewer

1.4. Smart Points

Smart Points are specialized markers that are linked to an object or object group and display information about that entity. The information that a Smart Point contains can be user-defined or obtained from an external system or database—as defined in the Smart Point Type configuration in eShare. Smart Points can be seen as icons in the 3D model, and the user can select a Smart Point to see the information that it contains. If the Smart Point uses attributes, the user can also add information by editing the attribute values. Smart Points can be created and modified in both eShare and eGo, and the changes can be synchronized from one program to the other. Smart Points can be downloaded also to CADMATIC Plant Modeller. Accordingly, Smart Points can be used to

quickly add status information or other comments during a meeting or an on-site visit.

Smart Points are available if project administrator has enabled them for your project. In the 3D model, when you are close enough to a Smart Point icon you can also see the Smart Point's name. Normally, points that are further away display a smaller icon to indicate distance. But, selecting to examine an object or object group always displays its icons in full size, to make it easier to see all the Smart Points of a large object, such as a long pipeline.

You can select a Smart Point that is fairly close to you by clicking it. The Smart Point is highlighted and its details are displayed in the properties pane on the right. You can see its standard attributes such as name, type and external ID, as well as any user-definable attributes or attributes obtained from an external data source. Also a change log is available if project administrator has enabled this function in the Smart Point Type settings. When viewing a Smart Point that uses a PI Adapter, the data is constantly updated from the PI database, and there is a chart that you can click to expand the chart view.

In addition to finding Smart Points by browsing the model, you can use the search function of eShare to locate Smart Points. See Search.

Depending on the Smart Point Type configuration, you might or might not have permission to see or modify Smart Points of a specific type.

1.4.1. Adding a Smart Point

In the 3D model viewer you can add Smart Points to objects and object groups.

Prerequisites

- Project administrator has created one or more Smart Point Types for this project.
- Depending on Smart Point Type configuration, you might need permissions to be able to create Smart Points. If you do not have sufficient permissions to create Smart Points, the **Add Smart Point** option is not available.

Do the following:

1. In the 3D model viewer, locate the object to which you want to add a Smart Point.
2. Right-click the location in the object where the Smart Point is to be placed, and select **Add Smart Point** from the right-click menu. The **New Smart Point** pane is displayed on the right.
3. In the **New Smart Point** pane, enter the following information.

- **Type** – Select the Smart Point Type. This determines the color and the icon of the Smart Point in the 3D view, and whether the Smart Point Type has attributes.
- **Name** – Enter a display name for the Smart Point.
- **External ID** – If the Smart Point Type requires an external ID, enter the required value. For example, if the Smart Point Type uses a hypertext adapter to perform a web search, enter the search string in this field.
- **Link to Model Item** – Select the attribute, such as Equipment ID, to which to link the Smart Point. Only attributes of type "Key" and "Group" are listed.
- **[attribute name]** – If the Smart Point Type has any attributes, you can select or enter a value for each attribute.

4. Click **Save**.

Results

The Smart Point is added to the object and the Smart Point icon displays near the object.

1.4.2. Editing a Smart Point

In the **Model** view you can edit the properties of existing Smart Points, but not their location or object link. Edit the properties for example to set the value of a Smart Point attribute. Attributes that a Smart Point gets from an external data source, however, cannot be edited.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to edit Smart Points. If you do not have sufficient access rights, the Smart Point is in view-only mode and the **Edit Smart Point** button is not available.

Do the following:

1. In the 3D model viewer, select the Smart Point to edit.
2. In the properties pane, click the **Edit Smart Point** button .
3. Edit attribute type, name (or external identifier), and values as appropriate, and then click **Save**.

1.4.3. Deleting a Smart Point

In the 3D model viewer you can delete a Smart Point to remove it from the target object.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to delete Smart Points. If you do not have sufficient permissions, the **Delete Smart Point** button is not available.

Do the following:

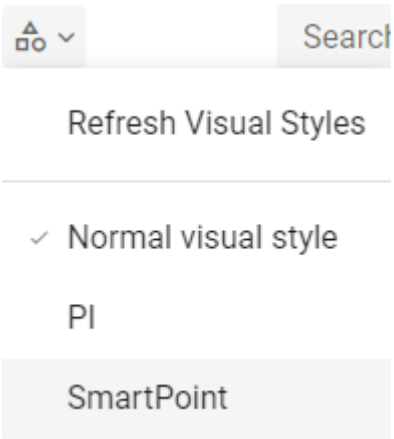
1. In the Model view, select the Smart Point to delete.
2. In the Smart Point properties pane, click the delete button . You are prompted to confirm the action.

1.4.4. Displaying objects with Smart Points as a visual style

The **Visual Styles** drop-down menu in Model view lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to highlight objects that contain Smart Points of that type.

Do the following:

- In the **Model** tab, click **Visual Styles** button in the main toolbar, and select the required Smart Point Type from the drop-down menu.



Objects and object groups that contain Smart Points of the specified type are highlighted in the 3D view. The color legend is displayed at the bottom of the model view. If an object has several Smart Points that relate to different attributes, for example one Smart Point for Valve

Position and another for Pipeline, the object is highlighted with the "Multiple Categories" color.

Related Actions

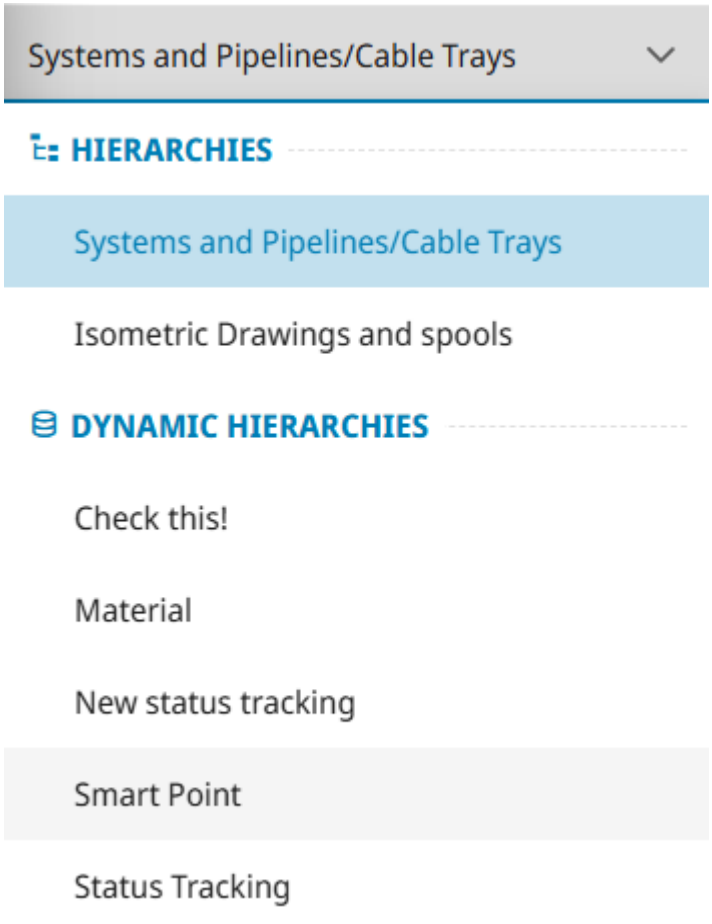
- After selecting a visual style, if you add, edit, or delete Smart Points, select **Refresh Visual Styles** in the Visual Styles drop-down menu to update the object colors in the 3D view.

1.4.5. Displaying objects with Smart Points as a hierarchy

The **Hierarchy** drop-down menu of the 3D model viewer lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to list the objects and object groups that have Smart Points of that type.

Do the following:

- On the **Model** tab, open the **Hierarchy** drop-down menu, and select the required Smart Point Type from the list.



The **Model** tab displays a hierarchical list of entities that contain Smart Points of the specified type, and you can right-click an object to examine it or to hide all other objects, for example.

1.5. Markups

The Markups functionality of CADMATIC eShare allows the participants of a design project to add comments and status information to a model, and then share the information with each other. Markups synchronized from CADMATIC eGo can also contain photos.

All projects have one default Markup Type that you can use to create Markups. In addition, project administrator can create additional custom Markup Types, and define which users have permission to view, create, update, upload, and delete Markups, as described in . Markups can be assigned to a specific user, if project administrator has enabled this function in your project.

Markups can be viewed in any coordinate system and the reference coordinates shown match the currently active coordinate system.

1.5.1. Adding new markups

In the 3D model viewer, users can add Markups manually by navigating to the location where the Markup should be placed, and then selecting **Add Markup** from the right-click menu. You can add Markups also in the bubble view of a point cloud.

This opens the Markup editor where you can add comments and simple graphics to the Markup, or email the Markup as a picture, for example. See Markup Mode for details.

If you do not have permissions to create Markups, the **Add Markup** option is not available.

1.5.2. Uploading a markup file

In the front page of a project, click **Upload Markups** to upload Markups from an .ebx, .bcfzip, or .bcf file.

If you do not have permissions to create or update Markups, the **Upload Markups** option is not available.

1.5.3. Accessing markups from the project's home view

The latest Markups are listed as thumbnail images in the home tab of the project. Clicking the thumbnail image opens the Markup in the model viewer. Clicking the thumbnail image of a Document Markup opens it in Documents Viewer. Use the search links on the page to see more

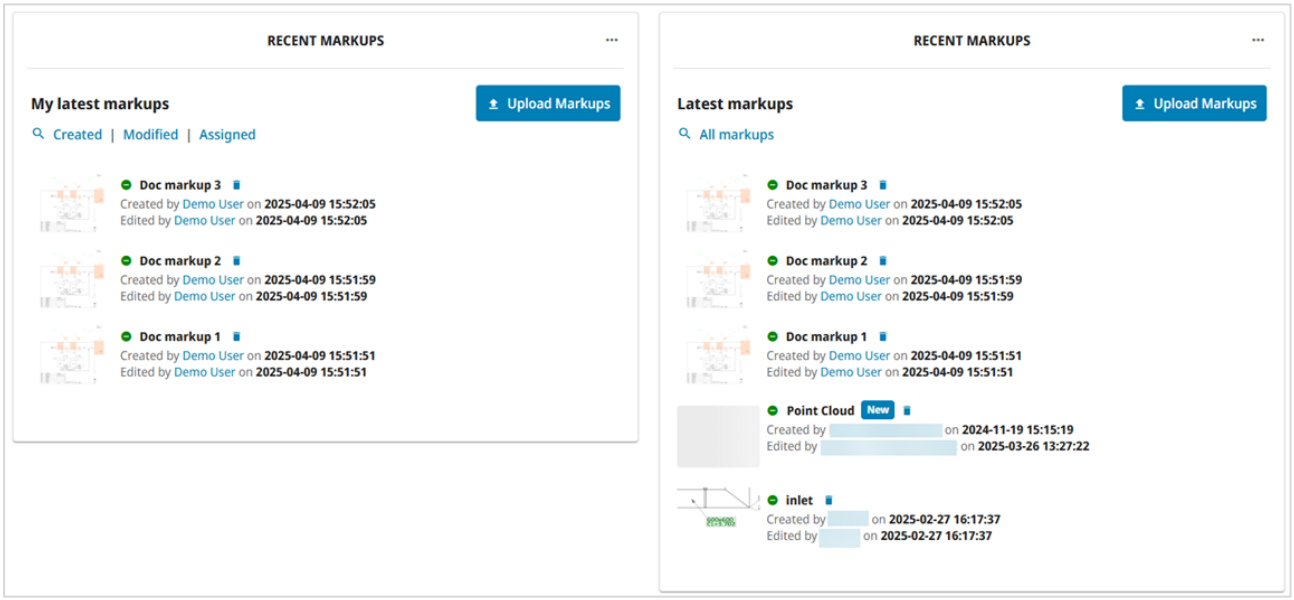
items. If you have sufficient permissions, you can update the Markups. If you do not have permissions to update Markups, the Markups are displayed in view mode.

My latest markups – Lists the Model and Document Markups that the current user has recently added or modified or that have recently been assigned to the current user.

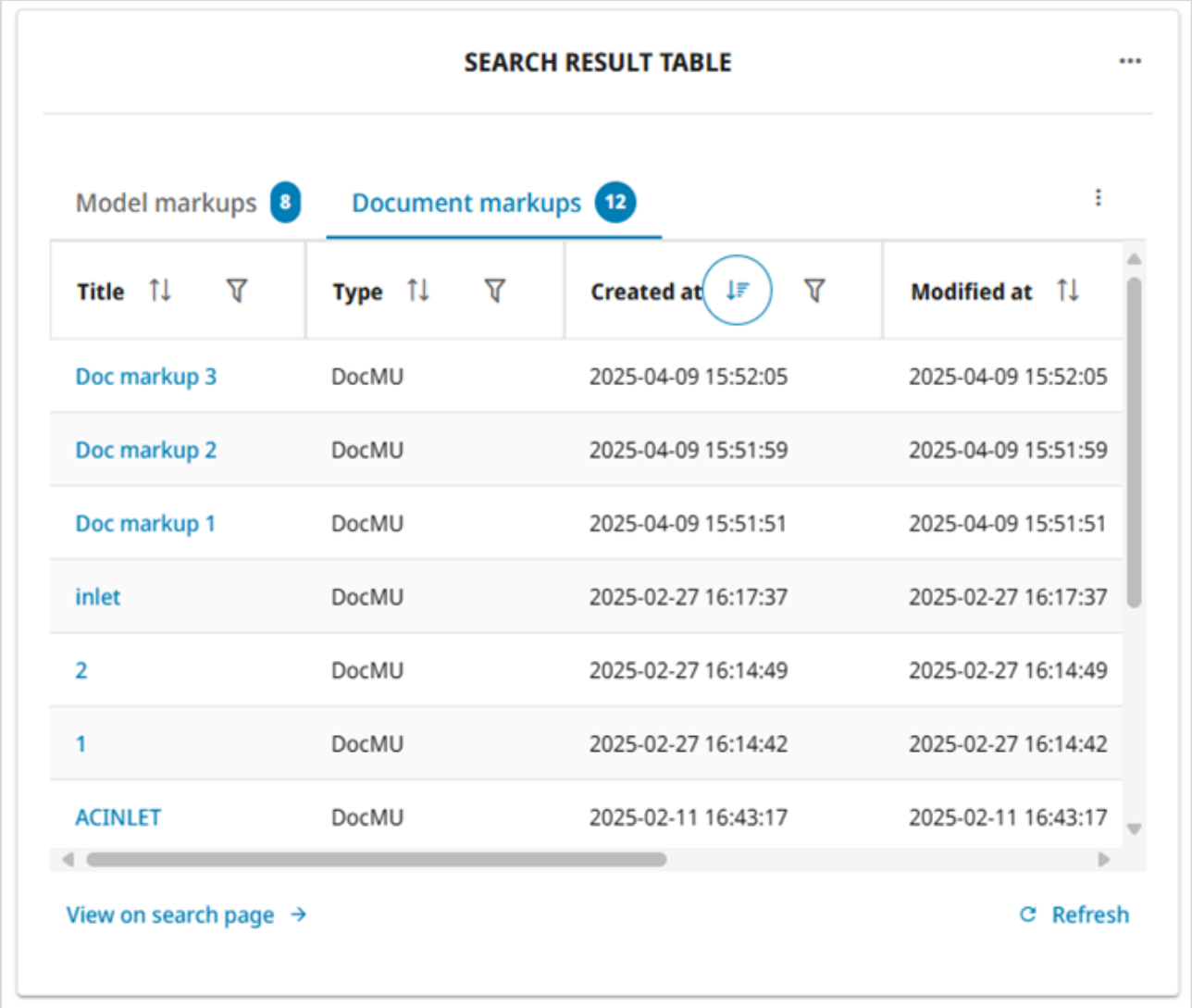
- **All Created by Me** – Opens the **Search** view and lists all Model Markups that the current user has created.
- **All Modified by Me** – Opens the **Search** view and lists all Model Markups that the current user has modified.
- **All Assigned to Me** – Opens the **Search** view and lists all Model Markups that are assigned to the current user.

Latest markups – Lists the Markups that any user has recently added or modified.

- **All Markups** – Opens the **Search** view and lists all Model Markups in the project.



Search Result Table widget – If a search result table widget with a markup search has been configured to a tab in Home view, Model markups are visible there.



1.5.4. Finding markups with search

In the **Search** view, you can use the "Points and Markups" search to find specific Markups. After performing a search, you can save the search for future use, and you can export Model Markups from search results to a Microsoft Excel file, a Microsoft Word file, or an .ebx, or .bcfzip file.

When Markups are configured to support assignees, you can use the search to find Markups based on their current or previous assignee.

See Search methods for details.

1.5.5. Exporting markups

You can export a Markups file (.ebx, or .bcfzip) from the **Search** view and then open it, for example, with CADMATIC eBrowser. See Exporting a model markup file (.ebx) or Exporting a model markup file (.bcfzip).

1.5.6. Deleting markups

Markups can be deleted in the following ways:

- In the front page of a project, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In the properties pane when viewing the Markup in 3D Model, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In search results when viewing the results in list view, the delete button next to the Markup's title deletes the Markup, even if it was created by another user.. The delete button is not available if you do not have the required permissions.

1.6. URL parameters

You can build an eShare URL with URL parameters, for example, when you want to link to eShare from an external system. Separate the parameter and the value with an equals sign (=), and separate the parameters with an ampersand character (&). The order of the parameters does not affect the result.

For example: https://<server>:<port>/#/p/<project id>/model?<urlParameter>=<urlParameterValue>&<urlParameter2>=<urlParameter2Value>&...

The maximum length of the URL is 2048 characters. Note that some characters, for example, vertical line and space character, are encoded by the browser and take the space of three characters instead of one.

Parameter	Description	Value range
positionId&tag	Examine an	Position ID of the object.

	object by using its position ID. Examine an object based on the object's tag. An object's tag is the abbreviation of the object's attribute. A tag is needed to differentiate objects, if two or more objects share the same position	Example: https://<server>:<port>/#/p/<projectGUID>/model?positionId=722-PS1 Tag of the object. Example: https://<server>:<port>/#/p/<projectGUID>/model?positionId=722-PS1&tag=.n5

	ID. To examine an object based on the object's tag, you also need to provide the object's position Id parameter. Used only with key attributes.	
groupParentTag&groupChildTag&groupId	Examine a group object by specifying the parent and child object's	Example: https://<server>:<port>/#/p/<project id>/model?groupParentTag=[sys]&groupChildTag=sys&groupId=Air

	attribute abbreviation, and the group's ID. groupParentTag is the abbreviation of the group's attribute in brackets []. groupChildTag is the abbreviation of the group's attribute. groupId is the value of the group's attribute.	

attributeValue&tag	Used with tag to locate any object or group of objects by attribute abbreviation and value.	If the following string finds only one instance, it opens the object in examine mode: Example: https://<server>:<port>/#/p/<projectGUID>/model?tag=len&attributeValue=1950 If the following string finds multiple instances, the search page opens: Example: https://<server>:<port>/#/p/<projectGUID>/model?tag=len&attributeValue=619 --> Multiple hits opens search page If the following string finds a group, it opens in examine mode: Example: https://<server>:<port>/#/p/<projectGUID>/model?tag=[pli]&attributeValue=177-035
attributePaneVisibility	Defines the visibility of the properties pane.	Show – shows the properties pane Hide – hides the properties pane. Example: https://<server>:<port>/#/p/<projectGUID>/model?attributePaneVisibility=Show
examineBranchPath	Opens the defined branch in the model tree.	Define the complete path to the branch in the model tree, starting from "Models". Separate the branches with three semicolons (;;;). Use the hierarchyName parameter to define the source hierarchy of the given path. Example: https://<server>:<port>/#/p/<project id>/model?examineBranchPath=Models;;;Branch1;;;Branch2&hierarchyName=Isometric%20Drawings%20and%20Spools
examineFlags	Enables modifyi	0 = Disable orbiting, show all objects 1 = Enable orbiting, show all objects

	ng the examine parameters when examining an object with a URL parameter. Combine the examineFlags parameter with the multiExamine parameter to include multiple objects in the URL. You can also combine the flags. For exampl	2 = Disable orbiting, hide other objects 4 = Dim all objects that are not being examined 8 = Turn off highlighting for the examined objects 16 = Turn off the X-ray mode for the examined objects 32 = Open the examined objects in clip box 64 = Clear the selection highlight of the examined objects and show the objects according to the applied visual style For example, if the position ID of an object in the 3D model is "P001", you can use the following kind of URL to start examining that object so that orbiting is enabled and also all other objects are visible: Example: https://<server>:<port>/#/p/<projectGUID>/model?positionId=P001&examineFlags=1

	e, flags 1 + 2 = 3, which enables orbiting and hides other objects.	
hierarchyName	Changes the active hierarchy.	Name of the hierarchy. Example: https://<server>:<port>/#/p/<project id>/model?hierarchyName=Isometric%20drawings%20and%20spools sets the hierarchy to "Isometric drawings and spools".
guidId	Allows examining an object or a group based on its GUID id. This is useful when the original 3D model imported to eShare contain	GUID id of the object or group. Example: https://<server>:<port>/#/p/<projectGUID>/model?guidId=A491C908-AFF2-4369-BE2E-D7BB1F3A974A

	ed GUID id data.	
pointCloud	Enter a point cloud view by using its GUID id.	GUID id of the point cloud. Example: https://<server>:<port>/#/p/<projectGUID>/model?pointCloud=3d60ec73-117e-ef11-a2eb-00144d151290
pointId	Examine a Smart Point by using its ID.	Smart Point ID. Example: https://<server>:<port>/#/p/<projectGUID>/model?pointId=654321
pointReference&poiKind	Locate a point in the model and show its properties by using the point's External Id	pointReference should be given the desired point's exact External Id, and poiKind can be used to specify the type of the point. pointReference can be used without poiKind, but poiKind cannot be used on its own. Example: https://<server>:<port>/#/p/<project id>/model?pointReference=ID1234&poiKind=SmartPointType1
markupId	Examine a Markup by using its ID.	Markup ID Example: https://<server>:<port>/#/p/<projectGUID>/model?markupId=123456
multiExamine	Enables	Objects' attribute abbreviation and value. In case of group

	examining multiple objects.	objects, use the parent attribute abbreviation. Separate the objects with a vertical bar (|) and the attribute abbreviations and values with a colon (:). Example: http://<server>:<port>/#/p/<project id>/model?multiExamine=.n5:AE-SW-P001|.n5:722-PS1|.n5:722-PS2|[sys]:722-SWC|.ne:R110202
searchFor&searchScope	searchFor takes a string which is matched directly to the entities of the given scope. searchScope takes a string which lists the types of entities that searchFor goes through.	With searchScope the types are separated with a comma, and are case-insensitive. If searchScope is not given in the URL, but searchFor is, the default scope used is "objects, groups, points". Available types are: objects – search through the objects in the model; searchFor tries to match to the object's key attribute's value groups – search through the groups in the model; searchFor tries to match to the group's key attribute's value points – search through the points of interest (smart points, markups) in the model; searchFor tries to match the point's name value. If unsuccessful, it tries to match the point's external ID value. smartPoints – search through the smart points in the model; searchFor tries to match the smart point's name value. If unsuccessful, it tries to match the smart point's external ID value. smartPointsByName – search through the smart points in the model; searchFor tries to match the smart point's name value only smartPointsById – search through the smart points in the model; searchFor tries to match the smart point's external ID value only markups – search through the markups in the model; searchFor tries to match the markup's name value

		The scope is iterated in the given order when finding a match. If a match or multiple matches is found in one type, the search is stopped, which means that possible other matches found in other types will not be found. If there is a single match, eShare Model view will examine it. The parameter examineFlags can be used to alter the way an object is examined, but it will not do anything if the match is a Smart Point. If there are multiple matches,eShare will take the user to search, where all found matches will be shown. The parameters searchFor and searchScope can be combined with following old parameters: tag – narrows down the search with objects and groups poiKind – narrows down the search with points of interests Examples: <domain:port>/model?searchFor=exampleName&examineFlags=17 <domain:port>/model?searchFor=exampleName&searchScope=objects,smartPoints <domain:port>/model?searchFor=exampleName&searchScope=points&poiKind=PoiKindName <domain:port>/model?searchFor=exampleName&tag=sys
treeVisibility	Specifies the visibility of the model tree sidebar.	Show – shows the sidebar. Hide – hides sidebar. Example: https://<server>:<port>/#/p/<projectGUID>/model?treeVisibility=Show
visualStyleName	Specifie	Name of the visual style, can be the predefined or project-

	s the visual style that is applied to the 3D model.	specific visual style. Example: https://<server>:<port>/#/p/<projectGUID>/model?visualStyleName=Normal visual style
x&y&z&r&s	Moves the camera to the specified location (x, y, z coordinates), with the optional rotation and slope (r and s coordinates).	Coordinates of the location. Example: https://<server>:<port>/#/p/<projectGUID>/model?x=23131&y=-5079&z=10208

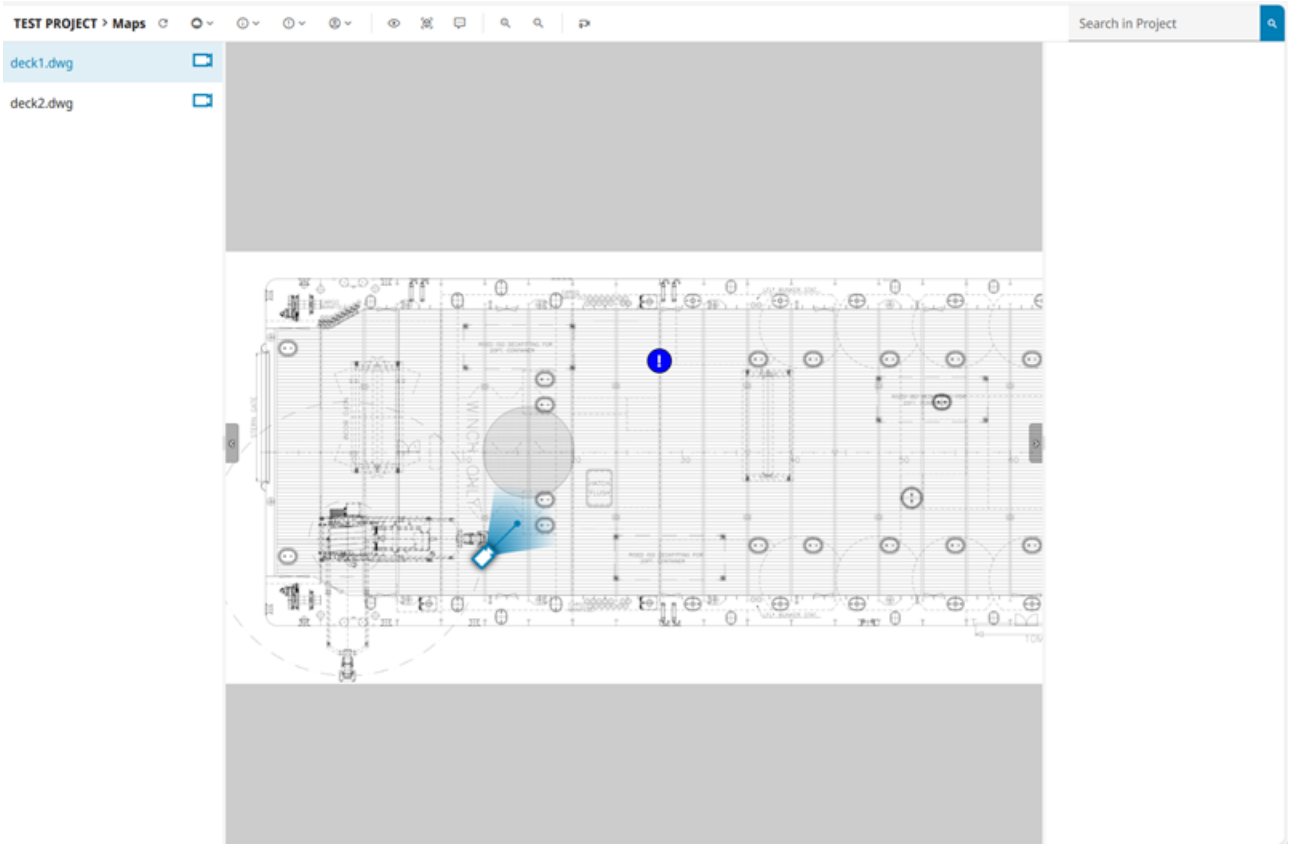
2. Map

The **Map** view of CADMATIC eShare allows you to navigate the model in a 2D view. A map provides the layout of the floor or deck, and helps you move to a certain location in the model.

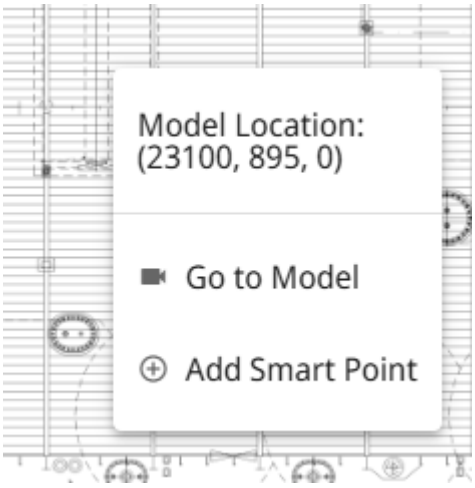
The **Map** view is available only if the eShare administrator has uploaded one or more maps for the project.

You can access a certain location in the 3D model from the map by double-clicking the location in the map, or right-clicking and selecting **Go to Model**. The map shows the camera location in the 3D view. You can also see the model's point cloud scanner locations, Smart Points, and Markups in the map, and access Smart Points and Markups to view their details.

The map indicates the camera location and direction with the camera icon.



You can view the exact location of a point in the model by right-clicking the point in the map. The coordinates of the point are shown.



The menu has also the following options:

- **Go to Model** – opens the 3D model in that exact location.
- **Add Smart Point** – **New Smart Point** pane opens for adding a new Smart Point to that location. See Adding a Smart Point from a Map.

2.1. Viewing maps

In the **Map** view, you can select the map, and define if you want to see the model's point clouds, Smart Points, and Markups. You can change the map's zoom level to view more details or the whole map. You also define if you want to see point cloud scanner locations, Smart Points, and Markups on the map.

2.1.1. Opening the map

- To view the map, select **Map** from the menu.

  Note: Map or its icon is disabled, if the project does not have any maps.

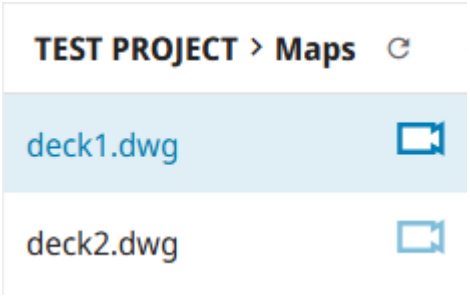
  

2.1.2. Selecting the map

A map can equal, for example, a ship's deck. A project can have more than one map. You can view only one map at a time.

Do the following:

1. In the **Map** view, select the map that you want to use from the left pane. The selected map appears in the map pane.



2. To refresh the list of available maps, click the **Refresh** button on top of the **Maps** list.

2.2. Viewing point cloud scanner locations, Smart Points, and markups

In **Map** view, define if eShare should display the point cloud scanner locations, Smart Points, and Markups on the map. If you do not want to see all Smart Points or Markups, you can select the Smart Points based on their type, and the Markups based on their status.

Do the following:

1. To see point cloud scanner locations, select **Point Clouds** button and select **On**. The point cloud scanner locations on the map correspond to the location where they are in the model. eShare shows the point cloud's name in a tooltip, and you can click the point cloud symbol to enter the scan in bubble view.

   To hide all point clouds, select **Point Clouds** button and select **Off**.

2. To see Smart Points, select **Smart Points** button and select **All**. By default, eShare has selected all Smart Point Types. If you want to see only some Smart Point Types, select **Smart Points** button and select Smart Point type(s) from the menu.

   To hide all Smart Points from the map, select **Smart Points** button and select **None**.

   To open a Smart Point, click the Smart Point on the map. Smart Point properties are shown on the pane. To open the 3D model at the Smart Point's location, select **View in Model**.

3. To see Markups, select **Markups** button and **All**. By default, eShare has selected all Markups. If you want to view only Markups that have a certain status, select **Markup Status** and the status(es) from the menu. If you want to view only markups with a certain

importance, select **Markup Importance** and the desired importance(s) from the menu. There can also be other options available, if other Markup attribute types have been defined by the administrator.

If you want to view only Markups with a certain assignee, select **Markup Assignee** button and select the assignee(s) from the menu.

To hide all Markups from the map, select **Markups** button and **None**.

To open a Markup, click the Markup on the map. Markup properties are shown on the pane. To open the 3D model at the Markup's location, select **View in Model**.

Related topics

Smart Points

Markups

Scans tab in eShare

Point clouds

2.3. Accessing the 3D model from a map

You can navigate to the correct location in the map and then open the 3D view.

In the map view, the **Camera location** icon indicates the camera location in the 3D model. The camera pointer indicates the direction of the camera.

Do the following:

1. Navigate to the desired location in the map.
2. Double-click the location, or right-click and select **Go to Model**. The location opens in the **Model** view.
3. Return to the **Map** view by selecting **Map** from the menu.
4. If you have moved in the **Model** view, eShare updates the camera location accordingly.

2.3.1. Setting the view direction in the model view

The view direction for the model view can be set in the map.

Do the following:

1. If the camera is not on the map, select **Move Camera to Map** button and then the desired location in the map.

2. Set the cursor on top of the camera and when the move cursor is visible, the camera can be moved to the desired location.

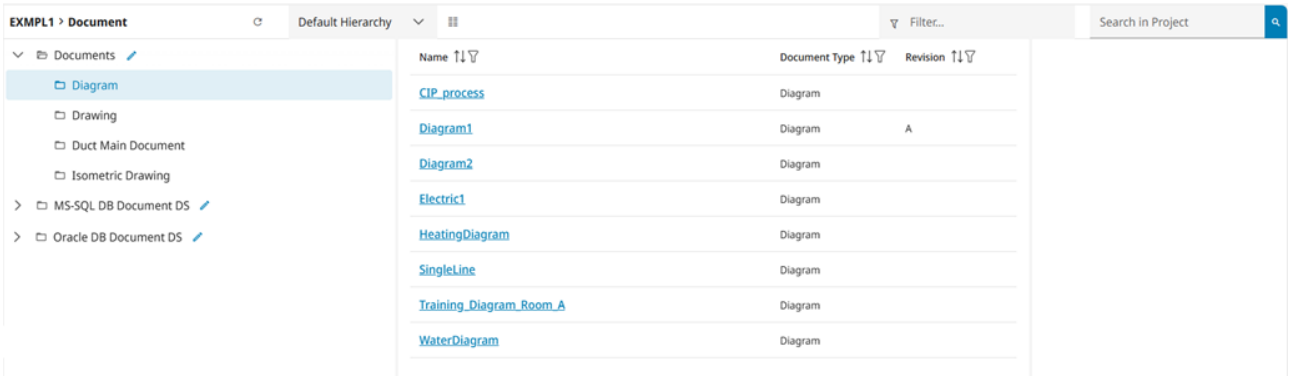
3. To change the direction of the camera, move cursor on top of the camera pointer and when a hand cursor is visible, the view direction can be changed.

4. Double-click the map to move to the model or right-click and select **Go to Model**.

3. Documents Browser

In the **Documents Browser** you can browse, filter, and select which documents to open in Documents Viewer.

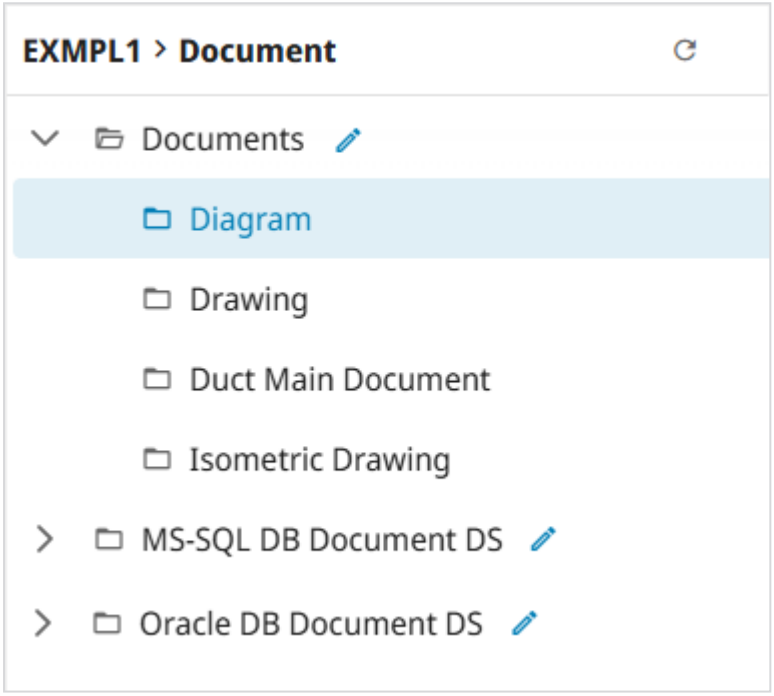
- To open the Documents Browser, select **Documents Browser** in the menu.



- The *document tree* on the left displays the available document folders.
- The *document list* in the middle lists the documents that are in the selected folder. Document's name must always be visible, the other columns you can select whether to show or hide. You can select an individual document from the list.

3.1. Using the document tree

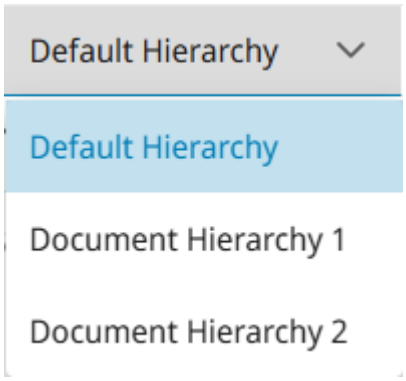
There can be several different document trees that you can browse.



You can do the following:

- Reload all trees from the server by clicking .
- Expand a tree by clicking **>**.
- Select a folder by clicking its name. The documents in that folder are listed in the document list pane.
- If document tree is provided by a document adapter, open the data source configuration view by clicking the edit button (visible only to administrators).
- If additional document hierarchies have been defined as described in Document hierarchies,

select how to arrange the document tree published by CADMATIC design tools.

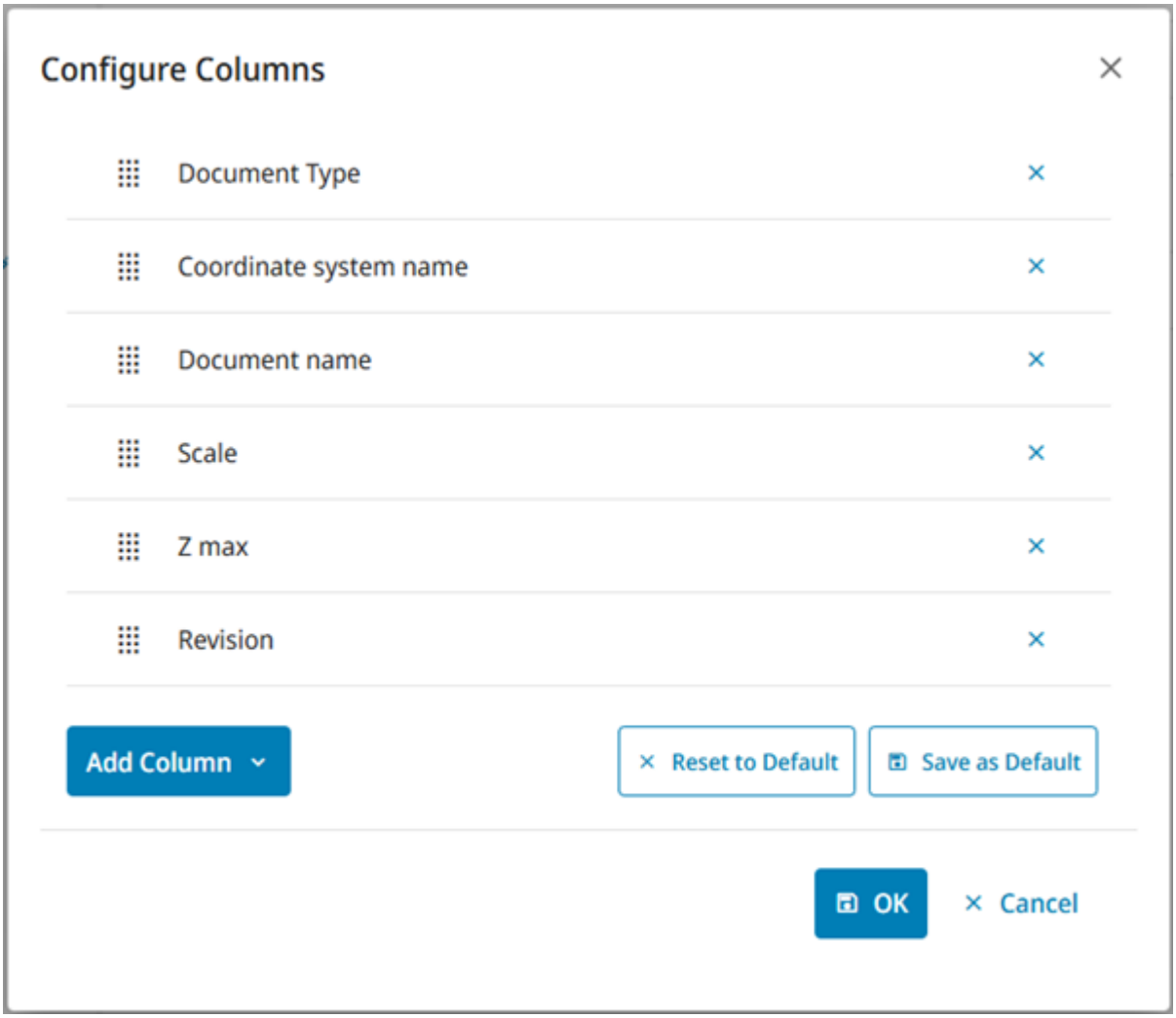


3.2. Using the document list

When you have selected a document folder from the document tree, the document list shows the documents that are in that folder. You can select which columns to show in the list. You can filter the list to show only specific documents from the selected folder.

3.2.1. Configuring the columns

You can select which document properties to display in the document list pane. Click the **Columns** button to open the **Configure Columns** dialog.



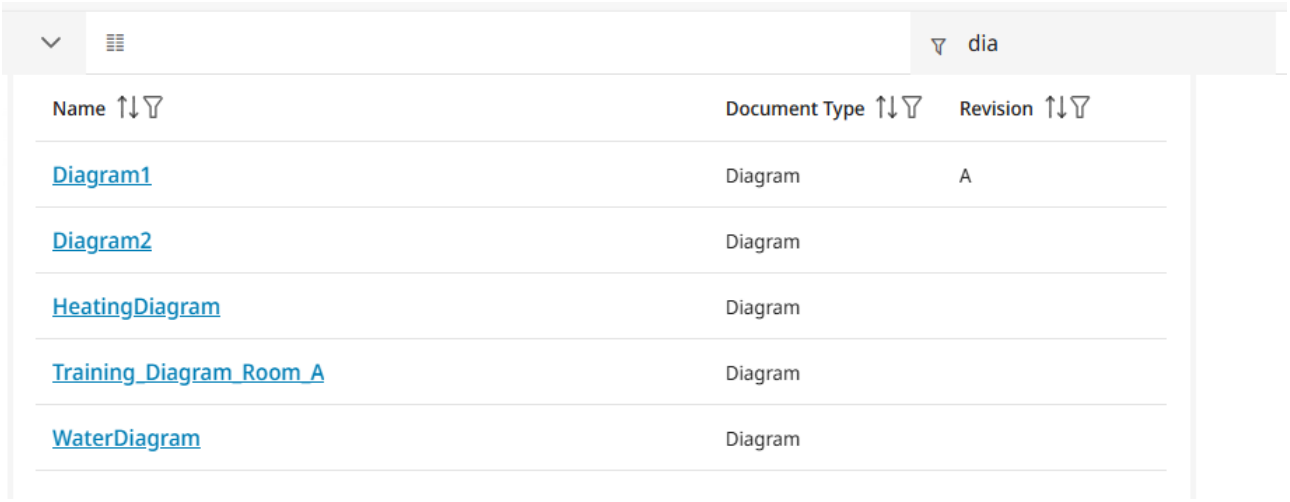
In this dialog you can do the following:

- Add a column by selecting the column from the **Add Column** men.
- Remove a column by clicking its **X** button.
- Specify the column order by dragging the column blocks.
- Click **Save as Default** to save the current column list as your personal default.
- Click **Reset to Default** to restore your default column list.

3.2.2. Filtering the document list

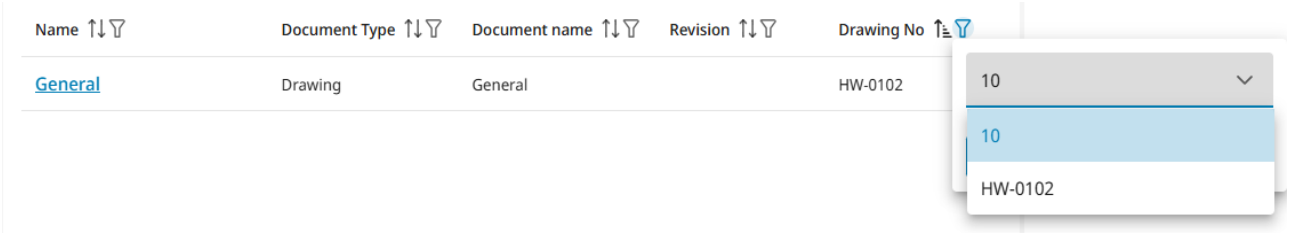
You can enter a filter string in the filter box to quickly find specific documents. The filtering is applied to the values of both visible and hidden columns. Clear the filter box to remove the filtering.

In this example, we filter the list to show only documents whose metadata contains the string "dia".



You can filter the list further, based on an individual column's values. Click the column filter button to open the filter pane.

In this example, we use the "DrawingNumber" column's values to select which individual documents to show in the list.



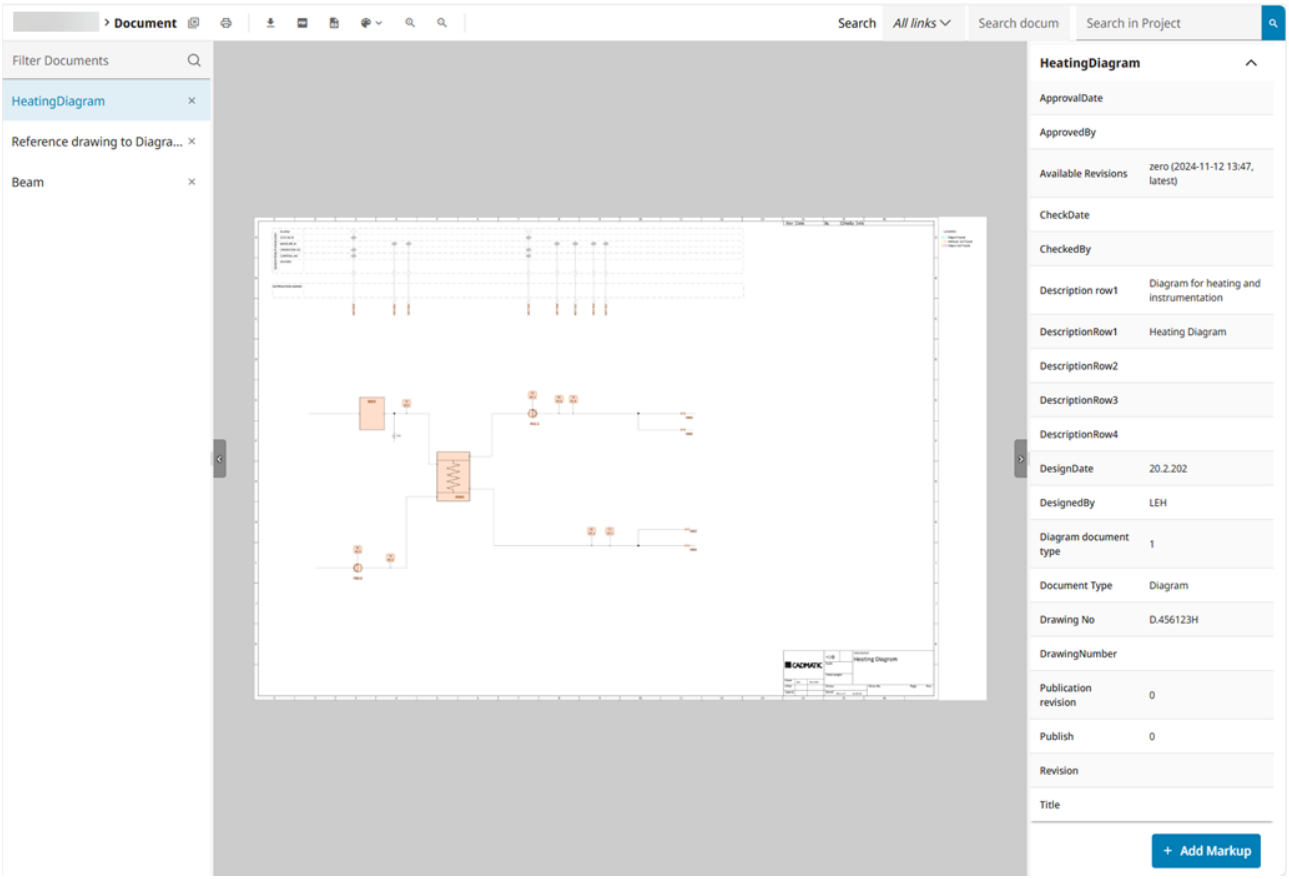
4. Documents Viewer

In the **Documents Viewer** of CADMATIC eShare, you can open documents, view document metadata, and add document markups to documents. This view is available if the project contains documents in DGN, DXF, DWG or PDF format, or if the project has been configured to access documents stored in an external system.

Documents accessed via CADMATIC eShare can be intelligently linked with the 3D model, or other documents; the user can, for example, click the 2D label of a valve in a piping drawing to jump to the 3D representation of that valve, or click a link in the properties of the 3D object to jump to the documents viewer and display the drawing of the object, or click a connector in a document to jump to another document. When using CADMATIC Plant Modeller to publish documents and their 3D model to eShare, the objects in the drawings are automatically linked to their associated object

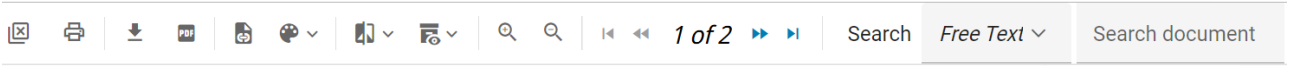
in the 3D model. If documents are retrieved from some other system, project administrator can configure eShare to inject these links based on document type specific rules.

- To open the Documents Viewer, select **Documents Viewer** in the menu.



4.1. Main toolbar

This section describes the commands that are available in the main toolbar in **Documents Viewer**.



4.1.1. Close all documents

Closes all open documents.

4.1.2. Print this document

Prints the currently displayed document. If there are document markups visible in the document when printing is initialized, they are shown the same way in the printed document. See Document markups.

4.1.3. Download this document

Downloads the currently displayed document.

4.1.4. Download original

Downloads the original of the currently displayed document.

4.1.5. PDF without links

Downloads the currently displayed documents as a PDF file without links.

4.1.6. Examine all links in the document in the project model

Opens the project model to examine all links in the document.

4.1.7. Change link coloring

Opens a drop-down menu for selecting link coloring configuration, if there are multiple link coloring configurations available.

4.1.8. Compare with revision

Opens a drop-down menu to select a different revision of the displayed document for comparison.

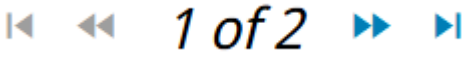
4.1.9. Select revision

Opens a drop-down menu to select another revision of the displayed document if available.

4.1.10. Zooming

Use the zoom buttons to zoom in/out in the document.

4.1.11. Move to first/previous/next/last page



To move between pages, use the arrow buttons to move to the previous or next page, or jump to the first or last page of the document.

4.1.12. Search document

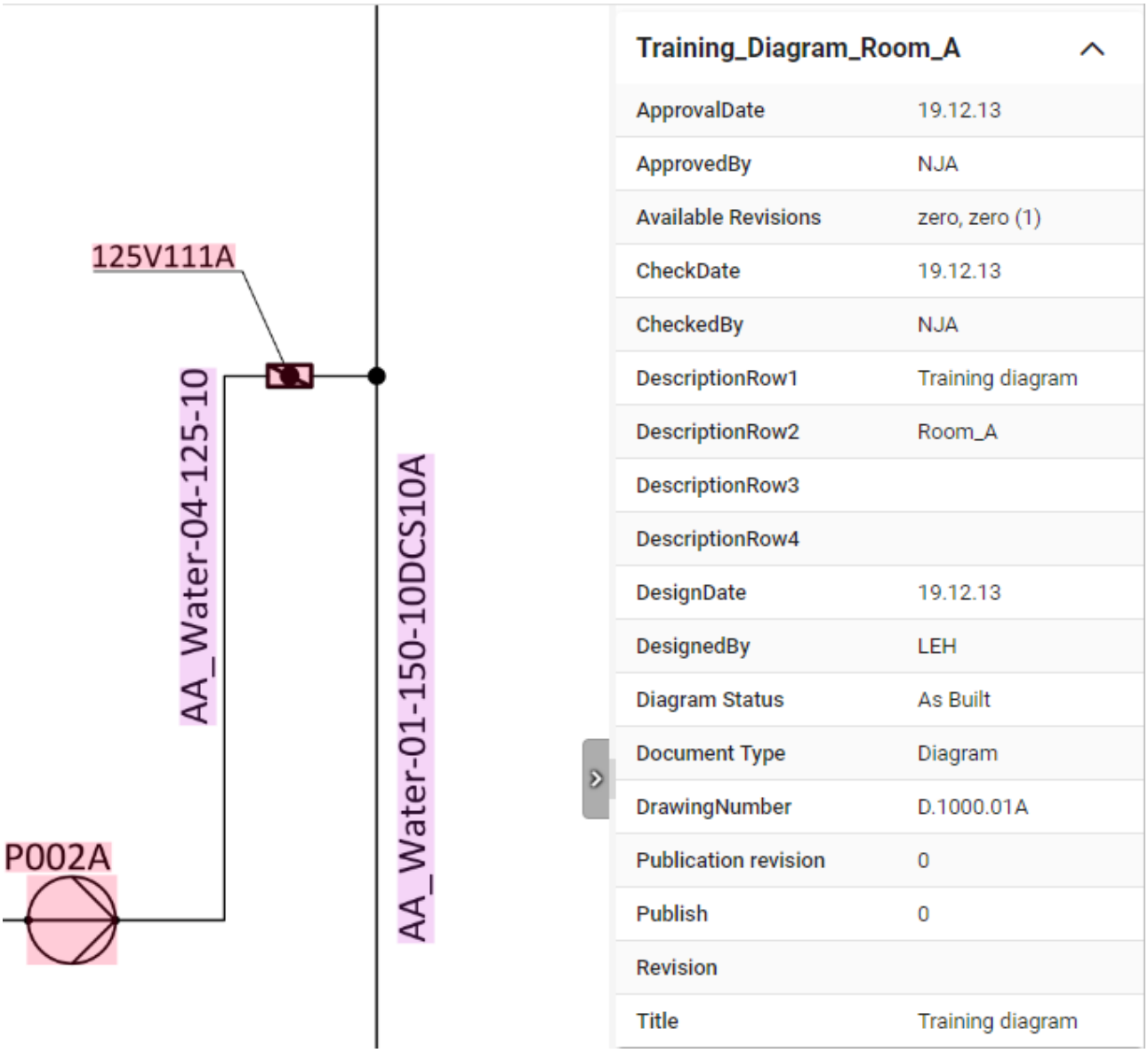
To search for a text string, or links in the currently displayed document, type text in the search box.

See Using search in Documents Viewer.

4.2. Properties pane

When you are viewing an opened document, the properties pane on the right displays all the metadata fields of the currently displayed document, as provided by the document data source. Documents obtained from the file system only display their creation and modification date.

If the project has document markups configured and you have permission to create them, the properties pane will also have **Add markup** button. See Document markups.



4.3. Using Documents Viewer

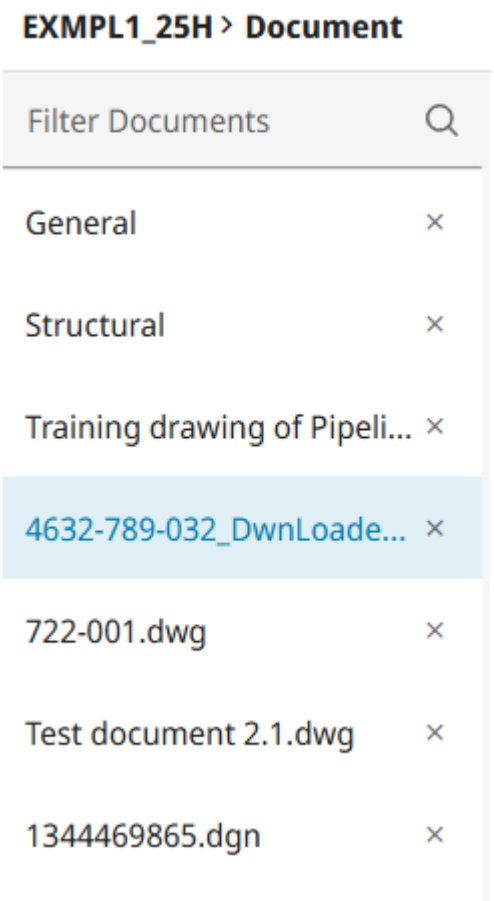
4.3.1. Opening a document

You can open a document in the following ways:

- Click a document link in the properties pane of the **Model** view. The document automatically zooms to the object. See Properties pane.
- Click a document link in search results. See Search.

- Click a document link in the document list of the Documents Browser. See Documents Browser.

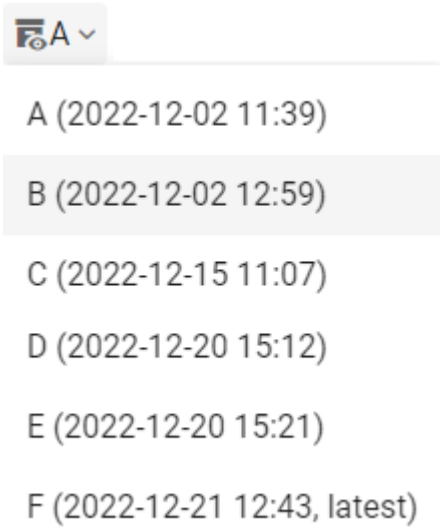
When you have opened one or more documents, the document list on the left shows the currently open documents, and you can click a document name to view that document.



4.3.2. Viewing revisions

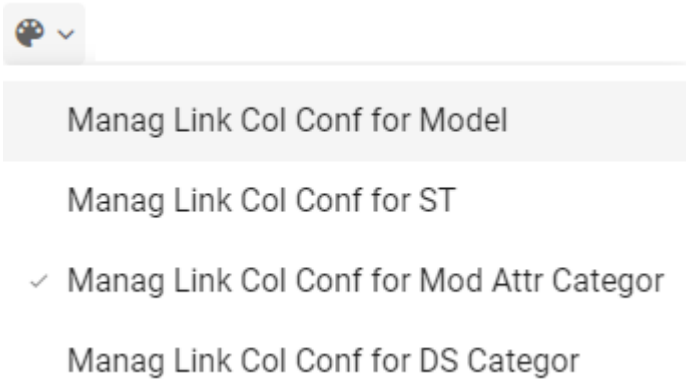
If there is more than one revision of the document in eShare, you can select to view an older revision by clicking in the toolbar and selecting the revision from the drop-down menu. To enable comparing revisions, saving revisions must be enabled in Managed Documents options. See Document revision options.

Note: Comparing revisions is available only for Managed Documents.



4.3.3. Selecting link coloring

If there are multiple link coloring configurations for the documents, you can select **Change link coloring** button in the toolbar and select from the drop-down menu which link coloring configuration to use.



4.3.4. Comparing document revisions

Note: Comparing revisions is available only for Managed Documents.

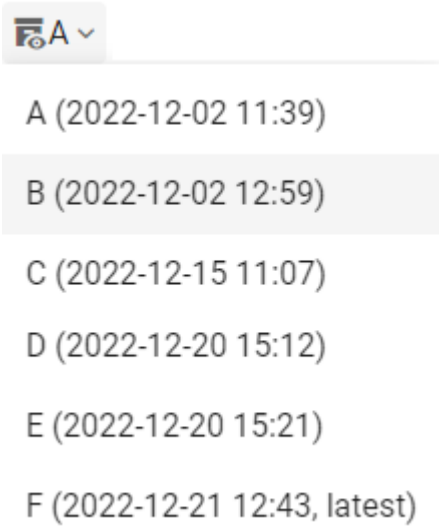
Prerequisites

- Saving revisions is enabled in Managed Documents options. See .

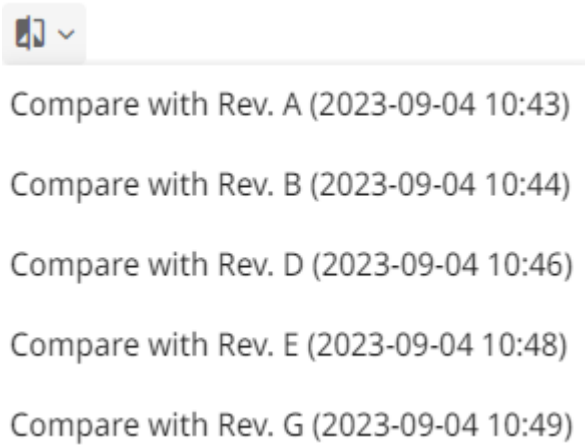
You can compare different revisions of the same document, if there are other revisions available.

Do the following:

1. Open the document from the **Model** view, search results, or Documents Browser.
2. If the there is more than one revision of the document in eShare, click **Change revision** button  . Select which revision to view from the drop-down menu.



3. To select the revision to compare with, click **Compare with Revision** button  . Select the revision for comparison from the drop-down menu.



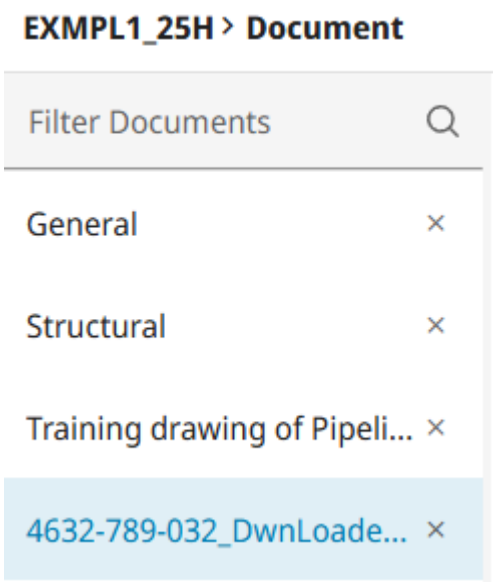
A comparison document opens in the Documents Viewer. Differences in the documents are highlighted in the following way:

- Yellow: All differences
- Red: Content only in the older revision.
- Green: Content only in the newer revision.

4.3.5. Closing a document

You can close currently open documents in the following ways:

- When viewing documents, close an individual document by clicking the **x** button next to the document name in the document list.



- When viewing documents, close all documents by clicking the **Close all** button .
- When you exit the application all documents are automatically closed.

4.4. Using search in Documents Viewer

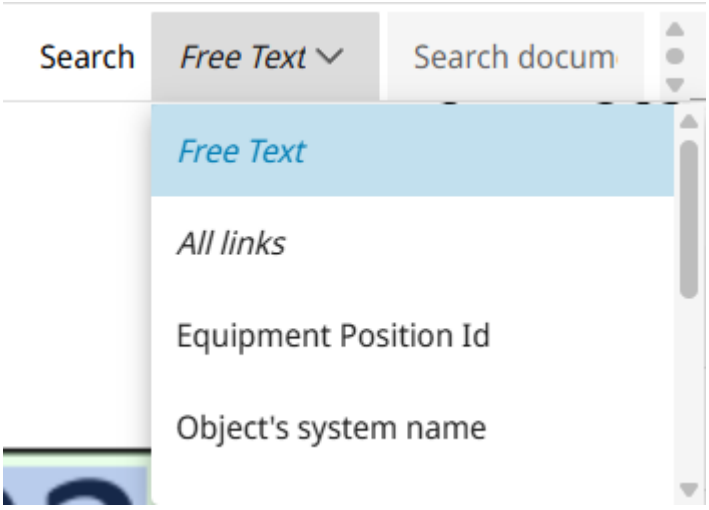
The **Documents Viewer** displays a search box for finding a text string in the currently displayed document. In addition to text, your can search for links.

As you start typing the text string into the **Search in document** field, the document automatically zooms to the first instance, and you can use the navigation buttons by the search box to jump to another instance.

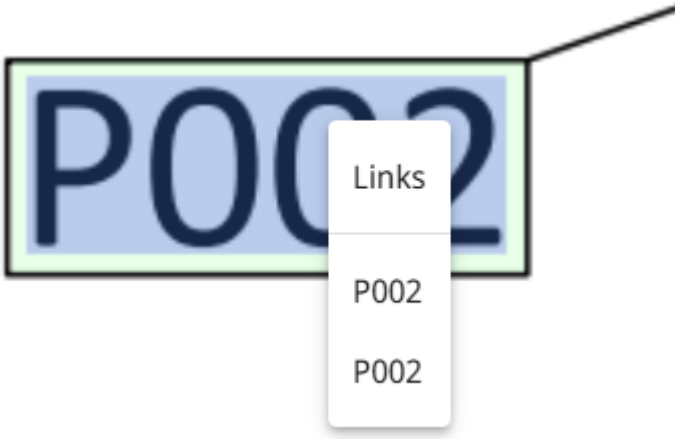
The default search scope is **All links**, meaning that the text string can be found from any part of a link.

If you select an attribute from the drop-down menu, the search tries to find the text string from the values of that attribute. For example, if you use the attribute **Position Id**, the search returns all links that have the attribute **Position Id**.

If you select **Free text**, the document viewer searches from all text content. If the document does not contain links, the document viewer provides only the search scope "Free text".



If a point in the document has multiple links, select the point to open a drop-down menu with all the available links.



4.5. Document markups

Document markups functionality of CADMATIC eShare allows the participants of a design project to add comments, drawings, and areas of interest in documents viewed in eShare, and then share the information with each other.

In project administration markup types are divided to model markup Types and document markup types. A document markup type has to be defined to a project before users are able to create document markups in that project. Project administrator also defines which users have permission to view, create, update, upload, and delete document markups, as described in Markup types. Document markups can be assigned to a specific user, if project administrator has enabled this function in your project.

Created markups are visible on the properties pane of the opened document. The information that is contained in this table is the type, title, revision (if any) and page (if multi-page document) of the markup. Clicking on the title of the markup lets the user to view, edit, or delete the markup. The left side of the table contains checkboxes, with which the user can toggle the visibility of the document markup drawings overlaid on top of the document. Drawings are overlaid on top of the document automatically, if the document markup revision is the same as the revision of the current document, and if the document markup does not have the Markup Status attribute set to "Done".

If the document has visible document markups when printing of the document is initialized, the printed document has the document markups overlaid the same way as on the screen.

Document markups can be viewed in Home view in Home tab and search result table widget. In search (and the search result table widget) the document markups are found in their own **Document Markups** tab. It is also possible to search for "Any document markup" in the advanced search view. The "Recent markups" widget shows both document and model markups. Search and widgets in Home view will only show document markups if the user has both view permission to the document markup type and the document that the document markup is linked to.

4.5.1. Adding new document markups

In Documents Viewer, users can add document markups by opening any document, and then selecting **Add markup** button at the bottom of the properties pane.

The document view freezes and allows you to draw on the document. The drawing tools are available in the Markup editor toolbar above the document.

The toolbar has buttons for the following: rectangle, ellipse, freehand cloud, line, arrow, text, and highlight. There are also buttons for removing shapes or text, selecting line width and color.

The properties pane has fields for entering the following information:

- **Type** — Select the document markup type.
- **Title** — Enter a descriptive title (required).
- **Assignee** — Allows assigning the document markup to a specific project user. As you start typing the name in the field, the matching user names are listed and you can select the correct assignee from the list.

  In **Search > Smart points and Markups** you can search document markups based on a previous assignee.

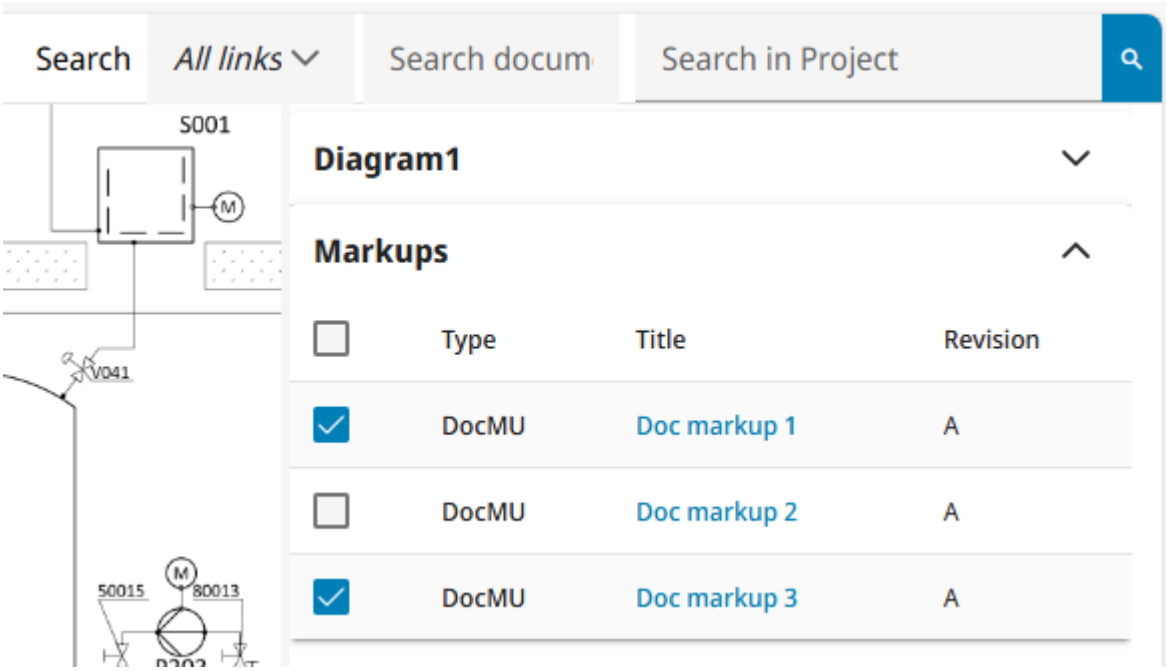
  Assignee is not visible, if it has not been enabled by the project administrator.

The properties pane contains also fields for all the custom attribute types, if the project administrator has added any to the selected document markup type.

If you do not have permissions to create document markups, the **Add markup** option is not available.

4.5.2. Viewing document markups

When you open a document containing document markups in Documents Viewer, the document markups are listed in the properties pane in **Markups** section.



The Markups section displays the following information for the document markups: Document markup type, Title of the markup, Document markup revision (if any), Page in the document (if a document with multiple pages).

You can use the checkboxes to select which document markups are overlaid and visible in the document. When a document is opened, document markups in the document matching all of the following are visible:

- the document markups with the same revision as the currently open document revision
- the document markups, which do not have Status attribute set to *Done*.

If the document is printed when there are visible document markups, these document markups are visible also on the printed document.

Clicking on the title of the document markup displays the document markup information. In this view you can select to view change history, edit or delete the document markup. Select **Close** to close the document markup.

4.5.3. Editing document markups

Open the document with the document markup and click on the title of the document markup. Click **Edit** to open the document markup in edit mode. When you have made modifications, select **Save** to save changes and exit edit mode.

To delete a document markup, select **Delete**.

4.5.4. Accessing markups from the project's home view

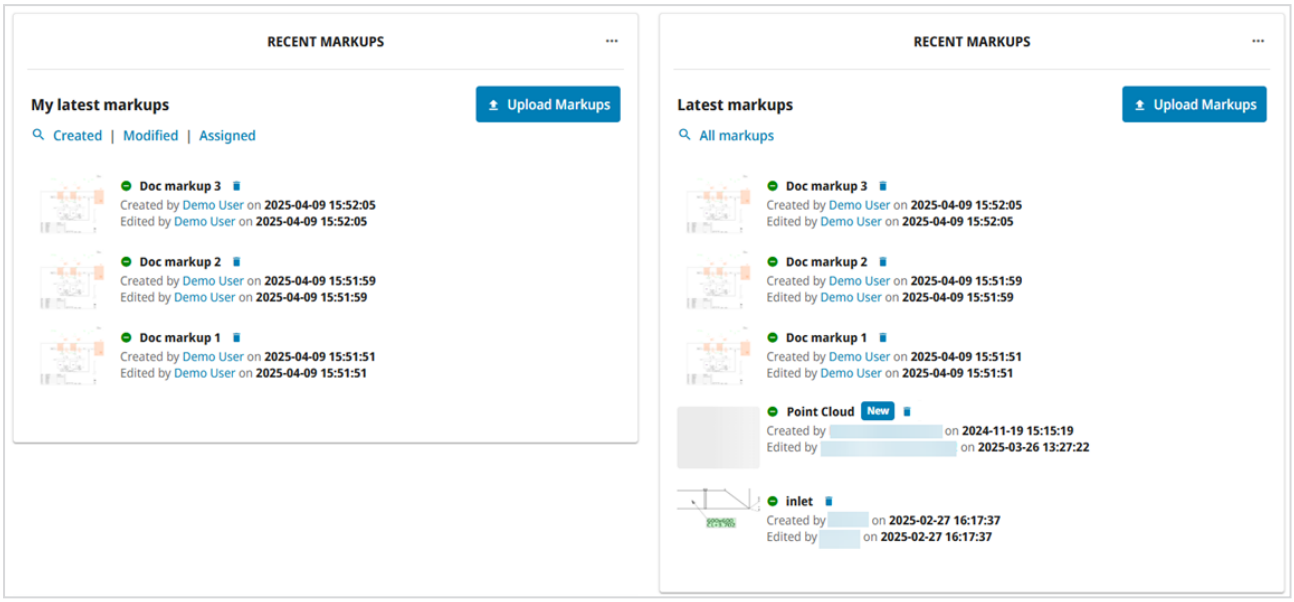
The latest model and document markups are listed as thumbnail images in the home tab of the project. Clicking the thumbnail image of the model markup opens it in the model viewer. Clicking the thumbnail image of a document markup opens it in Documents Viewer. Use the search links on the page to see more items. If you have sufficient permissions, you can update the markups. If you do not have permissions to update markups, the markups are displayed in view mode.

My latest markups – Lists the model and document markups that the current user has recently added or modified or that have recently been assigned to the current user.

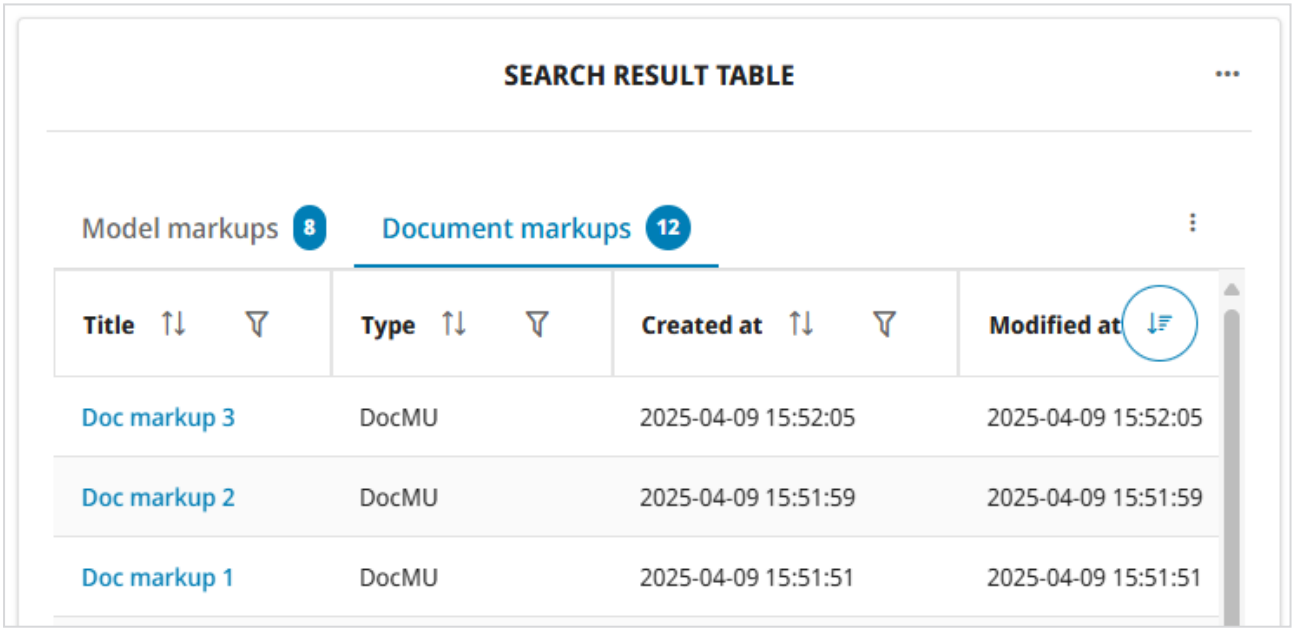
- **All Created by Me** – Opens the **Search** view and lists all model markups that the current user has created.
- **All Modified by Me** – Opens the **Search** view and lists all model markups that the current user has modified.
- **All Assigned to Me** – Opens the **Search** view and lists all model markups that are assigned to the current user.

Latest markups – Lists the model and document markups that any user has recently added or modified.

- **All Markups** – Opens the **Search** view and lists all model markups in the project.



Search Result Table widget – If a search result table widget with a markup search has been configured to a tab in Home view, document markups are visible there.



4.5.5. Deleting document markups

Markups can be deleted in the following ways:

- In the front page of a project, the delete button next to the markup's title deletes the markup, even if it was created by another user. The delete button is not available if you do

not have the required permissions.

- In the properties pane when viewing the markup in Documents Viewer, the **Delete** button at the bottom of the properties pane deletes the markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In search results when viewing the results in list view, the delete button next to the markup's title deletes the markup, even if it was created by another user.. The delete button is not available if you do not have the required permissions.

4.5.6. Finding markups with search

In the **Search** view, you can use the "Smart points and Markups" search to find specific model or document markups. After performing a search, you can save the search for future use, and you can export model markups and document markups from search results to a Microsoft Excel file, or a Microsoft Word file.

When model and document markups are configured to support assignees, you can use the search to find markups based on their current or previous assignee.

See Search methods for details.

5. Search

The **Search** view of CADMATIC eShare allows you to find specific items from the 3D model.

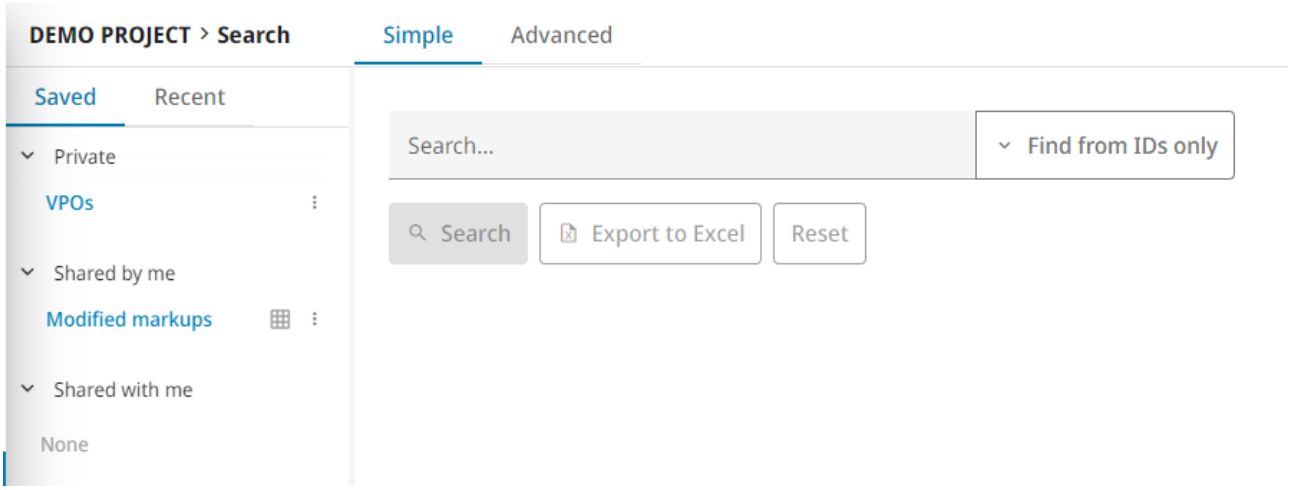
In the search results for model items, Smart Points, and documents, only the first 200 items are listed, but each type are divided on individual tabs. If there are too many results, try to limit the search for example by searching only for a specific attribute value. From search results you can jump directly to the model items, Smart Points, Markups, and documents that the search finds.

In the search results for Markups, all the results are shown. If there is a large number of results, they are divided into multiple views with 100 items per view.

You can export search results to a Microsoft Excel file. Model markups and document markups found via search can be exported as a Microsoft Word file. Model markups can also be exported to an .ebx or .bcfzip file and imported, for example, to CADMATIC eBrowser.

You can save the searches that you need to perform frequently, and share them with other users. These are visible in the **Saved** pane. **Recent** pane shows the 50 most recent searches performed in the current browser or client.

- To open Search, select **Search** in the menu.



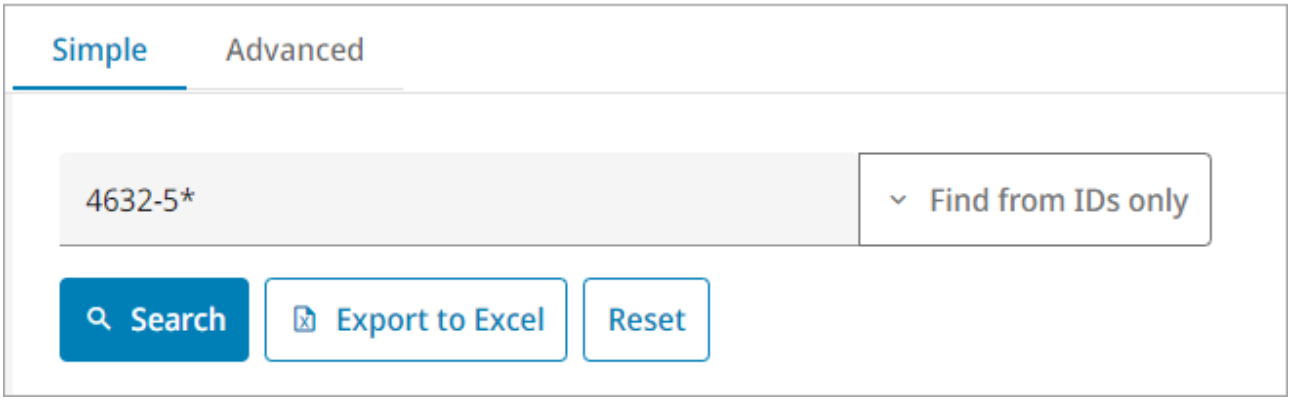
5.1. Search methods

In the Search view of CADMATIC eShare you can perform a simple search, or an advanced search that can find model items, or Smart Points and markups.

As wildcards, you can use the question mark '?' to represent a single character, and the asterisk '*' to represent any number of characters, in any part of a search string.

5.1.1. Simple search

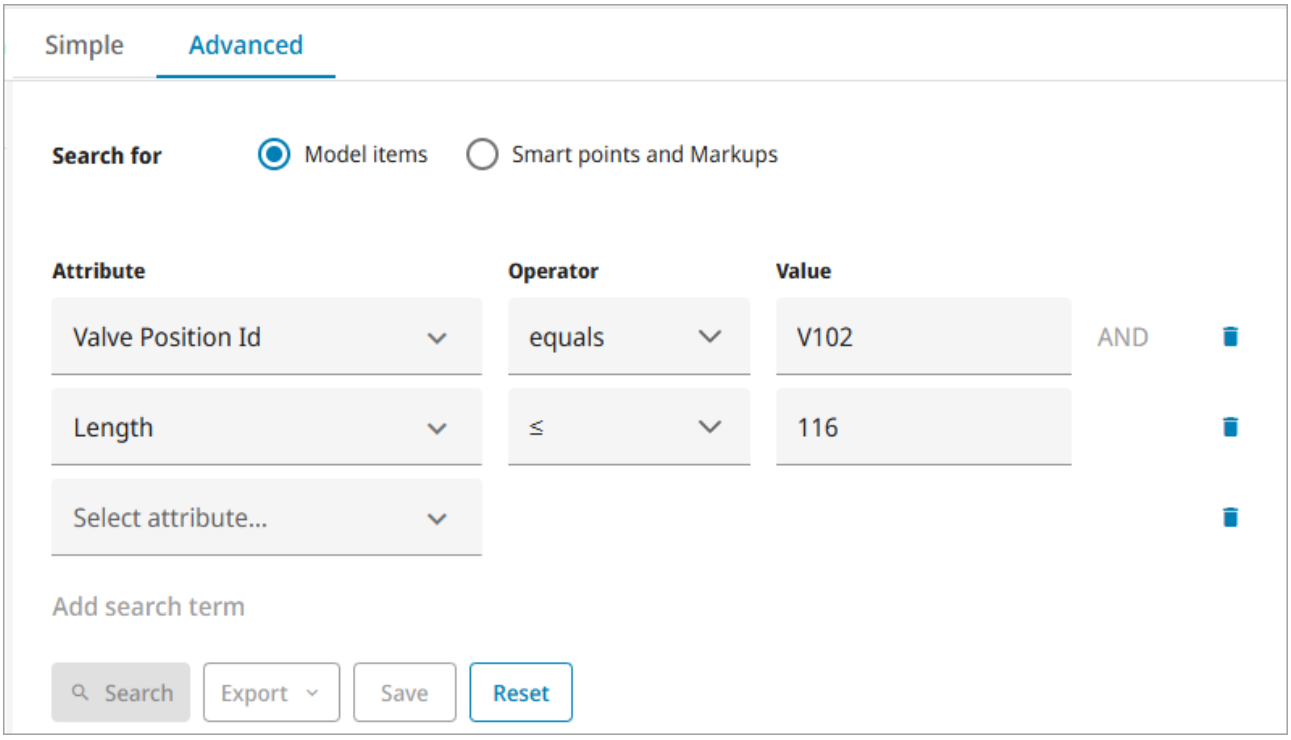
Use the **Simple** search tab to find Smart Points or model items based on ID or any attribute. To search based on ID, select **Find from IDs only**. To search based on any attribute, select **Find from all attributes**.



5.1.2. Model items search

Use the **Advanced** search tab and select **Model items** to find objects and groups, or status trackings based on specific attributes.

You can use the following operators: *equals*, *not equal to*, *exists*, *does not exist*, >, <, ≥, or ≤.

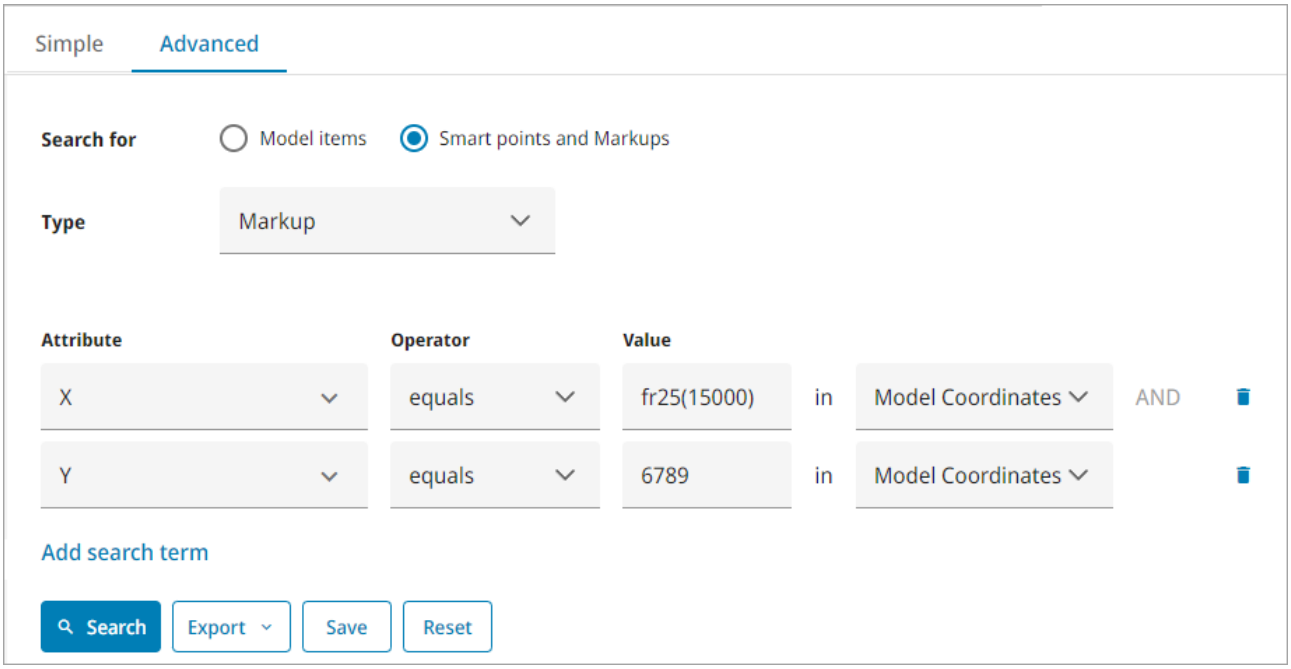


5.1.3. Smart Point and markup search

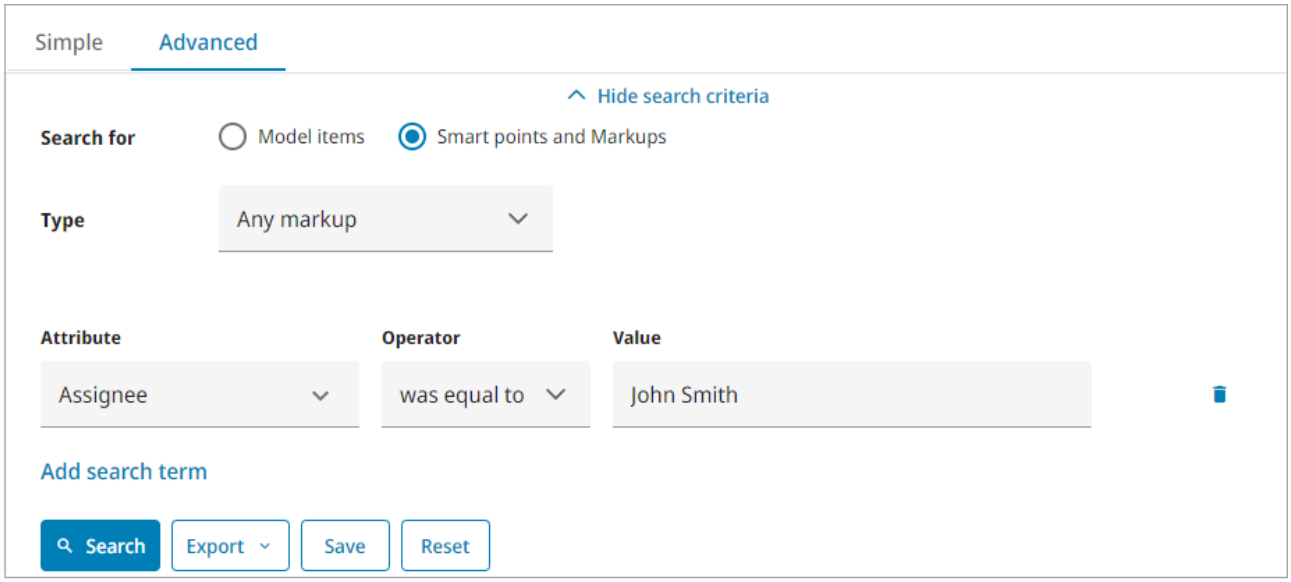
Use the **Advanced** search tab and select **Smart points and Markups** to find Smart Points, Model Markups, or Document Markups. Select the type and then the search attributes.

You can use the following operators: *equals*, *not equal to*, *was equal to*, >, <, ≥, or ≤.

If you select X, Y, Z or Camera X, Camera Y, or Camera Z as the attributes, you can enter the name of the plane. Note that eShare assumes that the plane covers the whole model. To search within a subsection of a plane, restrict the area with other axis attributes. If the project contains multiple coordinates, select which coordinates to use.



If you select Assignee as the attribute, you can enter the name of the current assignee or a previous assignee.



Related topics

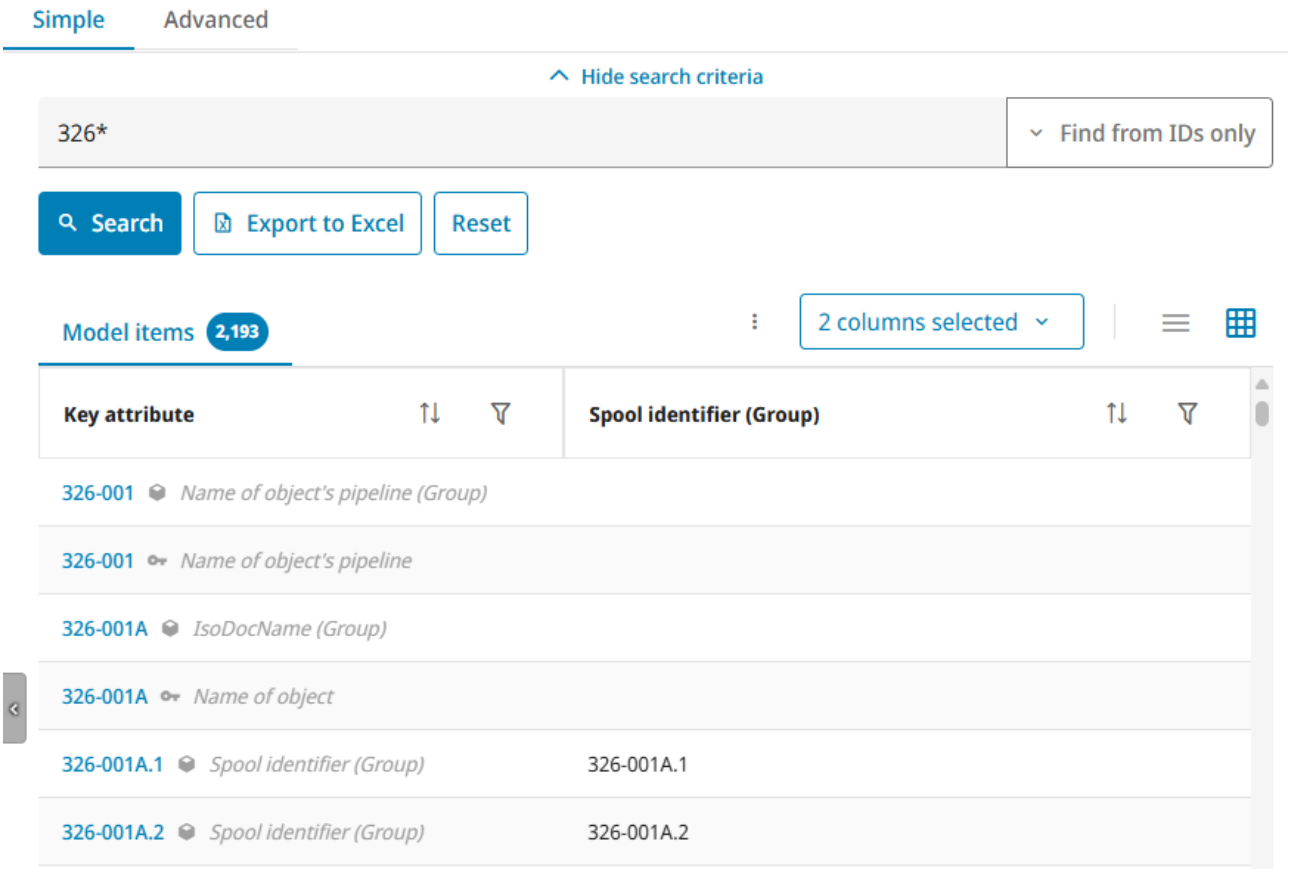
Search results

Saving a search

5.2. Search results

Performing a search in the **Search** view of CADMATIC eShare shows how many entities were found in total and lists the found entities. In list view, all the results are shown, except for model items and documents, for which only the first 200 results are shown. In table view, all the results are shown, except for model items, which are not shown at all if there are over 5000 results. The different entities are shown on separate tabs Model items, Smart Points, Model Markups, Document Markups, Documents, and External References each indicating the number of found entities.

Select **Hide search criteria** to show only the search results. Select **Show search criteria** to show the search options again.



5.2.1. Organizing search results

When you have performed a search, which has returned results, you can organize the search results.

- Click the View as a list button to view the search results as a list.
- Click the View as a table button to view the search results as a table.
- When the results are shown as a table, you can select and filter from the drop-down menu which columns are included in the table. The options are:
    - Model items – model attribute definitions, types of status tracking, status tracking attributes, the key attribute, linked Smart Points, linked markups, and data from a data source.
    - Documents – document name and data source
    - Smart Points – Smart Point attributes and data from a data source.

    - Model markups and document markups – markup attributes and markup thumbnail images
- The data in the columns can be organized using the Sort by and Filter by buttons in the column header.
- The columns can be re-ordered by dragging and dropping.

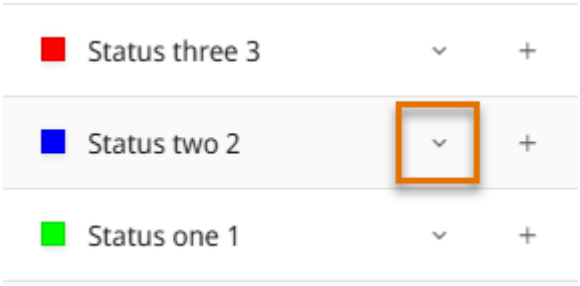
During a search, some columns are selected for the table by default (e.g. Title, Type, Status, Importance, Created by, Created at, Modified by, and Modified for the markups). Document markup columns include also Document name (for managed and external indexed documents) and Revision for managed documents.

If the user selects new columns for the table, a new search request is made to the server if even one of the selected columns was not included in the initial subset of columns. Columns that will require a new search request are marked with a Requires reload icon in the columns drop-down menu. If none of the newly selected columns require reload, no additional search requests are made to the server, and the desired data is displayed in the table instantly.

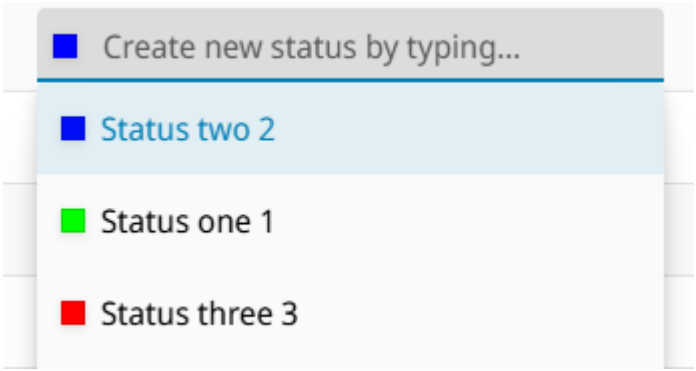
5.2.2. Editing status tracking values in search results

When the model items in search results have status tracking values, you can update the status in the corresponding column by selecting the Change status button. You can also select multiple model items by checking the checkboxes at the beginning of each row and selecting the Change status button of one selected row.

Note: The status of multiple model items can be updated only, if all the selected model items share such status value(s) to which their current status value can be updated to.

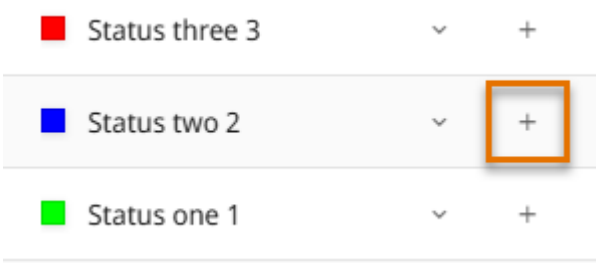


Select the status value from the list, and after it is updated, the visual styles will be updated accordingly in Model view.

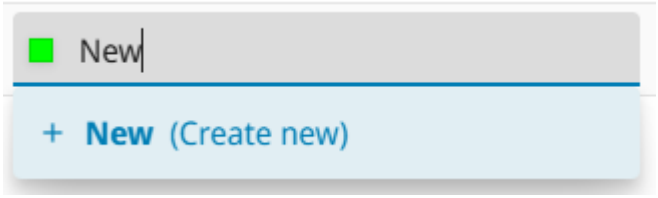


5.2.3. Adding new status tracking values in search results

If adding new values has been enabled in status tracking configuration, you can add values to model items in the search results. Select Add new button in the corresponding column.



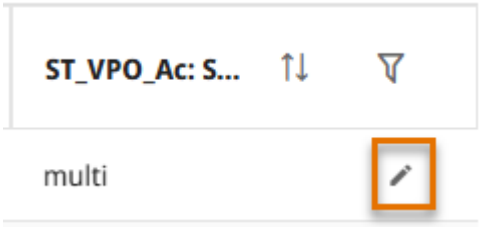
Enter a name for the new value and select **Create new** in the list. If the status tracking has templates enabled for new values, the template will be populated to the input.



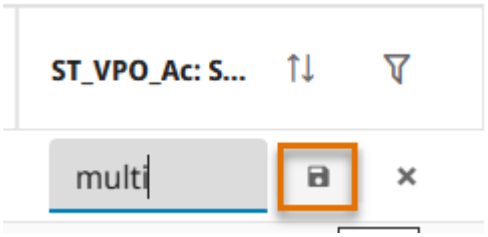
The new status value is added and a color is assigned for it.

5.2.4. Editing status tracking attributes in search results

If you have permission to modify a status tracking, you can edit the status tracking attributes in the search results. Select Edit attribute button in the corresponding column.

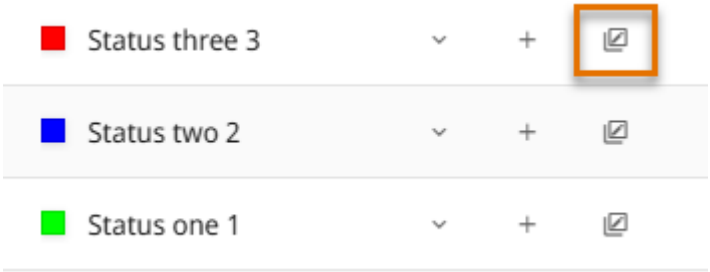


Edit the attribute value and select Save.

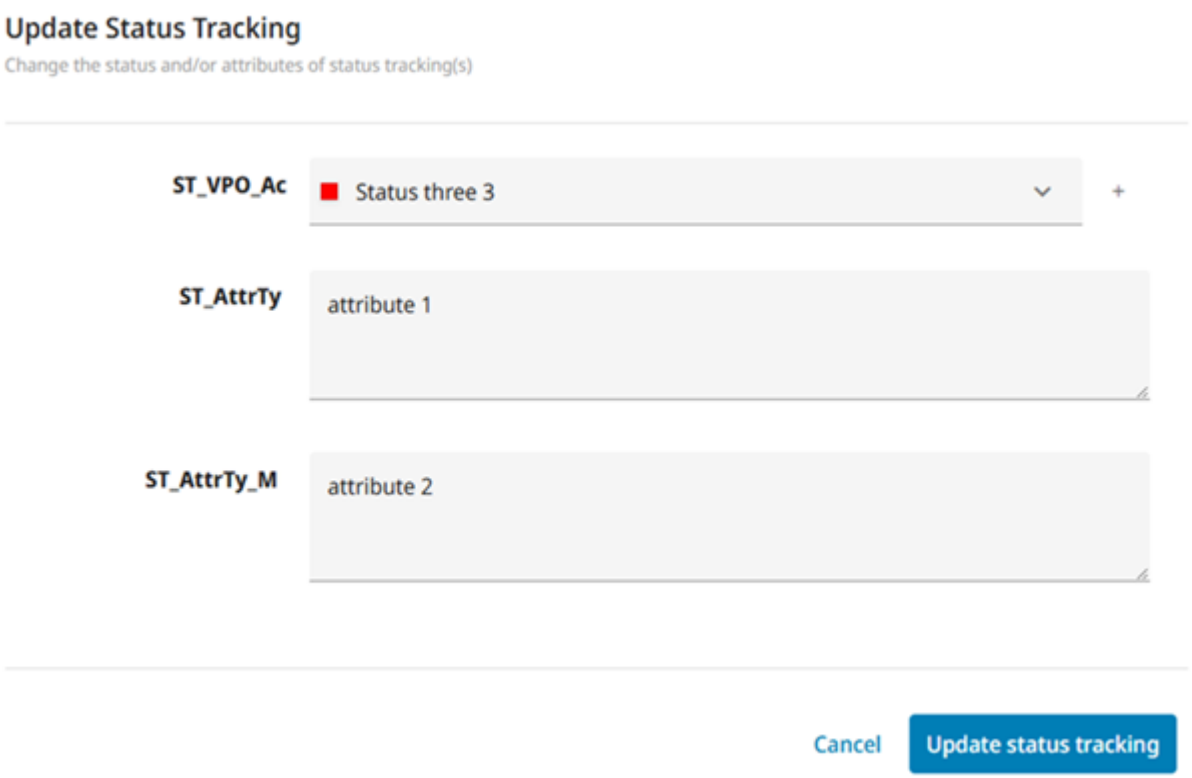


5.2.5. Editing both status tracking values and attributes in search results

If you have permission to modify a status tracking, you can select to edit both the status values and status tracking attributes in one dialog. Select Update status and attributes button in the column.



In Update Status Tracking dialog, you can change the status, or add a new status. You can also edit or add status tracking values in the corresponding fields.

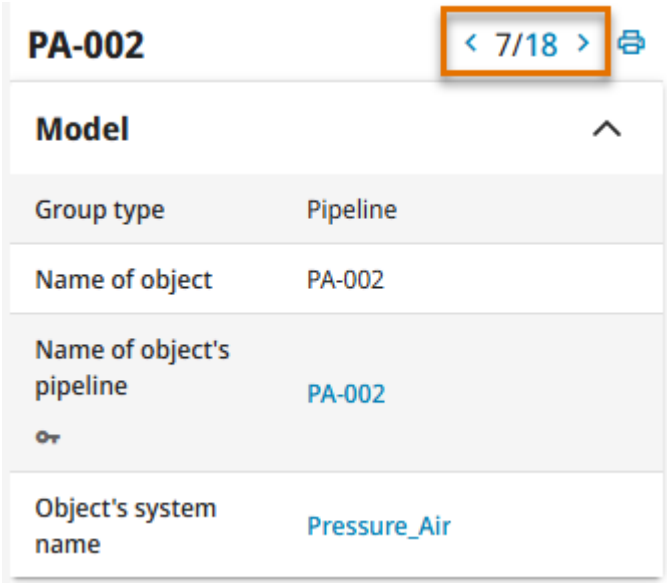


Select **Update status tracking** to save your changes.

5.2.6. Examining objects and groups found by search

When you have performed a search that found objects or groups, you can select to examine them in the Model view—directly from the search results.

- Click the object ID in the search results. The Model view opens in examine mode, and you can use the navigation buttons in the properties pane to jump to the next or previous item.



Related topics

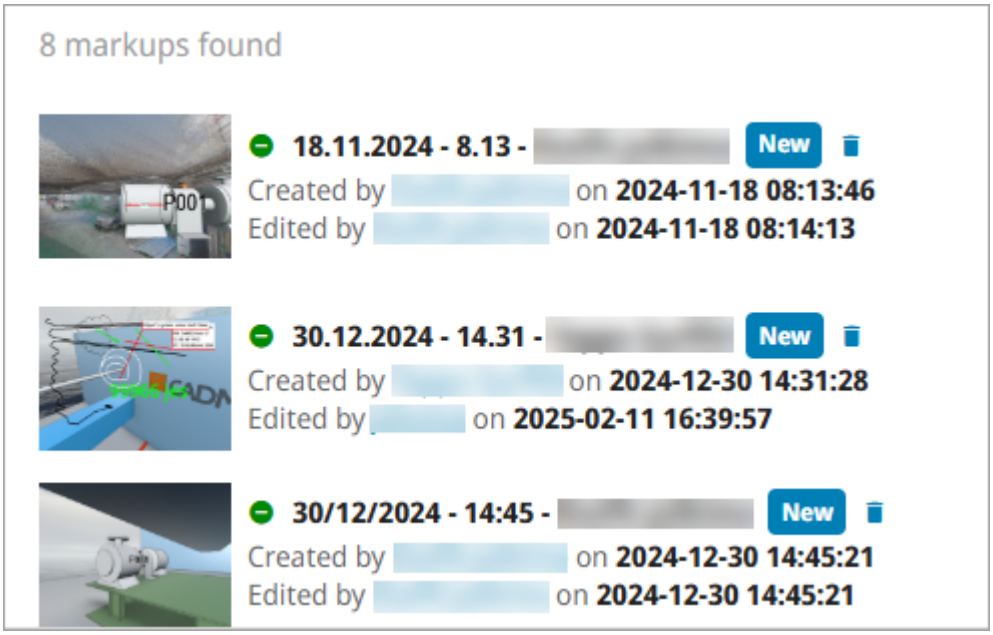
Examine Mode

5.2.7. Opening other entities found by search

When you have performed a search that found markups, Smart Points or documents, you can open a found entity directly from the search results.

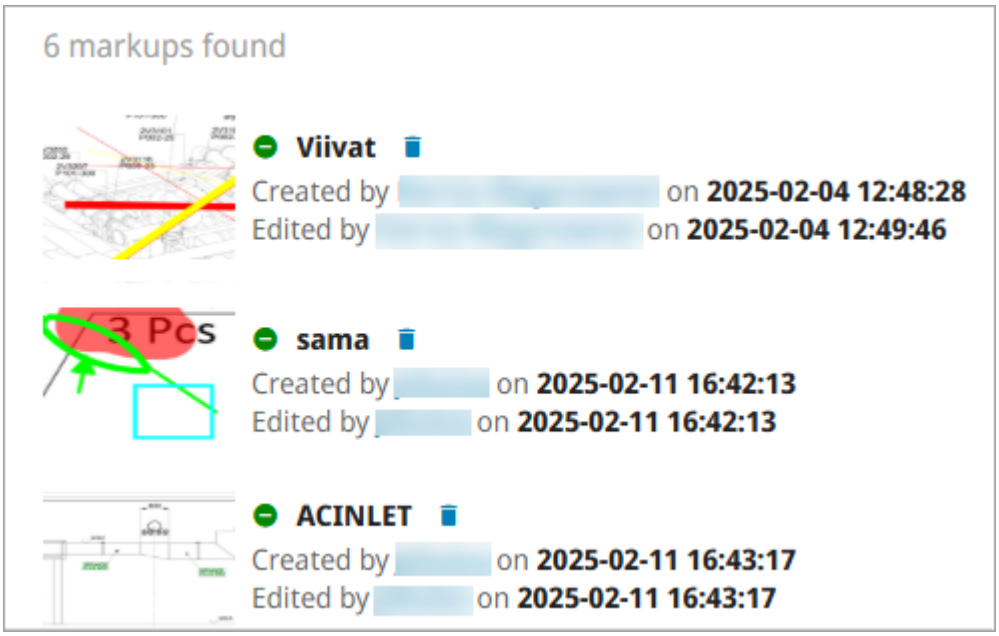
Model markups

If the search found model markups, click the markup thumbnail to open the model markup in the Markup editor. Note that you must always close the editor properly, or you will not be able to open another markup.



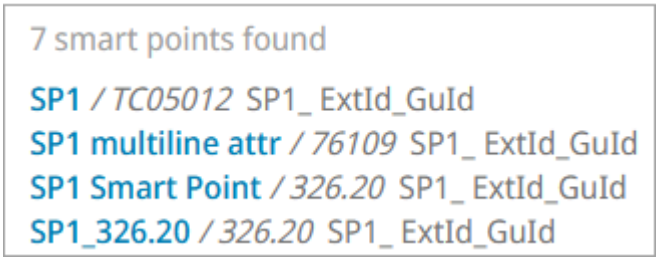
Document markups

If the search found document markups, click the markup thumbnail to open the document markup in editing mode in the Documents Viewer. Note that you must always close the markup properly, or you will not be able to open another markup.



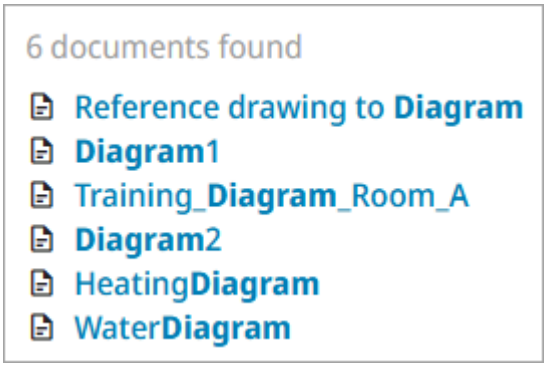
Smart Points

If the search found Smart Points, click the Smart Point name to show the Smart Point and its properties in the Model view.



Documents

If the search found documents, click a document name to open the document in the document viewer.



Related topics

Markup Mode

Smart Points

Documents Viewer

5.2.8. Exporting results to Microsoft Excel

You can export search results of model items, Smart Points, model markups, or document markups to a Microsoft Excel file. In the Excel file, different entity types are listed in separate sheets, and on each sheet the entity identifiers (such as object IDs, Smart Point names, model markup names, or document markup names) function as links to the entity in the Model view.

Do the following:

1. In the **Simple** tab, select **Export to Excel**, or in the **Advanced** tab, open the drop-down menu of the **Export** button and select **Excel**.
2. In the **Export to Excel** dialog, select the following:
    - Object, markup, point, and external data attributes included in the Excel file. The attributes available depend on the used search.

    To save the export selections for later use, select **Save** in the dialog. Enter a name for the saved export and select **Save**. Saved export is available in the **Saved exports** drop-down menu in the **Export to Excel** dialog. To delete a saved export, select it on the list and select **Delete**.
3. In **Conflict Detection Options** (visible when exporting a model object search), select used export mode:
    - **None** – Exports all search results and does not check for conflicts. Selected by default.
    - **Automatic** – Automatic conflict detection mode, which finds the attributes with same names and compares the values in them per object basis. If the values in these attributes differ from each other the object is exported.
        - **Skip Empty Values** – Specifies if missing/empty attribute values are not compared for conflicts. The default is Yes.
    - **Custom** – Custom conflict detection mode, which works in the same way as the automatic detection but instead of detecting attributes with same names, it compares the attributes in the configured attribute pairs.
        - **Skip Empty Values** – Specifies if missing/empty attribute values are not compared for conflicts. The default is Yes.
        - **Attributes to Compare** – Configure the attribute pairs to be used in comparing the detected attributes. To add a new attribute pair, select **Add new pair**.

    The conflicting cells are highlighted in red in the resulting Excel file.
4. Select **Export**.
5. You are prompted whether to open or save the Excel file.

Note: In the Excel file, you can configure the links to open the examine mode with specific settings. See Defining examine mode settings in URLs for details.

5.2.9. Exporting model markups and document markups to Microsoft Word

You can export model markups or document markups found via search to a Microsoft Word file. The report uses a default Word template (*Markup Word Report Template.docx*) included in the eShare installation. The template is located in the installation directory (*<installation directory>\App_Data\markupReportTemplates*). The default template can be customized and additional templates can be created in Word.

Note: eShare will not display the template if it used by another process (such as Microsoft Word). Close the template before exporting the report.

Do the following:

1. Open the drop-down menu of the **Export** button, and select **Word**.
2. You are prompted whether to open or save the Word file.

5.2.10. Exporting a model markup file (.ebx)

You can export model markups found via search to a markup file (.ebx). Photos that have been added to markups are included in the export.

Features that are specific to eShare, such as the names of users the markups have been assigned to, are included in the export as special attributes. If the file is imported to some other application, this data can be viewed as regular markup comments.

Note: Document markups cannot be exported.

Do the following:

1. Open the drop-down menu of the **Export** button, and select **Markups (EBX)**.
2. You are prompted whether to open or save the markup file. If you have CADMATIC eBrowser installed, selecting to open the markup file typically opens it in eBrowser.

5.2.11. Exporting a model markup file (.bcfzip)

You can export model markups found via search to a markup file (.bcfzip).

The exported file includes all markup information, for example title, type, status, importance, when the markup was created and last modified, and who by, assignee, all comments, and photos.

Note: Document markups cannot be exported.

Do the following:

1. Open the drop-down menu of the **Export** button, and select **Markups (BCF)**.
2. You are prompted whether to open or save the markup file.

Related topics

Search methods

Saving a search

Uploading a markup file

5.3. Saving a search

You can save the currently displayed search for future use, for example when the search is more complex or if you will need to repeat the same search often. Saved searches are listed in the **Saved Searches** pane of the **Search** view, and you can click a search name in the list to perform the search.

Searches are saved per user—your saved searches are not visible to other users or administrators. Project or system administrator can select saved searches to be visible to selected user groups.

Prerequisites

- You have performed a search on the **Advanced** tab. Simple searches cannot be saved.

Do the following:

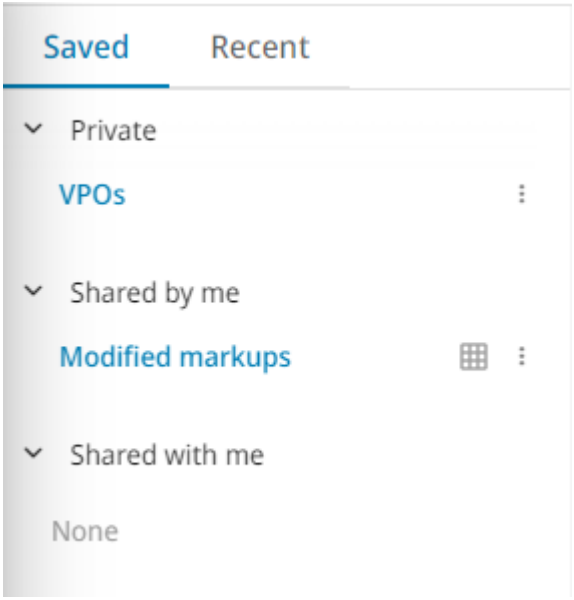
1. Select **Save** in the search view. **Save Search** dialog opens.
2. Enter a descriptive name for the search.
3. Select if the search is private to you (**No one**), shared to selected **User groups** or to **All Users**.

   Note: Only project or system administrators can share saved searches to other users.

4. Select if the saved search results are by default shown as a list or a table. If you select table, you can select which columns to include.
5. Select **Save**.

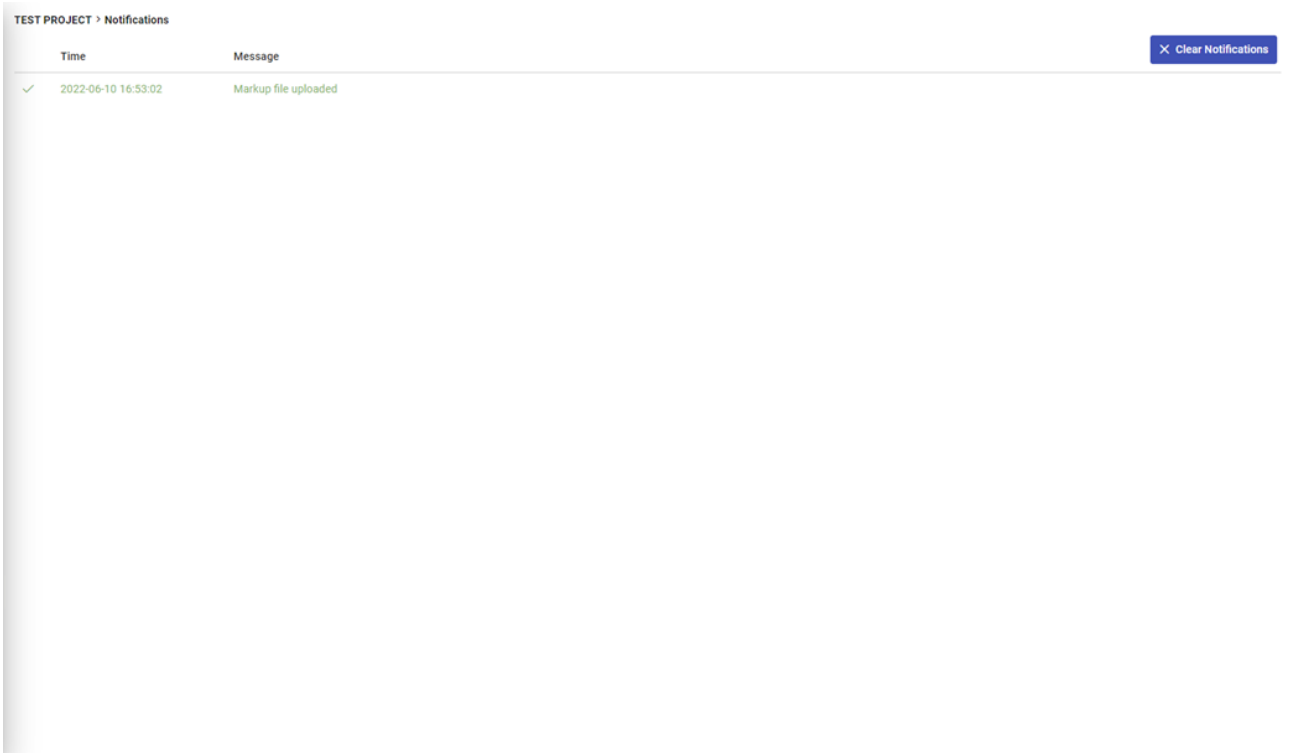
Results

The **Saved** pane displays your saved searches. Select options button ⋮ to edit or delete a saved search. You cannot edit or delete a search shared with you.



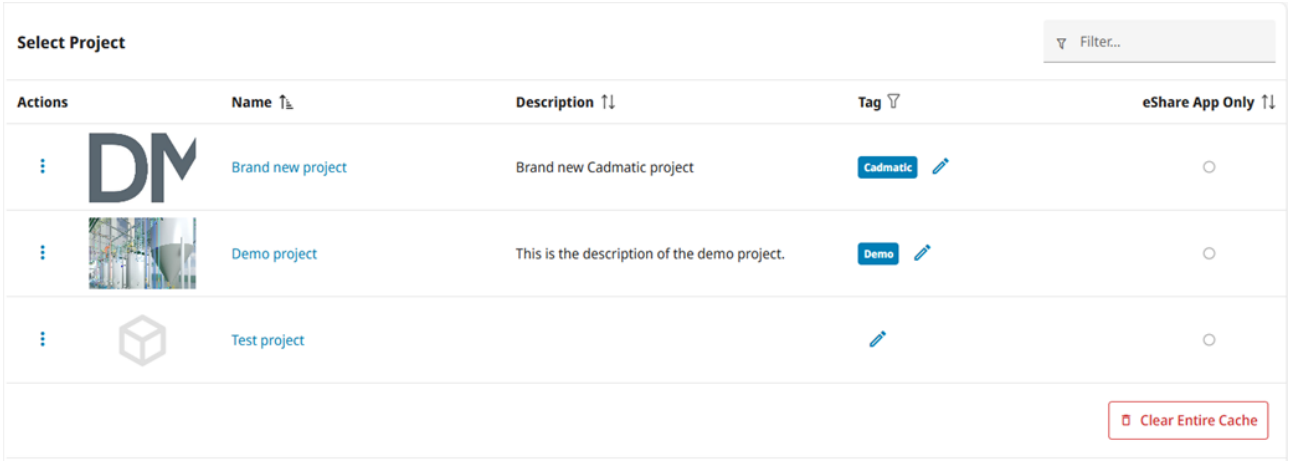
6. Notifications

To view notifications, select **Notifications** in the menu.



7. Projects

To open Projects, select **Projects** in the menu.



To open a project, select it from the list.

You can filter the projects using keywords in the **Filter** field or in the **Tag** column using filters. There are two selections in the filtering menu:

- **Includes** – Selection for tags, which the projects must have. It will include all the projects that have all of the selected tags. For example, selecting tags *one* and *two* means that projects which have both of these tags will be shown, so for example *one, two* or *one, two, three* will be visible, but *one, three* will not.
- **Excludes** – Selection for tags, which the project cannot have. It will exclude all the projects that have any of the selected tags. For example, selecting tags *one* and *two* means that it will not show projects that have either of these tags. So for example projects with tags *one, three* or *two*, or *one, two*, will not be visible.

The filters can then be either cleared or applied from the footer of the filter menu. These filters are saved locally.

If you have administrator rights, you can add or remove project tags by selecting the edit button .

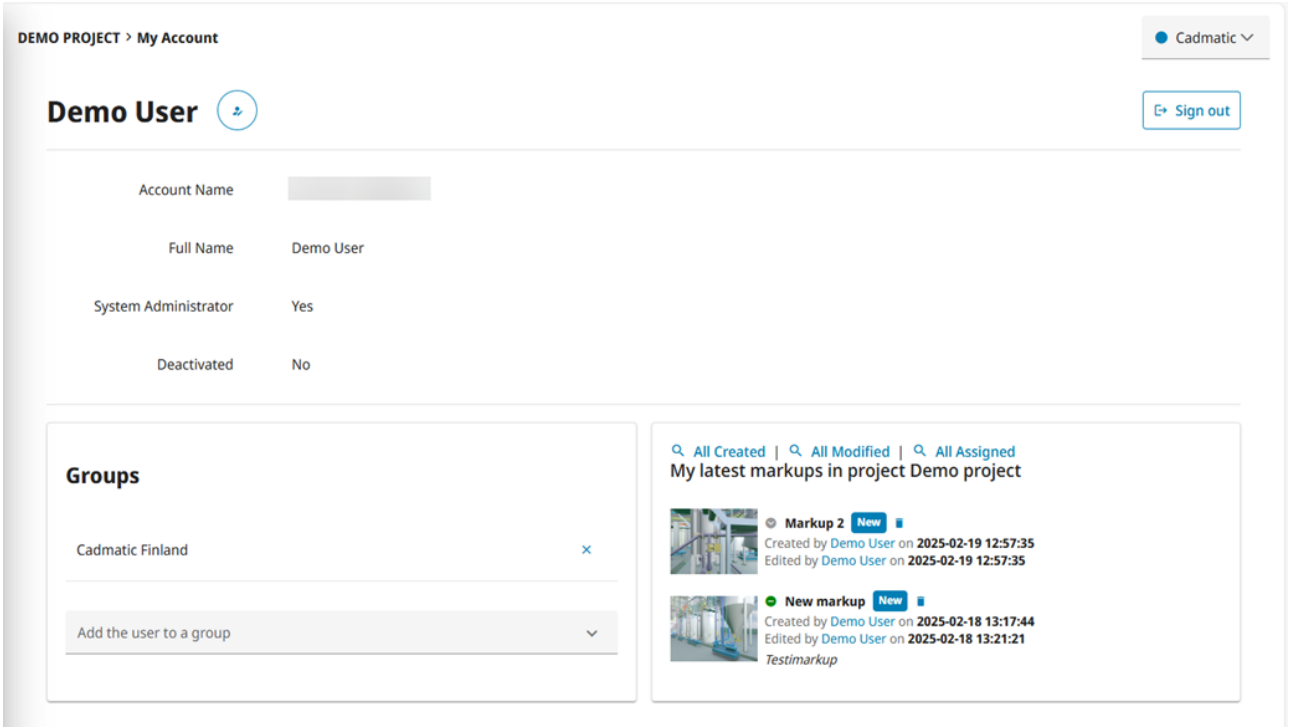
To clear the model cache for a project, in **Actions** column select the More button , and select **Clear Model Cache**.

To clear entire local cache, select **Clear Entire Cache** in the bottom right. A confirmation dialog opens and if you confirm, all locally cached eShare files will be removed, and the page will reload.

Make sure that nothing is using the local file system when the entire cache is cleared, for example, that there is not a project loading. Failing to do so will result in a partially cleared cache, and the operation will need to be performed again.

8. My account

To view user account information, select user name in the menu.



You can change the color theme of the user interface from the top right corner.

9. eShare App

CADMATIC eShare App is a 64-bit Windows application that can be installed on an eShare client computer and connected to the required eShare server.

The advantages of using eShare via the application instead of a web browser include support for very large 3D models and improved 3D visualization.

The computers where eShare App is to be installed must run a 64-bit Microsoft Windows operating system.

eShare App does not support JavaScript based integration.

These topics provide information on using eShare App.

9.1. Installing the eShare App

Note: The *eShareApp.msi* installer contains all the needed dependencies for running the eShare App, including Microsoft .NET 5.0 Runtime and Microsoft Edge WebView2. If you have these already installed, see Installing the eShare App without dependencies

Perform the following to install eShare App on your computer.

Do the following:

1. Open eShare normally with a web browser, and click "Get eShare App" at the bottom of the front page. The *eShareApp.msi* installer is downloaded to your computer.

2. Launch *eShareApp.msi* and follow the instructions of the wizard to complete the installation.

   Note: If you want to install eShare App for all users of this computer, open a command prompt window with the "Run as administrator" option, and launch *eShareApp.msi* from the command prompt window.

9.1.1. Installing the eShare App without dependencies

Perform the following to install eShare App without the dependencies on your computer.

Do the following:

1. Download the *eShareApp_NoDeps.msi* installer from *<eShare address>/files/eShareApp_NoDeps.msi*.
2. Launch *eShareApp_NoDeps.msi* and follow the instructions of the wizard to complete the installation.

Note: If you want to install eShare App for all users of this computer, open a command prompt window with the "Run as administrator" option, and launch *eShareApp_NoDeps.msi* from the command prompt window.

9.2. Opening the eShare App

You can open eShare App from the Start menu of Microsoft Windows.

- Select **Start > CADMATIC > eShare App**.

  The application automatically connects to the eShare server that you used the last time.

  Or, if opening eShare App for the first time, the configuration dialog opens for defining the server(s) to connect to, as described in Configuring the eShare App. After configuring the eShare server(s), the application automatically connects to the first server on the list of configured servers.

You can also open eShare App from a hyperlink in a third-party application, using the eShare redirector.

- Use the proprietary *eshareapp* protocol in the URL when you open eShare from an application that is not a web browser, such as Microsoft Excel. For example, if eShare server is running at *https://eshare:81/*, you can open it with *eshareapp:https://eshare/*. The protocol supports two URL formats:
  - *eshareapp:https://eshare**/r?/**p/…*—use this format in links embedded to Excel files where the pound sign # cuts the link. eShare redirector replaces *r?* with # when opening the link.
  - *eshareapp:https://eshare**/#/**p/…*—use this format in other applications.
- In a web browser, use the normal URL to access the eShare server, but replace # in the URL with *r?* (r followed by a question mark). This opens 32-bit projects in web browser and 64-bit

projects in eShare App.

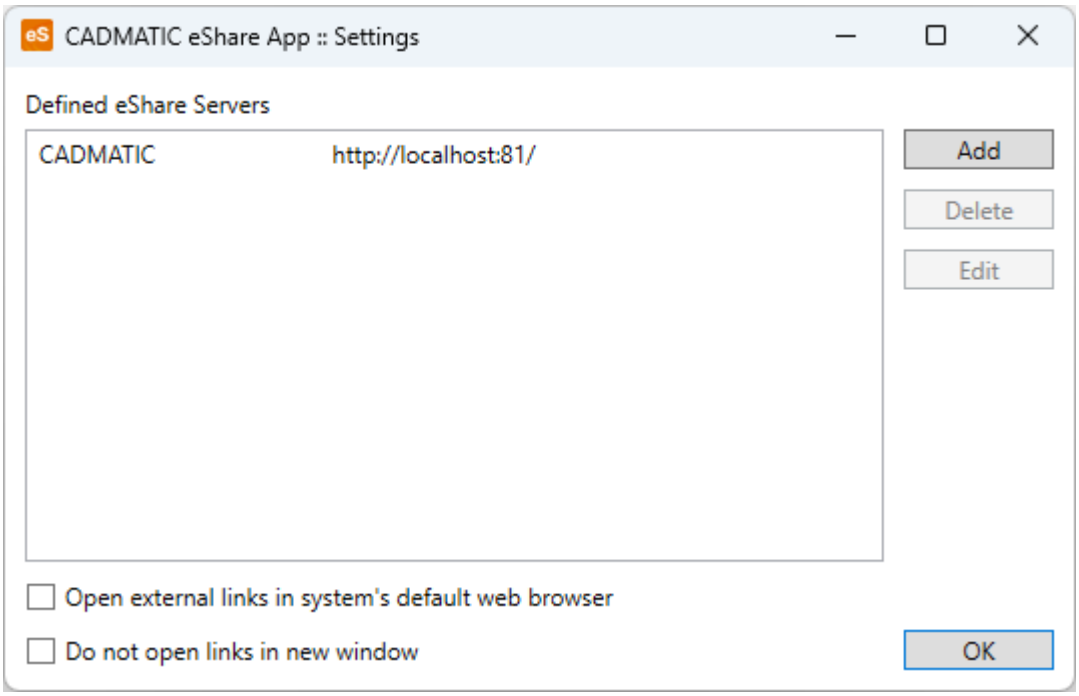
For example, if the URL of a specific view starts with *https://eshare/#/p/…*, you can open it with *https://eshare/r?/p/…*.

Related topics

URL parameters

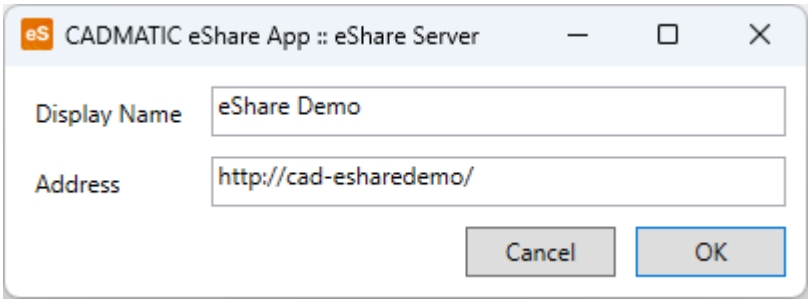
9.3. Configuring the eShare App

The settings button ⚙ opens the **CADMATIC eShare App Settings** dialog where you can define the eShare server or servers that you want to use.



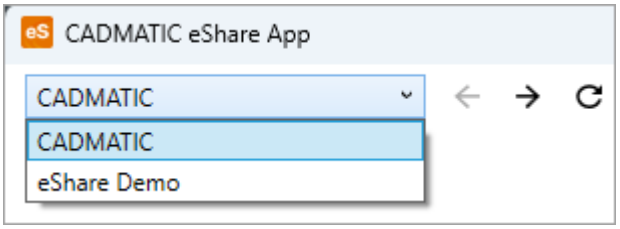
- To add a server to the list, click **Add**, and then define the name to display and the server address.

  Both the names and the addresses must be unique. The address must start with *http://* or *https://*, and port must be defined if it is not the default port.
- To edit an existing server name or address, select the server from the list and click **Edit**.



- **Open external links in system's default web browser** – If selected, the external hyperlinks are opened in the system's default browser. If disabled, the hyperlinks are opened in Details window.
- **Do not open links in new window** – If selected, all links are opened in the current window.

When you close the settings, the configured eShare servers are listed in the server drop-down menu of the application.

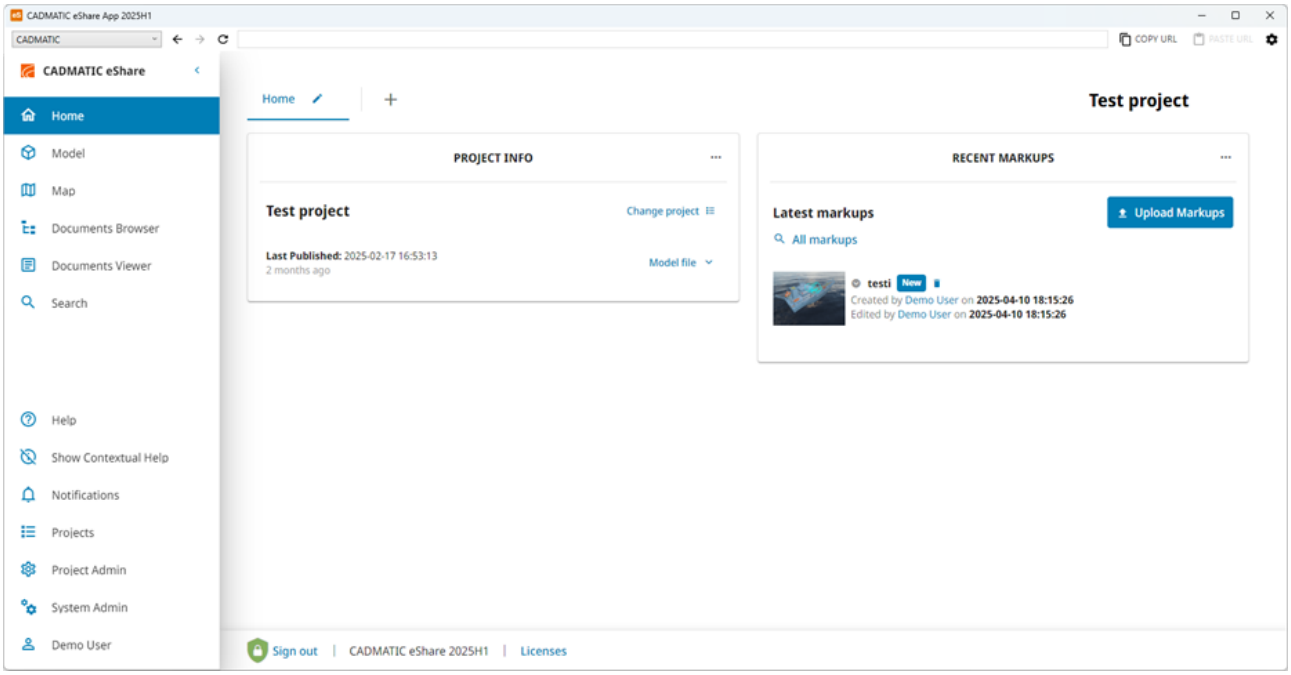


9.4. Using the eShare App

The eShare App application shows eShare data in the same way as when eShare is used via a web browser. Starting the application automatically connects it to the last used eShare server.

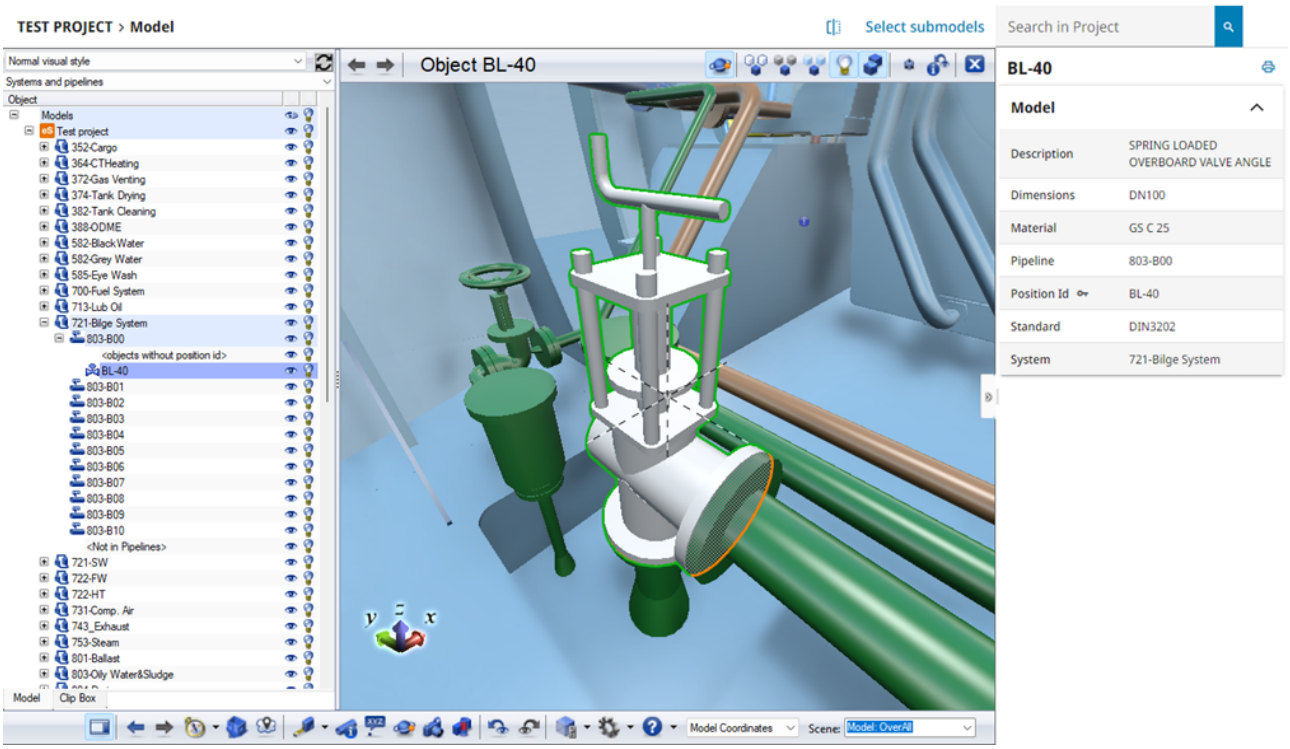
In the application toolbar you can perform the following:

- You can connect the application to a server defined in the application settings by selecting the server from the drop-down menu. CADMATIC
- You can move to previous or next page by clicking the arrow buttons. ← →
- You can reload the current page by clicking the reload button. ↻
- You can copy or paste a server URL. COPY URL PASTE URL
- You can define the list of eShare servers to use by clicking the settings button. ⚙
- You can run collision checks in the 3D view. See Collision checking.
- You can open point clouds, if available in the project. See Point clouds.



9.4.1. Model viewer

The 3D model viewer of CADMATIC eShare App is a design review and collaboration tool for construction and revamping projects in plant and marine industries. You can use it to open the 3D model of a complex design such as a power plant or passenger ship, and then move around anywhere in the model, inspecting the individual objects, checking dimensions between entities, and adding markups to comment on the design.



9.4.1.1. Sidebar and tabs

The sidebar of the model viewer displays tabs that you can use for example to define object visibility and create markups.

In **Settings > Other Options** you can define whether the sidebar is on the left side or the right side of the 3D view. See Other options.

You can temporarily hide the sidebar to allow more space for the 3D view by clicking the Hide sidebar / Show sidebar  toolbar button.

You can control the visibility of the sidebar by adding the parameter **treeVisibility** to the eShare URL and setting it to either "show" or "hide". This example URL hides the sidebar but shows the properties pane:

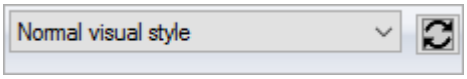
*https://<domain>:<port>/#/p/<project id>/model?**treeVisibility=hide**&attributePaneVisibility=show*

For more information on URL parameters, see URL parameters.

9.4.1.1.1. Model tab

The **Model** tab allows you to navigate to specific parts of the model and to select what the 3D view shows, using two drop-down menus and a hierarchical tree.

- **Visual Style Menu** – Use the visual style drop-down menu to highlight objects in the 3D view using a color scheme that an eShare administrator has defined. For example, objects can be colorized according to their installation status. You can click the refresh button to reload the currently selected visual style, and refresh the selection of available visual styles.



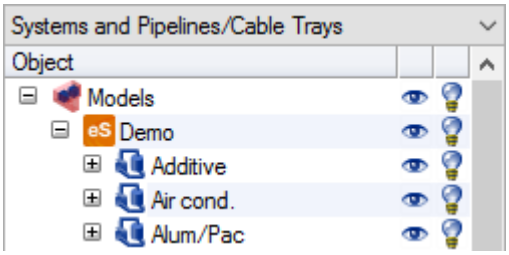
Note: You can select whether the color legend at the bottom of the 3D view lists all categories in the selected visual style or just those that currently visible objects are using—see Visual styles in legend. You can hide or show the legend using the arrow on the right side of the legend.

  If there are 4D sequences configured for the project, these sequences can be selected from the visual style drop-down menu. The sequences can be identified from the *4D* tag in the name. See Viewing 4D sequences.

- **Hierarchy Menu** – Use the hierarchy drop-down menu to arrange the model tree using a hierarchy that an eShare administrator has defined.

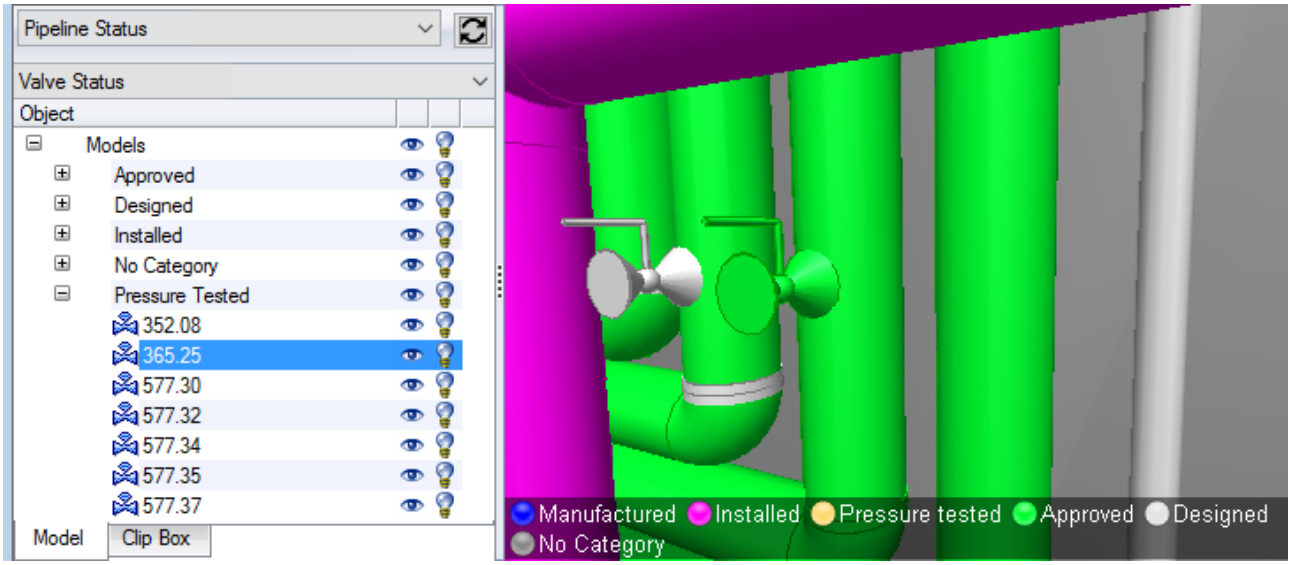
  You can refresh the selection of available hierarchies using the refresh button next to the visual style menu. If dynamic hierarchies are used, the currently selected hierarchy will be refreshed to show any recent changes.

- **Model Tree** – The model tree lists the objects of the model as a hierarchical entity tree; the displayed hierarchy is defined by the hierarchy menu.



In the example below, visual style is set to Pipeline Status and hierarchy is set to Valve Status. As a result, the model tree allows the user to easily navigate to a valve that has been pressure tested,

and when looking at that valve in the 3D view, the visual style in use allows the user to easily see that the related pipeline has been approved.



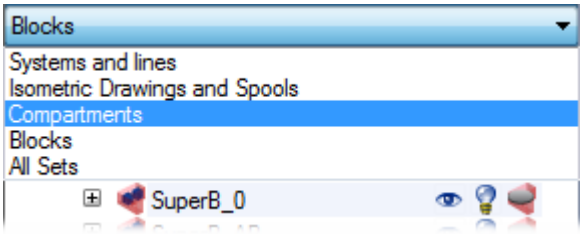
9.4.1.1.1.1. Model tree

In the model tree you can do the following:

- Select one or more objects or object groups, as described in Selecting objects and changing their visibility.
- Right-click the selection and select a command from the context menu to perform some action on the specified entities. Some of these commands are also available from the context menu of the 3D view. See Context menu.
- Double-click a single object to examine the object in the 3D view. To examine a group, select the **Examine** command from the context menu.
- Click the eye icon to hide objects, and click the closed eye to show them again.
- *Right-click* the eye to enable x-ray mode, and click the x-ray icon to disable the x-ray mode.
- Click the light bulb to turn highlighting of objects on, and click to turn it off.
- Click to show the containment areas of blocks, compartments, or 3D spaces. Click to hide containment areas.
- Right-click a point cloud to open it in a bubble view.

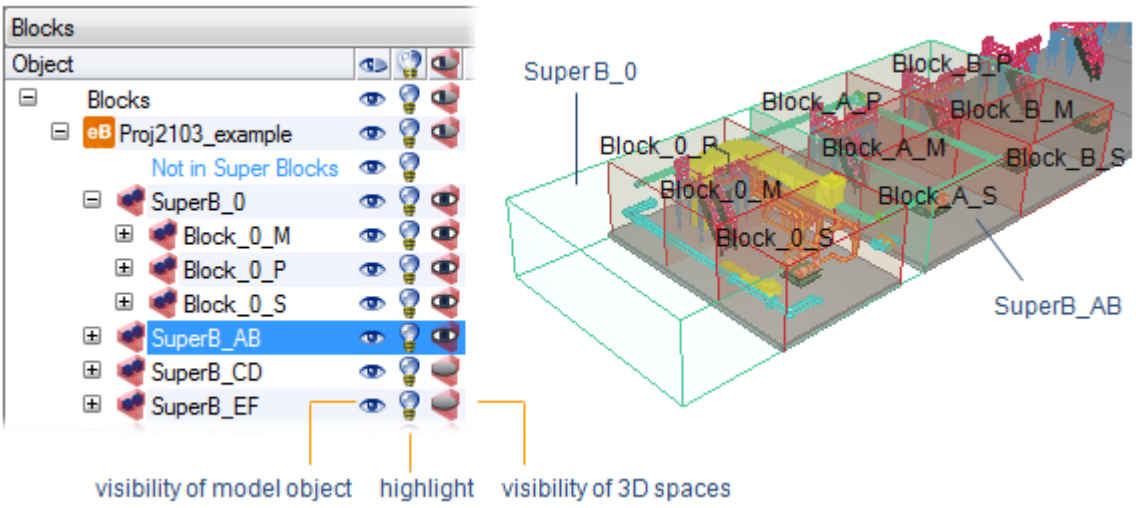
9.4.1.1.1.2. Containment hierarchies

The hierarchy menu of the **Model** tab can list containment hierarchies such as Compartments and Blocks that you can select to review the model one containment area at a time.



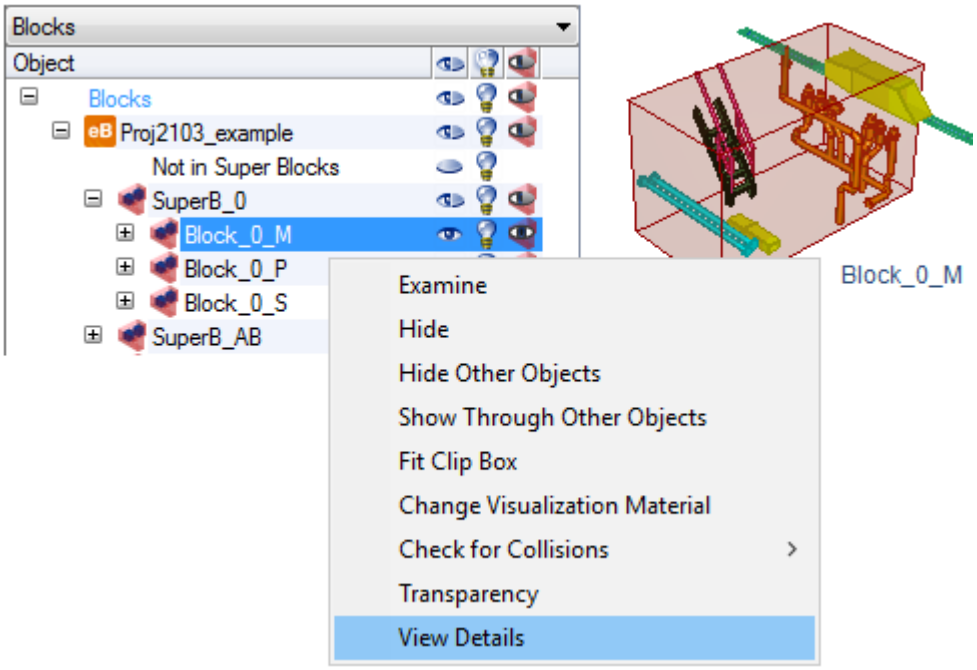
A containment consists of the 3D space object that defines the geometrical volume of the containment area and the model objects that belong to the containment. In CADMATIC Plant Modeller, the available containment hierarchies are defined in the Default.xcf file.

In the picture below, we see the containment hierarchy **Blocks**. In the object tree, the super block *SuperB_0* has been expanded to show that it contains three blocks: *Block_0_M*, *Block_0_P*, and *Block_0_S*. In the 3D view, we see this super block as well as super block *SuperB_AB* which contains six other blocks.



The visibility of a 3D space and the model objects it contains can be controlled using the visibility icons in the model tree.

You can perform various actions on a containment from the right-click menu. For example, you can view the properties of the space object by selecting **View Details** from the right-click menu.



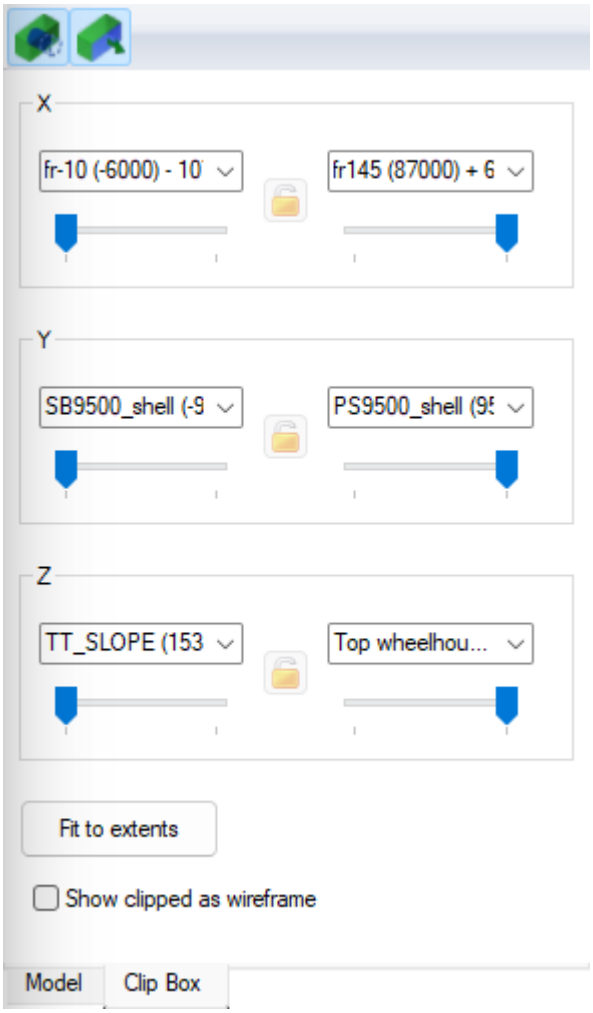
9.4.1.1.2. Clip box tab

The **Clip Box** tab allows you to resize the visible area of the model so that you can easily review all the objects inside a specific block or compartment.

You can clip the model using the sides of the clip box parallel to the model's main planes (normal to main axis X, Y, and Z). If the boundaries of the clip box intersect with an object, you will not see those parts of the object that are outside the clip box.

You can store the currently visible clip box by creating a new scene. When you return to the scene, it shows the clip box. See Scene.

In **Settings > Visualization** you can select whether clipped objects should be visualized as solid or hollow—see Visualization.



On the **Clip Box** tab you can perform the following.

- – Click the **Enable Clip Box** button to enable or disable the clip box. When enabled, you only see the area defined by the clip box. When disabled, you see the complete model.
- – When the clip box is enabled, click the **Enable Control Box** button to enable or disable the control box that allows you to resize the clip box by dragging the clipping planes in the 3D view.

  You should only enable the control box when you want to adjust the clipped view, because some other functions of the 3D view such as measuring might not be available or function as expected while the control box is enabled. See Adjusting the clip box with the control box.

- **X, Y, Z** – Use the X, Y, Z settings to specify the size of the clip box. You can relocate a clipping plane in all three directions (normal to axis) in several ways, as described in Adjusting the size

of the clip box. The distance between the planes in a given direction can be locked by clicking the lock button between the sliders, so that adjusting one slider automatically adjusts the other one as well.

- **Fit to extents** – Click the **Fit to extents** button to set the clip box to the size of the bounding box of the model.
- **Show clipped as wireframe** – When enabled, the objects outside the clip box will be shown as wireframe.

In addition to defining the clip box on the **Clip Box** tab, you can enable the clip box as described in Other ways to set the clip box.

9.4.1.1.2.1. Adjusting the size of the clip box

There are a number of ways in which you can adjust the clip box by moving an individual clipping plane to a different location:

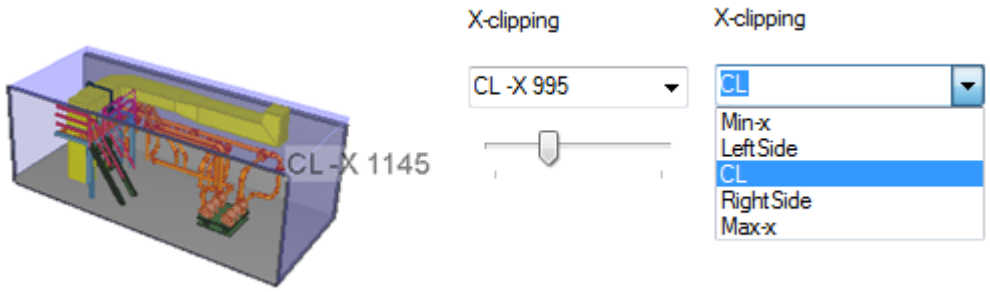
When the **Enable Clip Box** button  is enabled, drag the appropriate slider on the **Clip Box** tab, as described in Adjusting the clip box with the control box.

When the **Enable Control Box** button  is enabled, drag the appropriate clipping plane with the *right* mouse button pressed down, as described in Adjusting the clip box with the control box.

Select a predefined plane from a drop-down menu on the **Clip Box** tab.

Write the distance into the edit field using Cartesian coordinates or type the position using named planes. For example, **CL –X 995** means that the clipping plane is 995 mm from the CL plane in –X direction (CL plane and –X direction are defined in Plant Modeller's coordinate reference).

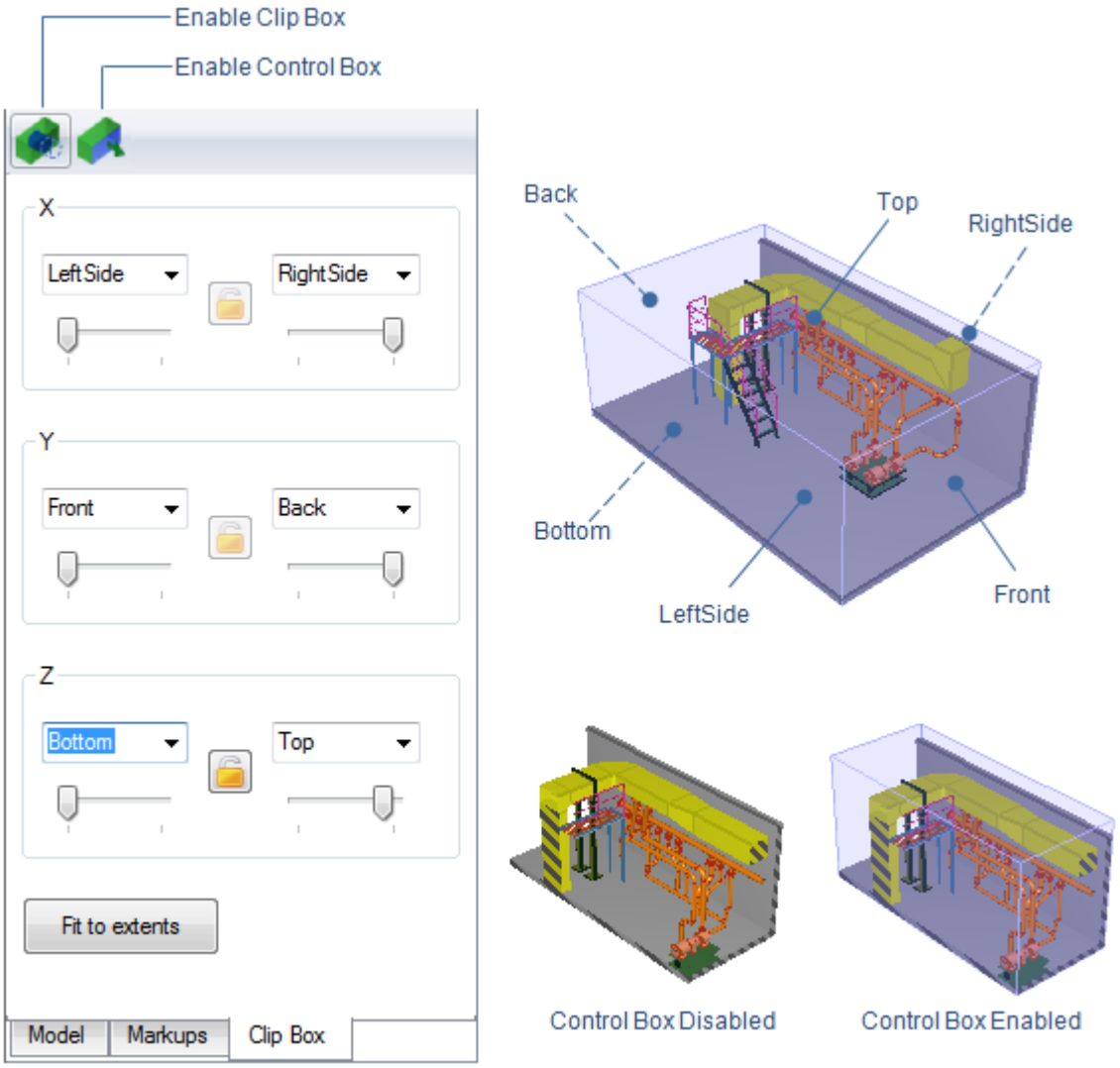
Note: Named coordinates are supported only if the model has been published with Plant Modeller version 6.0 or newer.



Note: Only the planes that are inside the model's bounding box are shown in the drop-down menus.

9.4.1.1.2.2. Adjusting the clip box with the control box

The Control Box function visualizes the clipping planes in the 3D view. Move the cursor in the 3D view to highlight the clipping plane that you want to adjust, and then press down the *right* mouse button and drag the highlighted side of the box to adjust its location. When sides are dragged, they snap to named planes exported from Plant Modeller's coordinate system (if present).



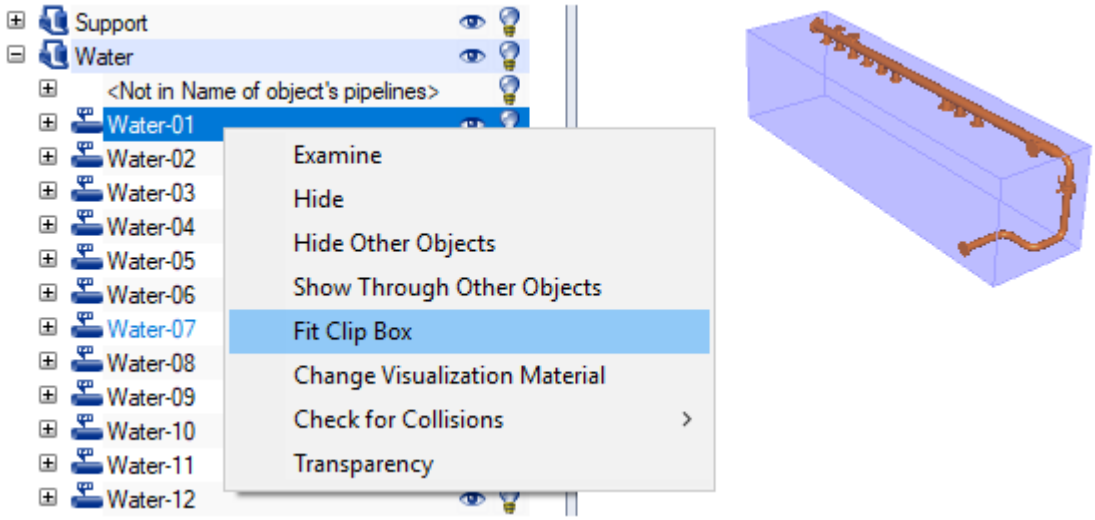
9.4.1.1.2.3. Other ways to set the clip box

- Enabling clip box from the model tree
- Enabling clip box from the 3D view
- Enabling clip box in examine mode

9.4.2. Enabling clip box from the model tree

On the **Model** tab, you can right-click an entity in the model tree and select to fit the clip box to the specified object or object hierarchy such as pipeline, system, or cable tray. The sidebar automatically switches to the **Clip Box** tab.

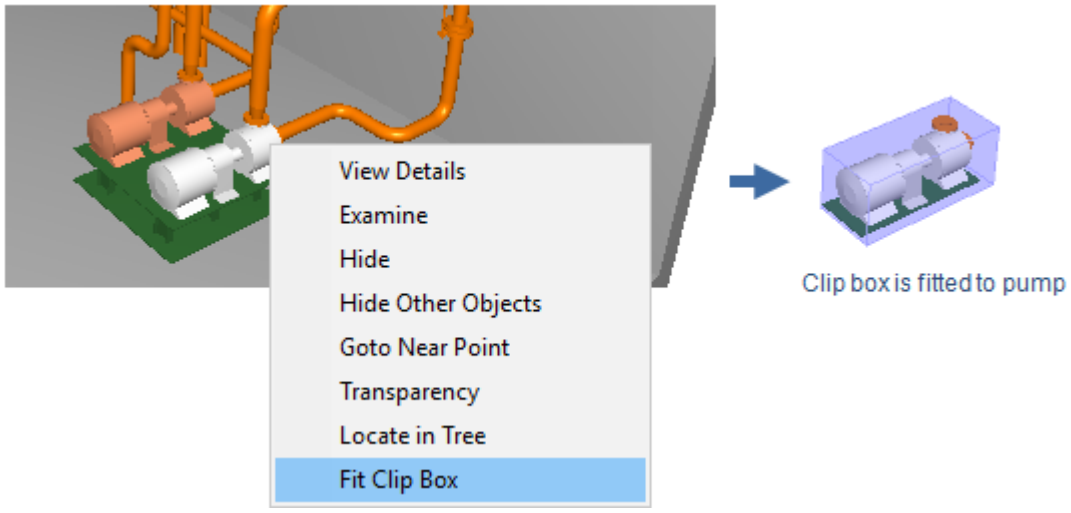
In the picture below, the clip box is fitted to pipeline Water-01 and all other objects are hidden so that the 3D view only shows the pipeline.



Use the **Clip Box** tab to disable the clip box.

9.4.3. Enabling clip box from the 3D view

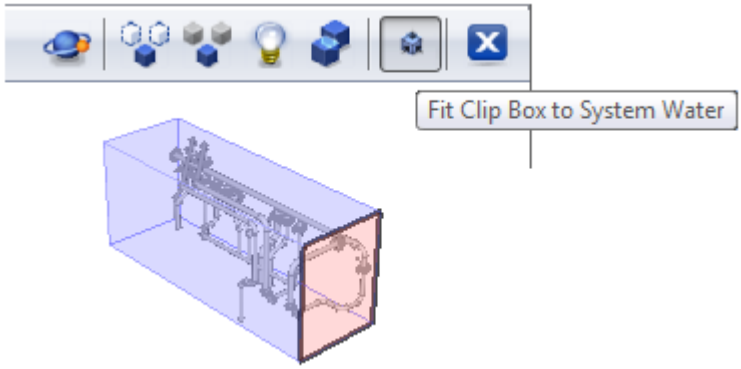
In the 3D view, you can right-click an object and select to fit the clip box to it.



Use the **Clip Box** tab to disable the clip box.

9.4.4. Enabling clip box in examine mode

When you are examining an object, you can click the fit button of the Examine toolbar to fit the clip box to the examined object.



Click the fit button again to remove the clip box.

9.4.4.1. Main toolbar

This section describes the commands that are available in the main toolbar below the 3D view.

9.4.4.1.1. Hide or show sidebar

The "Hide toolbar" / "Show sidebar" toolbar button toggles the visibility of the sidebar of the 3D viewer.

You can use this to temporarily hide the tabs so that there is more space for the 3D view.

When the sidebar is visible, you can adjust its width by dragging its right edge.

9.4.4.1.2. Move back or forward in navigation sequence

When you are navigating in the 3D model, the Back and Forward toolbar buttons allow you to revisit the viewing locations where you were standing still.

9.4.4.1.3. Navigation menu

The Navigation Menu toolbar button opens a menu that contains commands for navigating in the model. For example, if you are not sure which way you are currently looking, you can restore the horizontal alignment or jump to an isometric view of the model.

9.4.4.1.3.1. Restore horizontal (H)

Aligns the view with the horizon.

9.4.4.1.3.2. Turn to look down (Shift + Z)

Turns the view directly downward.

9.4.4.1.3.3. Turn to look up (Z)

Turns the view directly upward.

9.4.4.1.3.4. Turn to look X+ (X)

Turns the view to point to the positive direction of the X axis.

9.4.4.1.3.5. Turn to look X- (Shift + X)

Turns the view to point to the negative direction of the X axis.

9.4.4.1.3.6. Turn to look Y+ (Y)

Turns the view to point to the positive direction of the Y axis.

9.4.4.1.3.7. Turn to look Y- (Shift + Y)

Turns the view to point to the negative direction of the Y axis.

9.4.4.1.3.8. Top view (Shift + 1)

View the model from the top.

9.4.4.1.3.9. Bottom view (Shift + 2)

View the model from the bottom.

9.4.4.1.3.10. Right view (Fore) (Shift + 3)

View the model from the right.

9.4.4.1.3.11. Left view (Aft) (Shift + 4)

View the model from the left.

9.4.4.1.3.12. Front view (SB) (Shift + 5)

View the model from the front.

9.4.4.1.3.13. Back view (PS) (Shift + 6)

View the model from the back.

9.4.4.1.3.14. Isometric view (Shift + 7)

View the model from isometric direction.

9.4.4.1.3.15. Perspective projection

View the model using the traditional projection way.

9.4.4.1.3.16. Orthographic projection

View the model using orthographic projection. Orthographic projection preserves distances in the view and objects further away are not rendered smaller than objects which are closer as in perspective projection. Navigation in orthographic view does not support the traditional left mouse button flying but all other navigation commands are available. Markups are not supported in orthographic view.

9.4.4.1.3.17. Zoom to area

Zoom to a specific area in the model. To define the area, hold down the left mouse button and drag the rectangle to the required size.

Related topics

Navigation and shortcut keys

9.4.4.1.4. Flip model upside down

The Flip model upside down toolbar button toggles the 3D view upside down and back to normal.

9.4.4.1.5. Enter nearest bubble view

When the project contains point clouds, in eShare App you can select the "Enter nearest bubble view" toolbar button to navigate to the nearest scanning location and open the associated bubble view. (Not available in standard eShare.)

Related topics

Bubble view mode

9.4.4.1.6. Measure

The Measure button in the main toolbar and the Markup editor toolbar activates or deactivates the measuring tool. You can use this tool to measure the distance between two points, the distance and angle between two lines, or the length and angle of a single line.

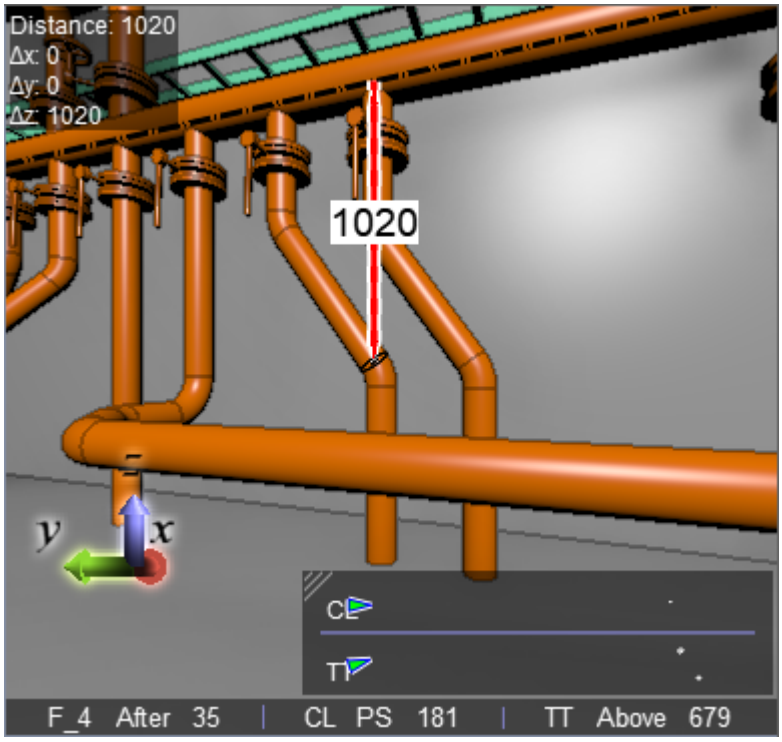
9.4.4.1.6.1. Using the measure tool

Do the following:

1. In the toolbar, select **Measure** to activate the measuring tool.
2. Enable or disable measuring options as needed. See Measure Tool Options.
3. Right-click the location from which to start measuring. This can be any point or line in the 3D model; if relevant snapping options are enabled, you can first snap the cursor for example to a connection point (node point) to start the measuring from there.

   The top-left corner of the 3D view displays the straight distance from the starting point to the current cursor location, as well as the traveled distance in X, Y and Z direction. The straight distance is also shown next to the measurement line.

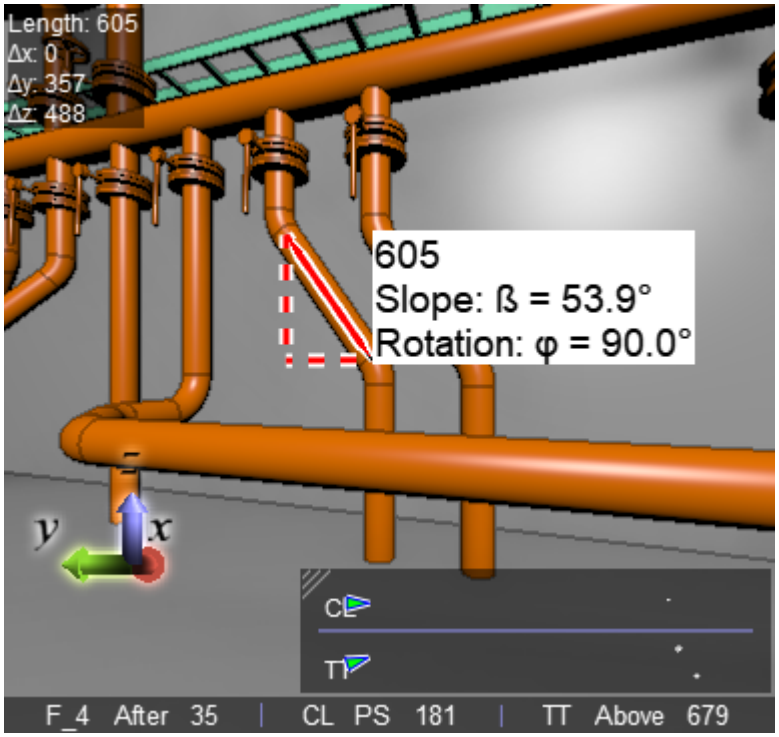
   In this example, a pipe connection point is 1020 mm from the centerline of another pipe.



4. Right-click the target location, which again can be any point or line in the model. The measurement information is shown next to the measurement line, and it stays on the screen until you start a new measurement or deactivate the measuring tool.

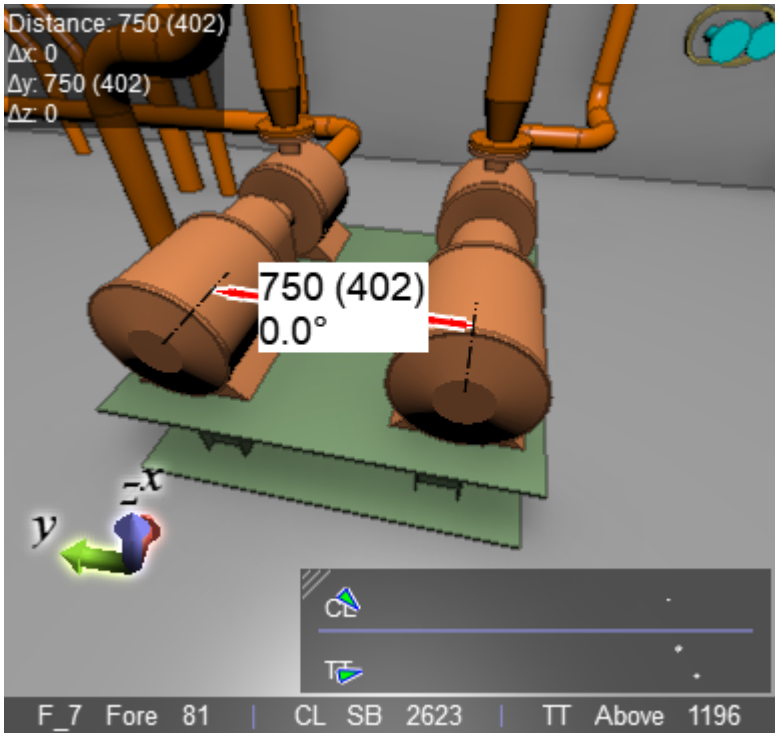
   If you selected a single line (such as a pipe centerline) as both the starting point and the end point, the tool displays the length of the line. If the **Show Angle for Lines** option is enabled, it also shows angle information for that line.

   In this example, the slope angle between the pipe and the XY-plane is 53.9°, and the pipe is rotated from the X-axis by 90°.



If you measured the distance between two pipes or cylinders, the tool displays the distance between their centerlines. If the **Distance to Pipe Surface** option enables measuring of free distance, the tool also shows the amount of free space between the two objects in parenthesis.

In this example, the distance between the centerlines is 750 mm, and the free distance between the objects is 402 mm.

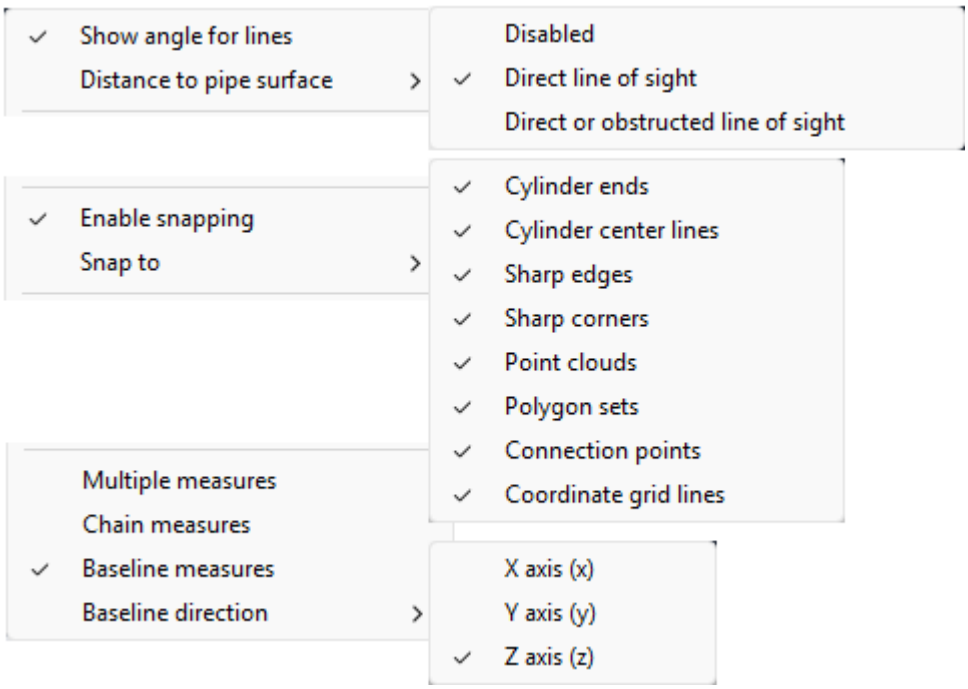


5. Do another measurement, or select **Measure** to deactivate the measuring tool.

Note: The **Take Snapshot Image** tool does not include measurement information in the snapshot image.

9.4.4.1.6.2. Measure tool options

Use the menu of the **Measure** button to specify measuring options. You can toggle these options anytime—also during measuring.



- Show angle for lines — If selected, the measuring tool shows angle information. This can be the angle between two lines or the angle of a single line in reference to the XY-plane.
    - "Slope: b" shows the angle between the line and the XY-plane. The value can be between 0° and 90°.
    - "Rotation: F" shows the angle between the line's projection in the XY-plane and the X-axis. The value can be between -90° and 90°, with counter-clockwise rotation as a negative value and clockwise rotation as a positive value. If slope is 90°, rotation is not displayed.
- Distance to pipe surface — Opens a submenu for selecting whether measurements taken from pipe centerline should also show what is the distance from the surface of the pipe.
    - Disabled – Measuring tool does not show free distance from pipe surface.
    - Direct line of sight – Measuring tool shows free distance from pipe surface to the other measurement point in parenthesis, but only if the line of sight is clear from other objects.
    - Direct or obstructed line of sight – Measuring tool shows free distance from pipe surface to the other measurement point in parenthesis, even if the line of sight is obstructed by some other object.

Note: Free distance is not calculated if objects are insulated, or if the measurement point is on a pipe centerline that is projected outside the pipe object.

- **Enable snapping** — If selected, you can choose the entities that the cursor of the measuring tool can snap to.

  Snap to
  - **Cylinder ends**
  - **Cylinder center lines**
  - **Sharp edges**
  - **Sharp corners**
  - **Point clouds**
  - **Polygon sets**
  - **Connection points**
  - **Coordinate grid lines**
- **Multiple measures** — If selected, multiple measures can be selected at the same time.
- **Chain measures** — If selected, a continuous point-to-point measure line can be drawn. Can be used to measure, for example, the diameter of objects.

  Note: Chain measures mode is not available with markups.
- **Baseline measures** — If selected, the first measure point fixes the axis directional plane and the following points calculate the distance to this fixed base plane in axis direction. This mode resembles baseline measuring familiar in drawings. The axis direction of baseline can be changed from Baseline direction or using short cut keys 'x', 'y' and 'z' when measure is active.
- **Baseline direction** — Specifies the used axis direction of baseline measures.
  - **X axis (x)**
  - **Y axis (y)**
  - **Z axis (z)**

  Note: Baseline measures mode is not available with markups.

Related topics

Rectangle, ellipse, cloud

9.4.4.1.7. Piperun properties

The **Piperun Properties** tool allows displaying information on the length, surface area, and inner volume of pipe runs.

Click the **Piperun Properties** button to enable the function, and then use the *right* mouse button to select the first and last part of the pipe run, and the system displays estimated values for that pipe section.

The calculations are based on object geometry and actual object dimensions, using the shortest possible path between the start and end point. eShare can obtain this information from the 3D model if the model has been created using CADMATIC design applications, or if the model contains piping made with the ASME standard. Both types of models require additional configuration, as described below.

Click the **Piperun Properties** button again to disable the function.

9.4.4.1.7.1. Enabling piperun properties in CADMATIC models

If the 3D model has been created with the Plant Modeller module of CADMATIC design applications, you can enable piperun calculations by publishing the following attributes to the model:

- First Diameter, with tag D11.
- Wall Thickness, with tag D21.
- Pipeline, with tag pli.

9.4.4.1.7.2. Enabling piperun properties in ASME standard piping

If the 3D model contains piping made with the ASME standard, you can enable piperun calculations by publishing the following attributes to the model:

- Sch/Thk, describing the schedule of an object.
- NPD, describing the nominal pipe dimension of an object.
- P&ID Line no (or Pipeline), describing the pipeline of an object.

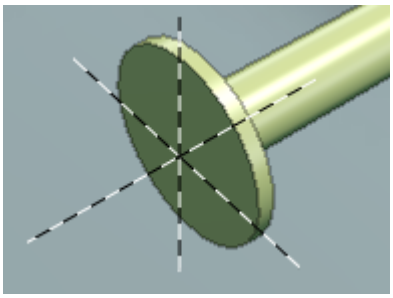
9.4.4.1.8. Show coordinates under cursor

The Show Coordinates Under Cursor toolbar button toggles the displaying of coordinates when the cursor is next to a point it can snap to.

The coordinates are shown in named coordinates, if available, and otherwise in Cartesian coordinates. Named coordinates are available in models that have been published with Plant Modeller version 6.0 or newer.

9.4.4.1.9. Orbit point

The Orbit Point toolbar button allows setting an orbit point by right-clicking the 3D view. A dashed-line marker is displayed at the location of the orbit point, as shown below, and you can rotate the 3D view around this point until you click the Orbit Point button again to exit the orbit mode.



Related topics

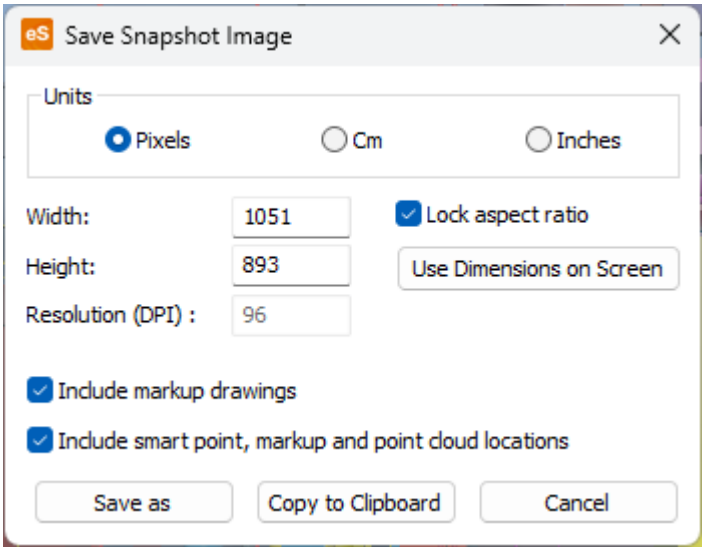
Navigation in orbit mode

9.4.4.1.10. Take snapshot image

The Take Snapshot Image toolbar button opens the Save Snapshot Image dialog where you can take a snapshot image of the currently displayed view.

You can select image size and resolution, and you can select whether to include markup drawings, Smart Point, Markup, and point cloud locations in the image. Markup drawings include measurements and measurement lines in the snapshot image.

After defining the required snapshot settings, you can copy the snapshot image to the clipboard or save it in an image file (BMP, GIF, JPEG, PNG, TIFF).



9.4.4.1.11. Check for collisions

The Check for Collisions toolbar button opens the Check for Collisions dialog where you can run collision tests between specified sets of objects, also between models. For more details, see Performing collision checks.

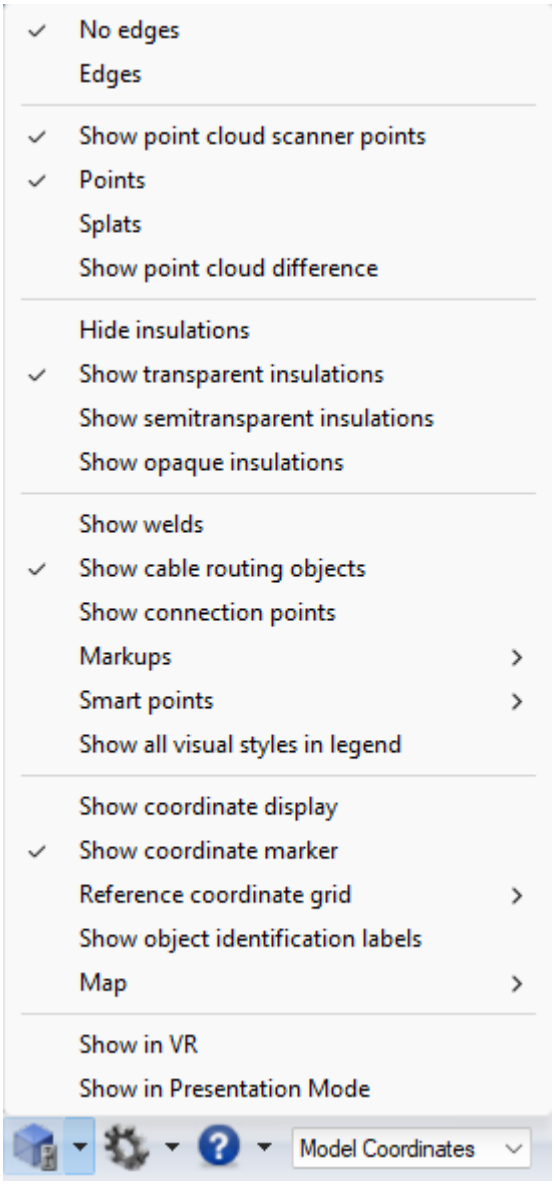
9.4.4.1.12. Undo or redo last visibility change

These toolbar buttons undo or redo recent object visibility changes that you have made using either the model tree or the context menu.

You cannot undo or redo object transparency changes.

9.4.4.1.13. Visualization control

The **Visualization Control** toolbar button opens a menu for configuring the appearance of the 3D view.



9.4.4.1.13.1. Edges

- **No edges** – Objects have no distinct edge lines. This is the fastest visualization mode and recommended for very large models.
- **Edges** – Objects display feature edges (sharp edges and seams, such as welding joints).

9.4.4.1.13.2. Point clouds

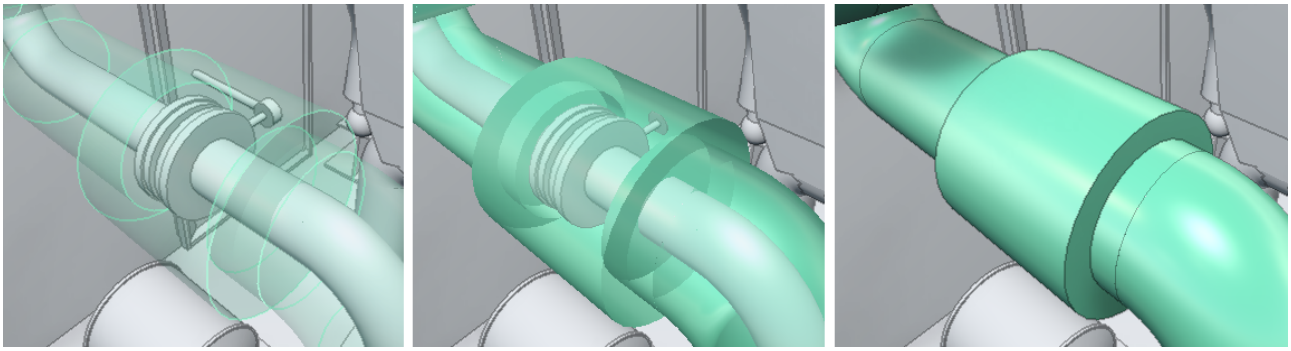
- **Show point cloud scanner points** – If selected, the point cloud scanner points are visible.
- **Points** – Point clouds are visualized using points.
- **Splats** – Point clouds are visualized using splats (slightly larger than points).

- **Show point cloud difference** – Activates difference mode comparing the 3D model and the point cloud in visualization. The tool is not accurate and is only meant for visualization purposes. By default, the parts where the model and the point cloud differ less than the set tolerance value are highlighted with green. The parts found only in the point cloud are highlighted with red, and the parts found only in the 3D model are highlighted with blue. Grey areas are too far away from the camera and cannot be compared by visualization. The tolerance value and colors can be changed in **Settings > Point clouds**. See Point clouds.

9.4.4.1.13.3. Insulations

- **Hide insulations** – Insulations are not visible.
- **Show transparent insulations** – Insulations are transparent. Objects that are inside or behind the insulation are clearly visible.
- **Show semitransparent insulations** – Insulations are semi-transparent. Objects that are inside or behind the insulation are at least partially visible.
- **Show opaque insulations** – Insulations are completely rendered. Objects that are inside or behind the insulation cannot be seen.

In this example, the left image displays transparent insulation, the middle image displays semitransparent insulation, and the right image displays opaque insulation:



9.4.4.1.13.4. Welds

- **Show welds** – If selected, welds are visible.

9.4.4.1.13.5. Cable routing objects

- **Show cable routing objects** – If selected, cable routing objects are visible.

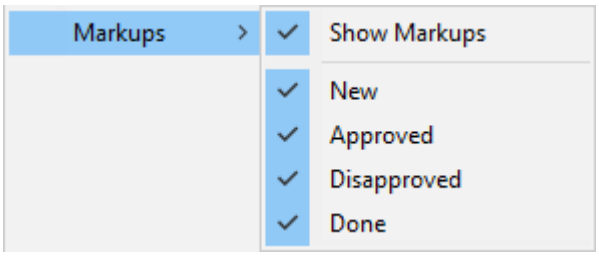
9.4.4.1.13.6. Connection points

- **Show connection points** – If selected and the model contains connection points, the connection points that are near the cursor are visualized. When in Examine Mode only the connection points of the examined object are shown. Moving the cursor over a connection points displays the node number.

  Note: Snapping to connection points can be toggled on or off—see Measure.

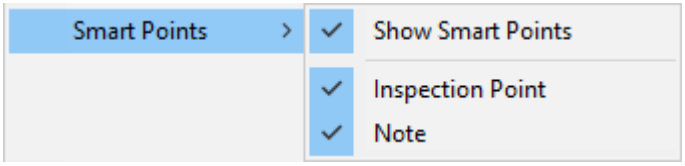
9.4.4.1.13.7. Markups

Select whether to show markups in the 3D view. If they are shown, you can select which statuses to display.



9.4.4.1.13.8. Smart Points

Select whether to show Smart Points in the 3D view and map. If they are shown, you can select which types to display.



9.4.4.1.13.9. Visual styles in legend

- **Show all visual styles in legend** – If selected, the visual styles legend shows all visual styles. If not selected, only the visual styles of visible objects are shown.

9.4.4.1.13.10. Coordinates

- **Show coordinate display** – If selected, the current camera coordinates are displayed at the bottom of the 3D view. By default it shows named coordinates, but if named coordinates are not available, Cartesian coordinates are shown instead.

- **Show coordinate marker** – If selected, a main axis marker is displayed in the bottom-left corner of the 3D view.

- **Reference coordinate grid** – Select whether to show the reference coordinate grid in the model. Coordinate planes must be defined in the model using CADMATIC Plant Modeller. By default you can toggle z plane grid visible by clicking the plane label in 3D view. If the selection in 3D view does not work, in **Grid settings** you can select which planes are visualized by first disabling **Toggle z planes from 3D view** and selecting the planes. This is helpful if the model contains a lot of reference planes and toggling labels from 3D view becomes complicated.

  The color of the grid line can be configured in the Settings menu. See Visualization.

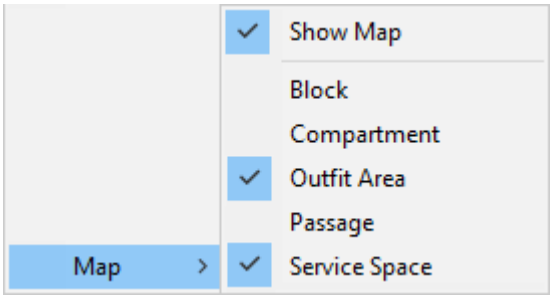
  Measure can be enabled to be used with the coordinate grid in the Measure tool options. See Measure tool options.

- **Show object identification labels** – If selected, the 3D view displays an identification label for the largest objects near the cursor. Pipes display the label along the centerline of the pipe, and other objects display it next to the center point of the bounding box.

  In application settings you can list the attributes that these labels can use. Each label displays the value of the highest-priority attribute (or set of attributes) that can be found from the object in question. See Other options.

9.4.4.1.13.11. Map

You can select whether to show the model's navigation map at the bottom of the 3D view. Depending on the model, there might be a number of different map types that allow you to choose whether to display blocks, compartments, service spaces, and so on.



When the navigation map is displayed, you can click the map to move the camera to the specified location. You can drag the upper-left corner of the map to resize the navigation map.

Smart Points and markups that are at the same floor or deck level as the user and inside the map area are shown in the navigation map.

For more information on maps, see Navigation map.

9.4.4.1.13.12. Show in VR

Show in VR opens the current eShare view in a separate Virtual Reality window. The window only shows the objects that are currently visible in eShare.

Note: VR view is available only in eShare App.

9.4.5. Using the VR view

You can open the eShare application window's view to a Virtual Reality headset (VR glasses) connected to the computer.

Prerequisites

- The Steam client and the SteamVR application by Valve. You can review the system requirements and download the application from the Steam store: https://store.steampowered.com/app/250820/SteamVR/.
- OpenVR headset such as HTC Vive, Oculus Rift, or Windows Mixed Reality.

Do the following:

1. Only the visible objects are displayed in VR. Showing fewer objects can make it easier to navigate and improves the performance—for best performance, send as few objects as possible to VR. Trying to open too many objects in VR at the same time shows a performance warning.

You can limit the number of objects to be shown by hiding the unnecessary objects or by using a clip box in eShare.

2. Navigate to the position from where you want to open the VR view.
3. Select **Visualization Control > Show in VR**. The CadmaticVR window opens and the active 3D objects are converted to the VR format (this can take some time).

Tip: If the VR does not seem to open, start the SteamVR application manually and then click **Show in VR**.

Now you can put on your VR headset.

4. You can use the VR controller to navigate in the model and select objects.

Note: Use the VR menu to switch between teleport mode (default) and normal movement.

Teleportation:

- Step forward by pushing the touchpad forward (shows a parabolic pointer) and then releasing it.
- Step backward by tapping the bottom of the touchpad.
- Rotate camera by pressing the side of the touchpad.

Movement:

- Move to a direction by tapping the touchpad. Move up or down by pressing the touchpad up or down.
- Rotate camera by pressing the side of the touchpad.

Object selection:

- Point the object with the VR controller and press the trigger button.

5. You can use a keyboard and mouse to navigate in the model and select objects.

Teleportation:

- Teleport to an object by right-clicking.

Movement:

- Move horizontally with W–A–S–D or arrow keys.
- Move up by pressing R or Space.
- Move down by pressing F or the left Ctrl key.
- Rotate camera with Q–E or by holding down the middle mouse button while dragging.

Tip: Default movement speed can be adjusted from the VR menu. Hold down the left Shift key to temporarily double your movement speed.

Object selection:

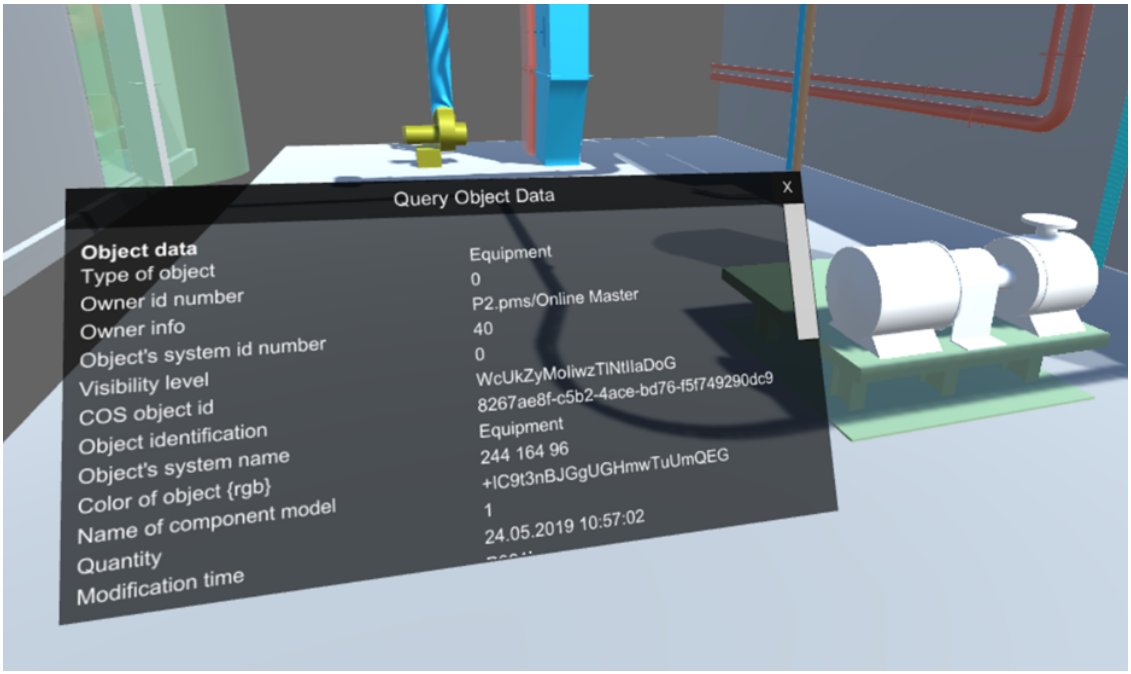
- Point and click with the mouse.

6. You can open the VR menu by pressing the VR controller's menu button or the Tab key.

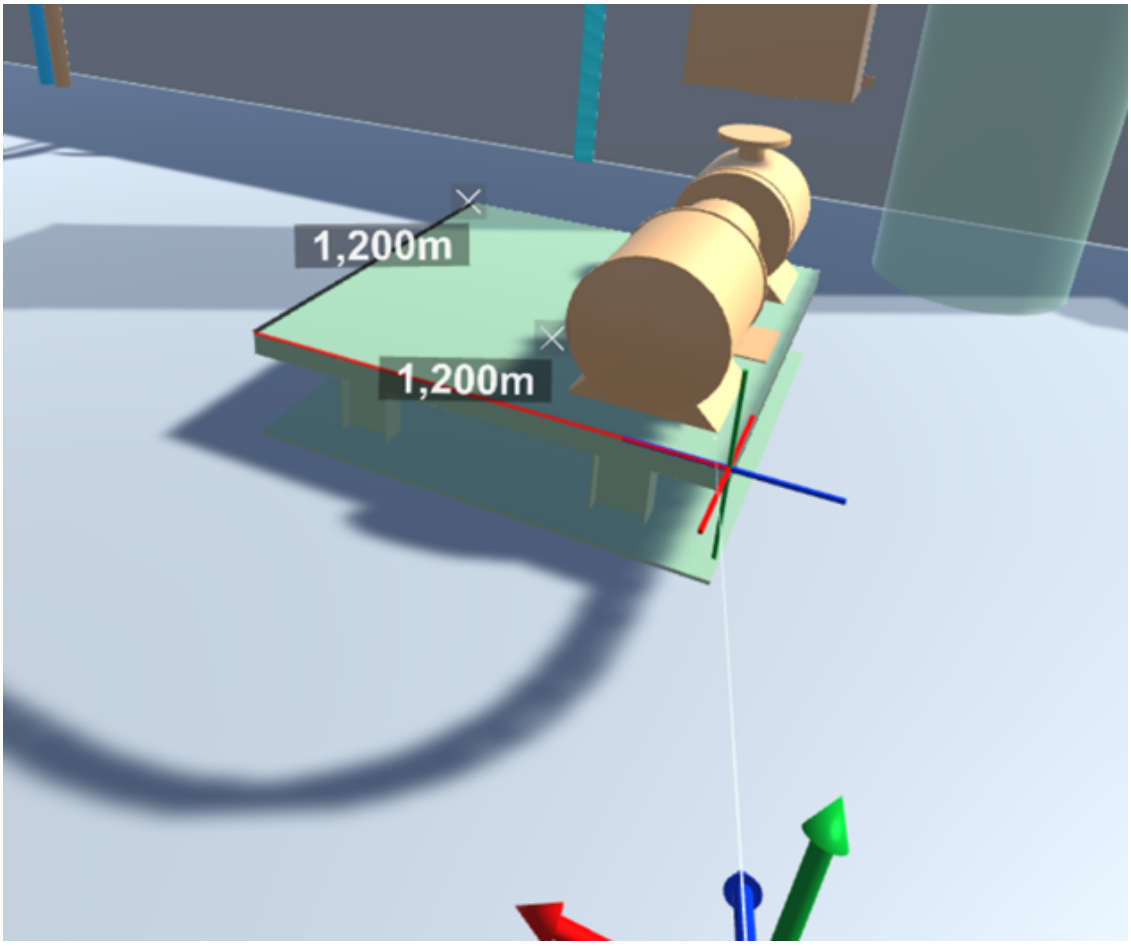
The menu contains the following items:

- **Query Tool** – Allows viewing object data by pointing at an object and clicking. The **Query Object Data** dialog opens, showing the object attributes.

  Note: Not all object attributes are shown in VR.



- Measure – Allows taking measurements from the model by first pointing at an object and then clicking to select the first and the second measurement point.

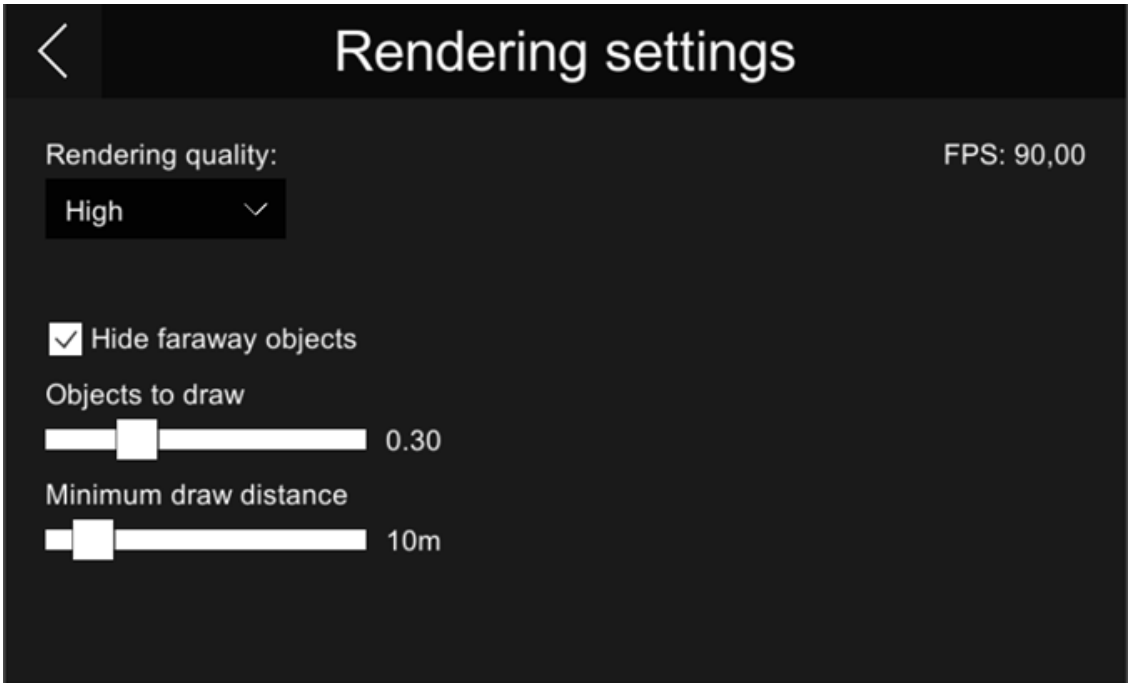


You can specify the following settings:

- **Snap to vertices** – If selected, the measuring tool snaps to vertices.
- **Snap to perpendicular** – If selected, the measuring tool snaps to perpendicular lines.

Click **Clear all measurements** to remove all measurements from the VR view.

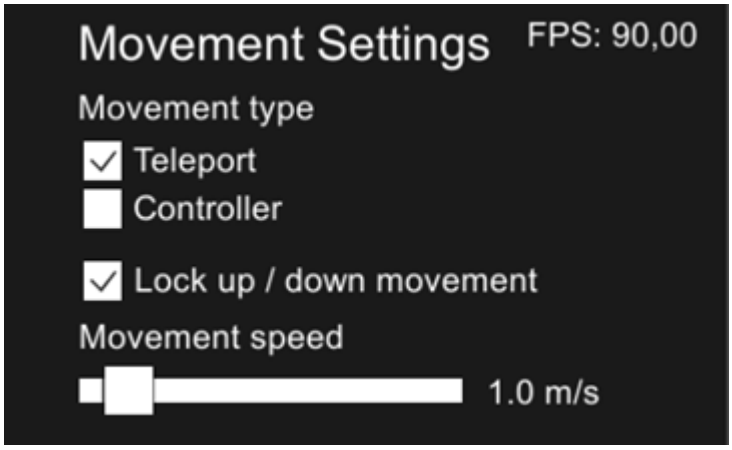
- **Rendering settings** – These settings should be configured so that navigation is smooth at approximately 90 frames-per-second.



- **Rendering quality** – Specify how detailed the VR view should be. Selecting higher rendering quality enables advanced features such as more detailed shadows, but it might decrease the performance.
- **Hide faraway objects** – Hiding objects that are far away might improve the performance.
  - **Objects to draw** – Each model object is drawn using small triangles. This setting specifies the maximum amount of triangles to draw in "Hide faraway objects" mode. You can set the slider to a value between 0.1 – 1.0, where 1.0 means one million triangles.
  - **Minimum draw distance** – Objects that are closer than this value are always drawn, regardless of the "Objects to draw" setting.

- **Key Mappings** – Allows changing the keyboard mappings.
- **Exit VR** – Closes the CadmaticVR window.

Movement Settings



- **Movement type** – Specifies movement type when using the VR controller (does not affect keyboard/mouse).
  - **Teleport** – If selected, using the touchpad teleports the view forward or backward.
  - **Controller** – If selected, using the touchpad moves the view in the specified direction.
- **Lock up / down movement** – Locks the movement to be horizontal only. When disabled, you can move freely in the model.
- **Movement speed** – Specifies movement speed when using the VR controller or the W–A–S–D keys.
- **FPS** – Displays the current frames-per-second count.

7. If you change object visibilities or move to a different camera position in eShare, you can update the open VR view by selecting the **Show in VR** command again.
8. Close the CadmaticVR window by selecting **Exit VR** from the VR menu. You can also press Esc to show the exit dialog.

9.4.5.0.0.1. Show in Presentation Mode

Presentation mode is a visualization mode deploying live-rendered ray tracing. Using it requires meeting certain system requirements. See Presentation Mode.

Note: Presentation mode is available only in eShare App.

Showing/hiding or selecting objects in presentation mode is not supported, so if any parts of the model need to be hidden in the model in presentation mode, this needs to be done in normal visualization before launching presentation mode.

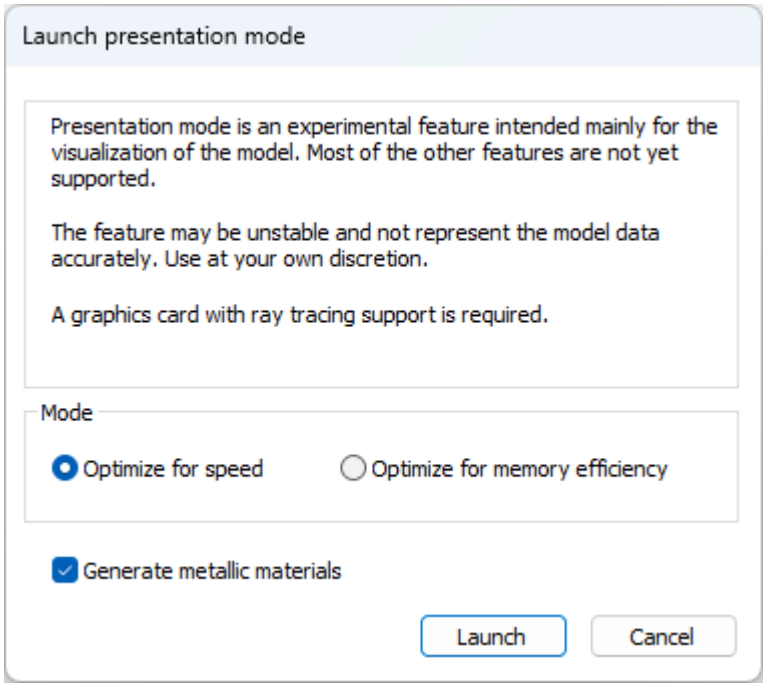
Panning by holding the middle mouse button down or zooming with the mouse wheel do not work.

Many of the user interface features are disabled in presentation mode. The following features work in presentation mode:

- In the sidebar **Clip box tab** is available.
- In the main toolbar:
  - Move back or forward in navigation sequence
  - Navigation menu: all features except projection selection (Perspective projection is used) and Zoom to area
  - **Settings**:
    - **Settings > View/Movement**: only View angle and Moving speed have any effect.
    - **Camera Location**
    - **Update Model** works but reverts back to normal visualization
  - **Scenes**

Do the following:

1. Select **Visualization Control > Show in Presentation Mode**. Launch presentation mode dialog opens.



2. In the Launch presentation mode dialog, specify the following:

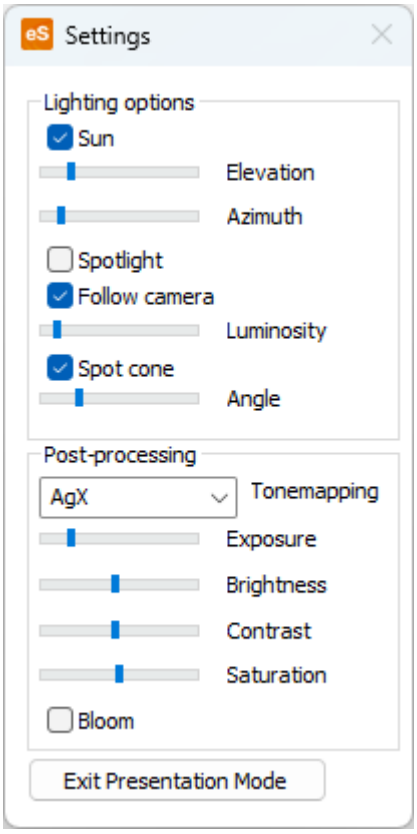
- Select the mode:
  - **Optimize for speed** – The speed mode is the default and recommended choice, because it runs much faster (around 2x the frame rate when compared to the memory efficiency mode), but uses higher amount of VRAM.
  - **Optimize for memory efficiency** – Memory efficiency mode should be used if the user's GPU has a low amount of VRAM and are opening a large model. This mode runs much slower, but it allows opening larger models when limited by VRAM.

Note: The mode selection has no effect on the system RAM usage, only the GPU memory usage.

- **Generate metallic materials** – This setting is used to control if some objects have shiny/mirror-like/metallic material. Some objects like cylinders, toruses, cones, and spheres are given metallic materials and the saturation of the original color controls the shininess. This means that the objects with metallic materials and the level of shininess may vary.

3. Select **Launch**. The dialog closes and the current model will start loading in presentation mode. The loading status is shown in a separate dialog. If all of the system requirements are not met, the loading will stop and display an error message. If the application runs out of GPU VRAM, first a warning is given, and then an error message if loading the model fails due to VRAM being full.
4. The presentation mode opens with a floating **Settings** dialog.

The **Settings** dialog has the following options specific to presentation mode:



- Lighting
  - Sun – If enabled, the direct light from the sun is visible.

    Note: Even when sun light is disabled, the atmosphere remains unchanged and provides some illumination that depends on the position of the sun.

  - Elevation – The elevation of the sun, measured from the horizon to the middle of the sun. The range is -10 - 90 degrees. A negative value means the sun is below the horizon.
  - Azimuth – The direction of the sun in xy-plane, where 0 is in direction of positive y-axis. The range is 0 - 360 degrees.
  - Spotlight – If enabled, a secondary light source is used.
  - Follow camera – If enabled, the spotlight is attached to the camera and moves with the camera. If disabled, the spotlight will remain in the current position when the camera is moved.
  - Luminosity – Controls the brightness of the spotlight. The brightness is exponential.

- **Spot cone** – If enabled, the spotlight illuminates only in a conical direction. If disabled, it acts as a point light radiating in all directions.
- **Angle** – Adjusts the angle of the spot cone (angular diameter). The range is 1 - 180 degrees.

- **Post-processing**
  - **Tonemapping** – Tonemapping here refers to the process of converting the internal rendered image that is in high dynamic range (HDR) into displayable standard dynamic range (SDR) image that is shown on the screen. There are multiple options for different tonemapping methods/algorithms: **None**, **Clip**, **AgX**, **Filmic**, **ACES**, **Neutral**, and **Khronos PBR**.
  - **Exposure** – Adjusts the overall lightness or darkness of the colors. Primarily affects highlights. Applied before tonemapping.
  - **Brightness** – Alters the overall light level of the colors more evenly across shadows and highlights. Gentler adjustment than exposure. Applied after tonemapping.
  - **Contrast** – Increases or decreases the difference between the dark and light areas. Higher contrast makes the shadows darker and the highlights brighter, and lower contrast makes the view look flatter. Applied after tonemapping.
  - **Saturation** – Controls the intensity of the colors. Increasing saturation makes colors more vivid, and decreasing it moves colors toward gray. Applied after tonemapping.
  - **Bloom** – If enabled, a bloom effect is added to bright highlights.

5. Select **Exit Presentation Mode** in Settings dialog to return to normal visualization.

9.4.5.0.1. Settings

The Settings toolbar button opens a menu for accessing the 3D viewer and camera settings, and for updating the 3D model if it has changed on the disk after loading it into the 3D viewer.

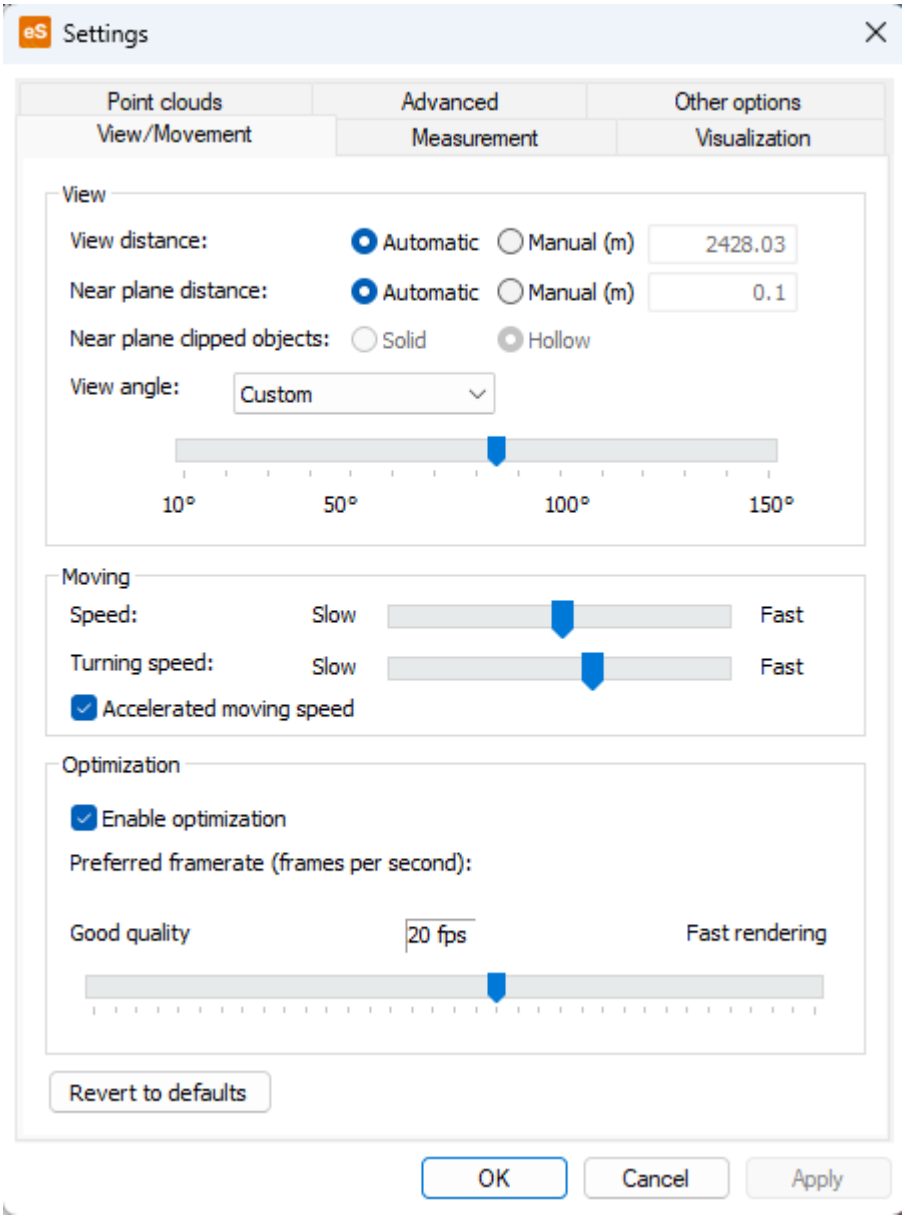
9.4.5.0.1.1. Settings

In the **Settings** menu, select **Settings** to change the following viewer settings.

View/Movement | Measurement | Visualization | Point clouds | Advanced | Other options

9.4.6. View/Movement

On the **View/Movement** tab, you can change settings that affect viewing the model and moving in it.



- The **View distance** setting controls the distance at which objects become visible to the user. If set to automatic (default), all objects are visible regardless of distance. You can try to improve performance by limiting the view distance, especially if you already tried to adjust the frame rate in optimization settings and it did not help.

- The **Near plane distance** setting controls the distance from the camera to the plane from which the objects start to be visualized. If set to automatic (default), the distance is set automatically. To manually define the distance, select **Manual** and enter the desired distance.
- The **Near plane clipped objects** setting controls how the objects are rendered. If set to **Hollow**, the back faces of objects are drawn. If set to **Solid**, a solid surface is created on top of the clipped area.
- The **View angle** setting controls the view angle of the camera. Adjust this setting if needed. The default view angle is defined in Plant Modeller, in the **Walkaround** tool, and the setting is saved in the Scene.
- The **Moving** settings allow you to adjust the speed of moving in the model and turning the view. You can try different speed settings to find a level where it feels natural to control the movements. Slower computers and larger models typically require a smaller speed because slow visualization makes it more difficult to move around. Note that you can also try to affect the visualization speed by selecting a smaller subset of objects to display or by changing the view distance.

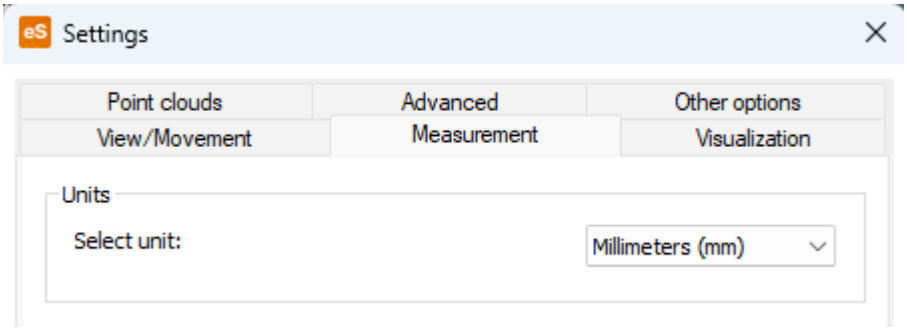
  If "Accelerated moving speed" is not selected, the moving speed is linear (not accelerated).
- The **Optimization** settings control the frame rate at which the view is updated when the user moves around in the model. You can select the target frame rate with the slider bar. If optimization is enabled, the system tries to reach the specified frame rate by decreasing the detail level of rendered images. Disabling the optimization forces every frame to be fully rendered, and this might cause performance issues especially in large models.

Related topics

Scene

9.4.7. Measurement

On the **Measurement** tab, you can select the unit to use in measurements. It can be one of the following: millimeters, centimeters, meters, inches, feet+inches.

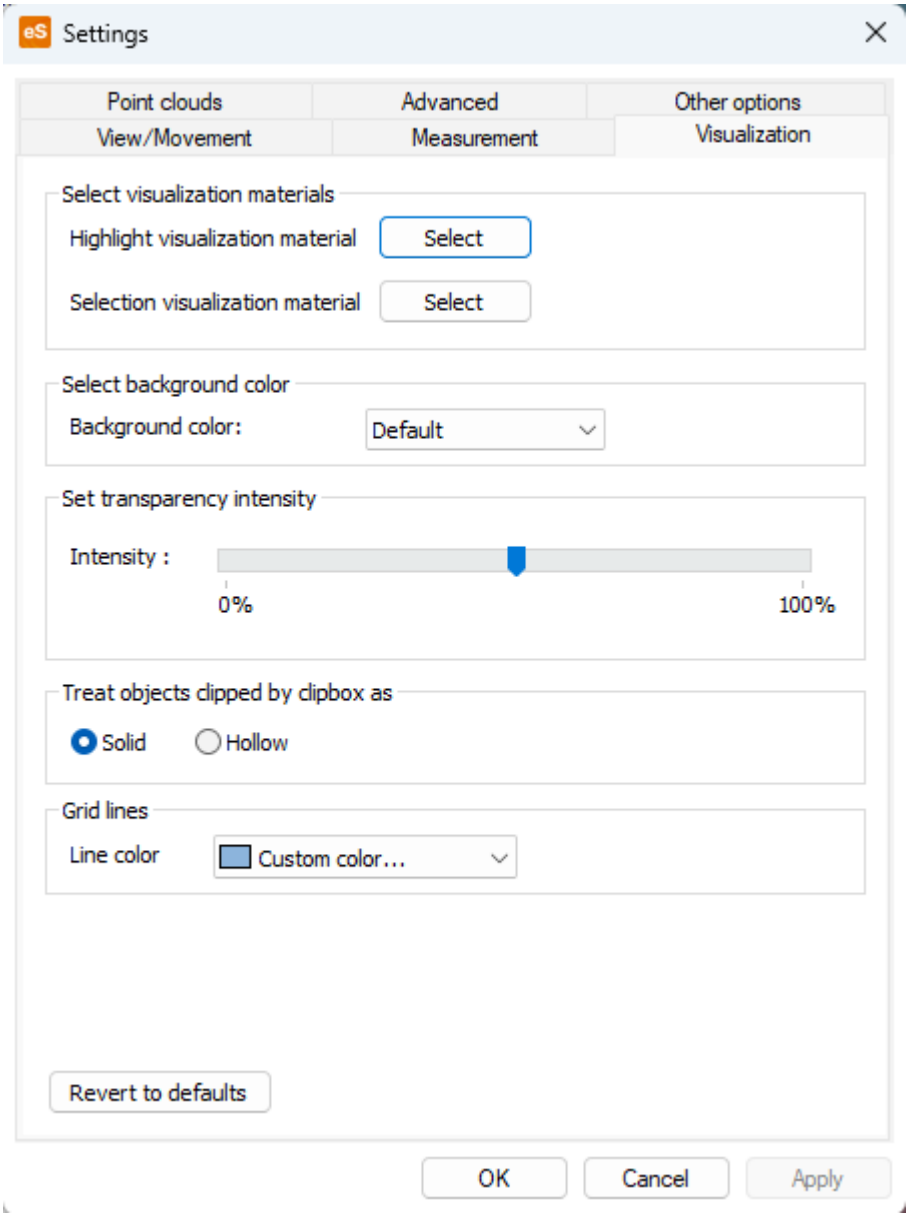


Related topics

Measure

9.4.8. Visualization

On the **Visualization** tab, you can set visualization settings.

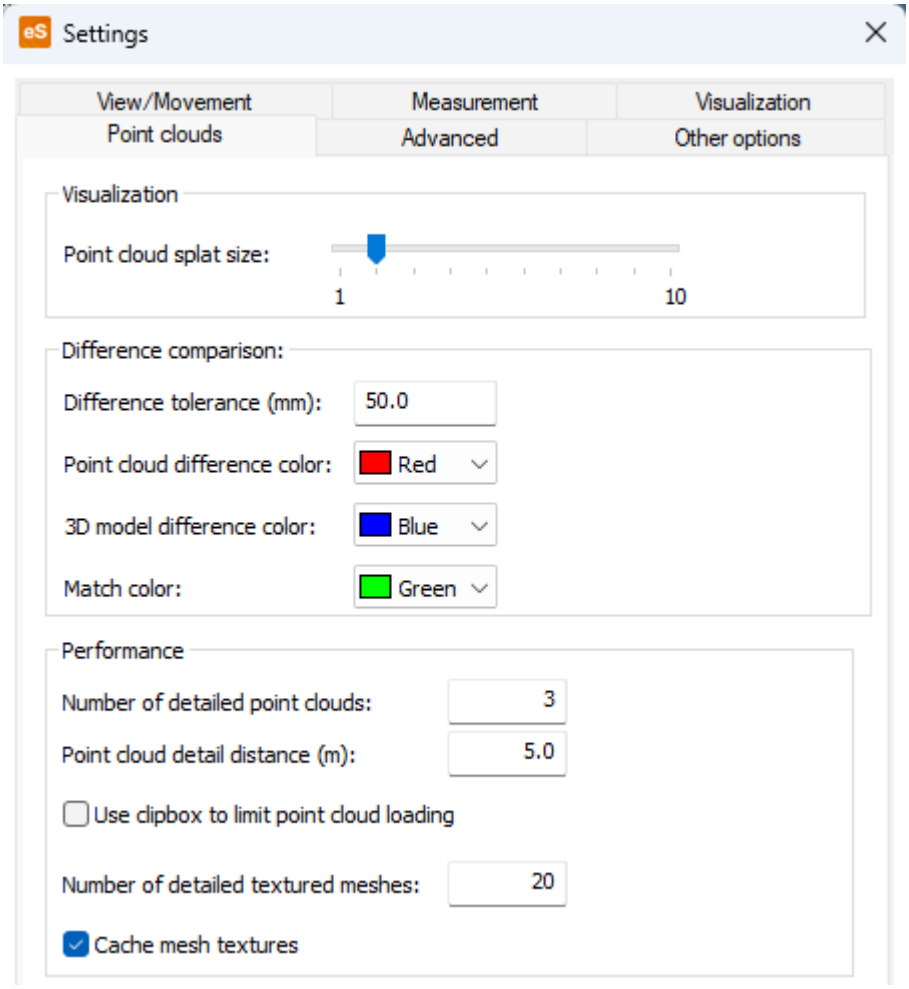


- You can select the materials used to highlight objects and to indicate that an object is selected.
- You can select the background color/image; see Background visualization for details. The background color setting is saved whereas the materials are not because they depend on the model's publisher.
- You can specify transparency intensity.
- You can define how objects clipped by clipbox are handled.
- You can define the line color for reference grid lines.

9.4.9. Point clouds

On the **Point clouds** tab, you can set point cloud details.

Note: Viewing point clouds, textured meshes, and their settings require eShare App.

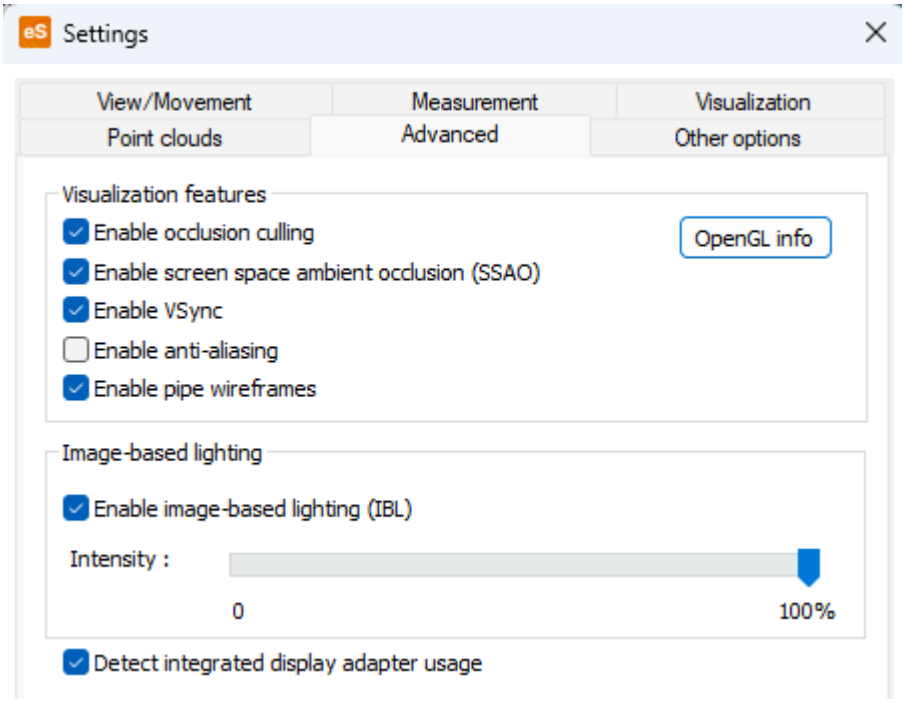


- You can define the splat size of the point clouds. The size of the splats has an effect on the rendering performance. If the point clouds are dense and you use splat rendering, set the value to 2.
- You can define the tolerance for the difference comparison, which is given in millimeters determining how much the 3D model and the point cloud are allowed to differ while still colored as matching. The default value is 50.0 mm. You can also specify the colors used for highlighting the differences.

- You can specify the number of detailed clouds closest to the camera position, which are loaded in full detail at once. Recommended range is 1 - 20.
- You can define the distance in meters how far a point cloud can be from the camera position and still be loaded in full detail. Recommended range is 1 - 50 meters.
- You can define the number of detailed meshes. Performance can be improved by lowering the value. If the selected value is too high, performance might suffer. The ideal value depends on the size of meshes and the hardware used to run eShare App, so results might vary.
- You can define an area of interest for point cloud loading. Clouds with scanner position outside clip box area will not be loaded at all. This can be used in large projects to limit memory consumption.
- You can select to cache mesh textures (dds files) to eShare App project cache on client. This will take some disc space. If mesh textures are not cached, after eShare App is closed the texture cache will be cleared and disc space is freed.

9.4.10. Advanced

On the **Advanced** tab, you can specify advanced visualization settings.

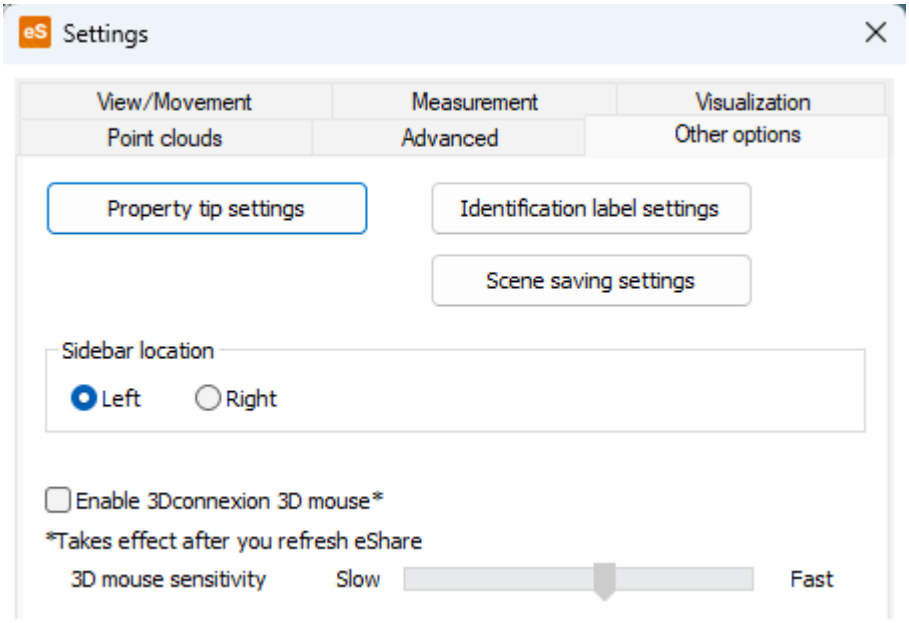


- The **OpenGL info** button opens a text file that displays information about your system's support for OpenGL based visualization.

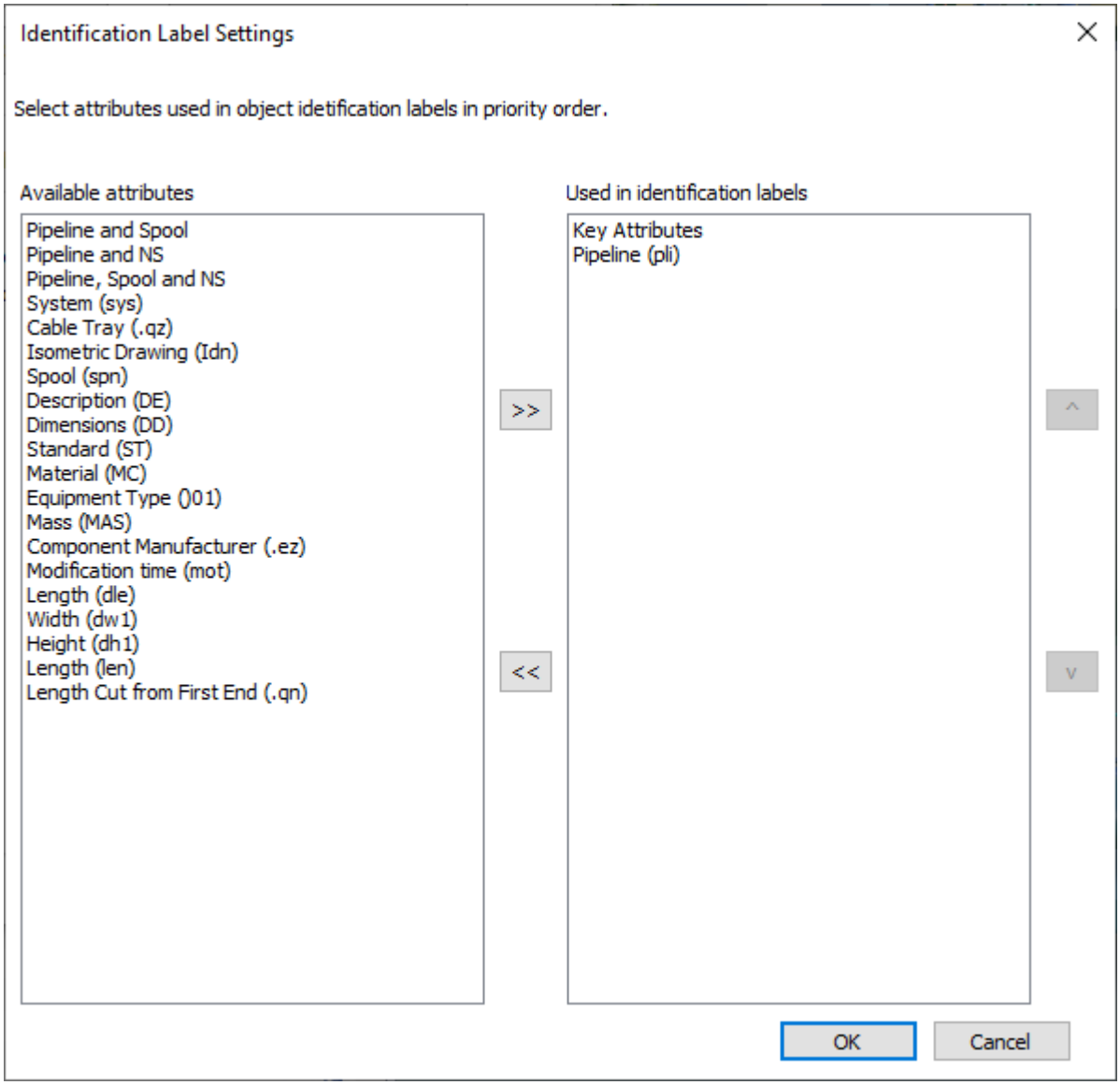
- **Enable occlusion culling** – If selected (default), occlusion culling is enabled.
- **Enable screen space ambient occlusion (SSAO)** – If selected (default), the screen space ambient occlusion technique is used to approximate the occlusion (diminishing) of light on objects in shaded views. This technique provides realistic, real-time shading effects without putting too much stress on the hardware.
- **Enable Vsync** – Enables Vsync. When vsync is enabled GPU can smoothen the moving image and uses the best refresh rate for the current display. Disabling vsync might help if navigation causes image to stutter. Vsync is controlled by Windows and GPU setting and they might overrule this application setting.
- **Enable anti-aliasing** – Anti-aliasing smoothens lines in rendered image and tries to fade jagged edges. Enabling this option adds workload to GPU.
- **Enable pipe wireframes** – If selected (default), pipe wireframes are included. If disabled, some GPU memory is saved but pipe wireframe representation will be missing some core feature lines.
- **Enable image-based lighting (IBL)** – If this option is selected (default), the background image is used for applying lighting effects to shaded views; use the slider to adjust the intensity of lighting. If this option is disabled, the more realistic background images cannot be used; on the Visualization tab you can set the background to be blue gradient, solid black, or solid white.
- **Detect integrated display adapter usage** – If selected (default), the note about using software with integrated display adapter is shown.

9.4.11. Other options

On the **Other options** tab you can specify the following settings.



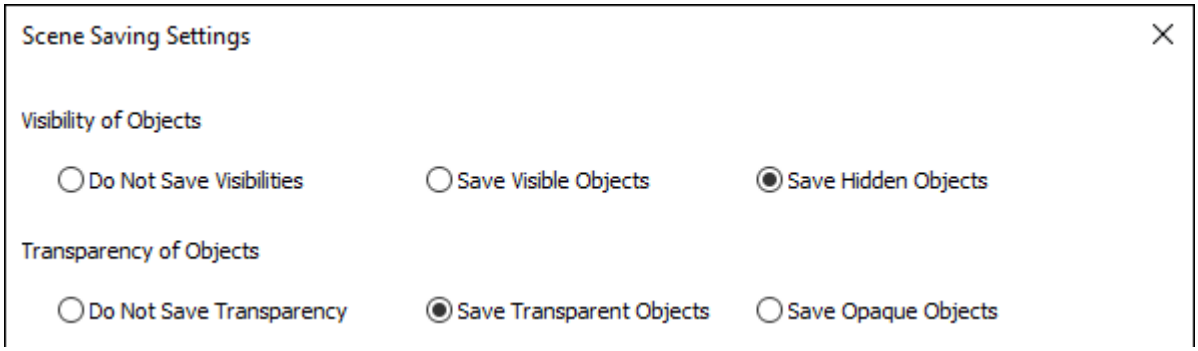
- **Property tip settings** – Opens the Property Tip Settings dialog where you can define which model attributes are displayed in the tooltip of an object or disable the function. See Property tip settings.
- **Identification label settings** – Opens the Identification Label Settings dialog where you can define which object attributes can be displayed in object identification labels. By default the labels are set to use key object attributes and the *pli* attribute.



Move attributes from the left pane to the right pane to allow the attributes to be shown in object identification labels. The order of the items in the list defines their priority; each label shows the value of the attribute that is highest in this list, and if the object does not have any of the listed attributes the label is not displayed.

The displaying of labels can be enabled or disabled, as described in Coordinates.

- **Scene saving settings** – Opens the Scene Saving Settings dialog where you can define how the visibility of objects and transparency of objects is saved in scenes.



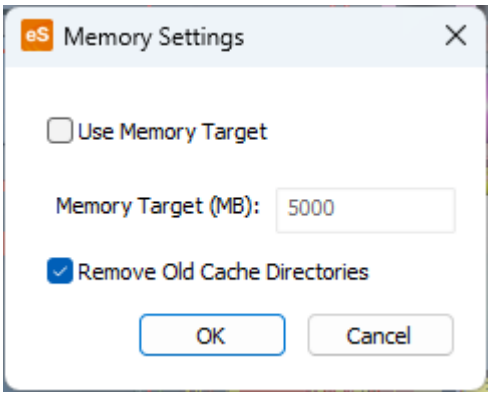
- **Sidebar location** – Select whether the sidebar is located on the left or right.
- **Enable 3Dconnexion 3D mouse** – If selected, you can use a 3Dconnexion 3D mouse to move in the 3D view. You must refresh the browser window after enabling this option. Use the slider to adjust mouse sensitivity.

9.4.11.0.0.1. Memory settings

In the **Settings** menu, select **Memory Settings** to define how much memory the application can use when loading the model.

If you limit the memory, the application loads objects that are further away as simple geometrical elements. When the user moves in the model and the objects get closer, the application loads the details of the object.

To activate the memory settings, click the **Use Memory Target** checkbox and define the memory target. The minimum value is 500 MB. Refresh the browser window for the new settings to take effect.



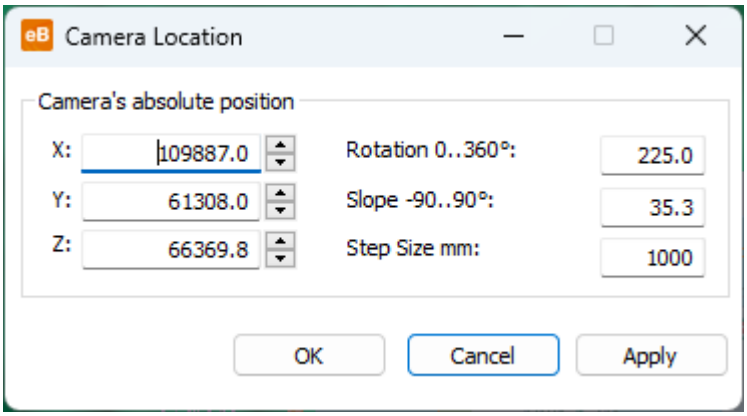
Note that the system may slightly exceed the memory limit for a short time if the system must work close to the target memory value.

To save hard disk space, the system automatically removes cache directories that have not been used for over 30 days. The option has been set on by default, but you can turn it off by deselecting the **Remove Old Cache Directories** checkbox. If you open the model again, the system will automatically recreate the removed cache folders.

9.4.11.0.0.2. Camera location

In the **Settings** menu, select **Camera Location** to view the absolute coordinates of the camera position in millimeters.

You can move the camera by adjusting the X, Y, and Z coordinates, rotate the camera horizontally, and tilt the camera vertically by specifying the slope angle (90 degrees is straight down, -90 degrees is straight up).



9.4.11.0.0.3. Update model

In the **Settings** menu, select **Update Model** to reload the model into the 3D viewer. Models are cached locally, and when you open a model the system checks whether the model has been updated. If the model is being loaded over the Internet, you are prompted to confirm the updating, while locally stored models are automatically updated.

Typically, you perform this if you know that the model has been updated while you were browsing it. If the 3D viewer is embedded on a web page, refreshing the web page also updates the model.

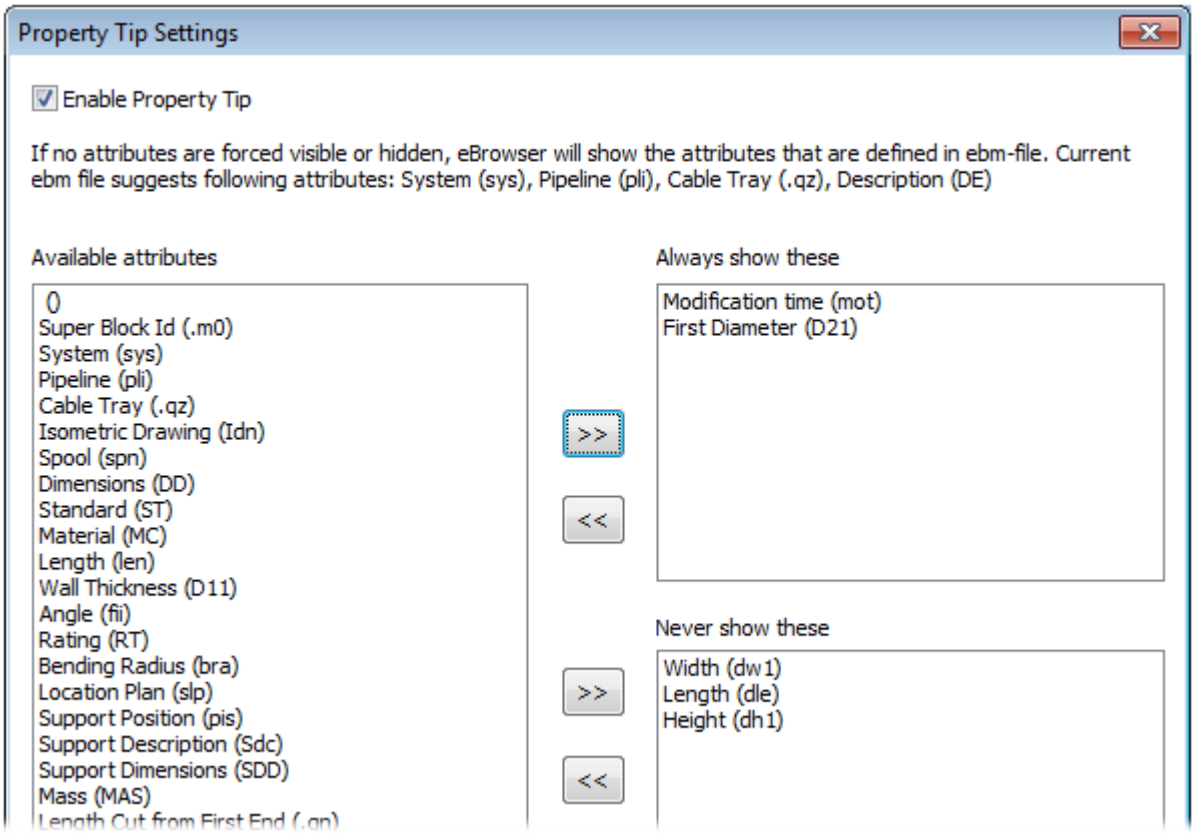
9.4.11.0.1. Property tip settings

“Property tip” is the ability to display additional information about an object when the user moves the mouse cursor on an object in the 3D view. The tooltip is enabled by default; you can select which object attributes the tooltip should display, or you can disable the tooltip if it is not needed.

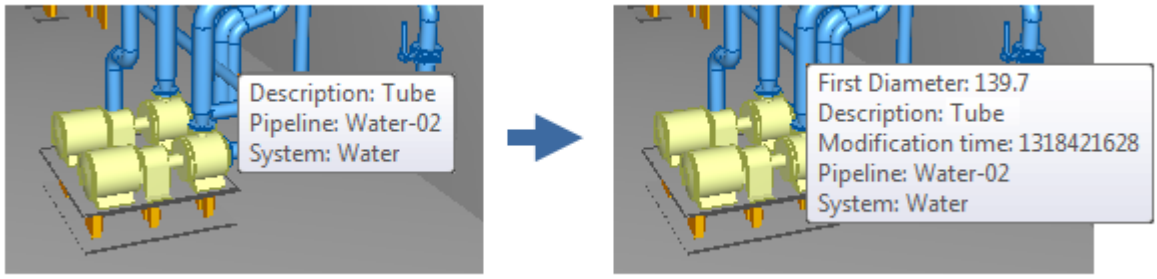
To customize the property tip, select **Settings > Other Options > Property Tip Settings**.

At the top of the Property Tip Settings dialog you can select whether the property tip should be enabled or not.

If the property tip is enabled, specify which attributes it should show. Object name, system name, pipeline, cable tray, and description are shown by default. Add other attributes that you want to see to the “Always show these” list. If there are attributes that you do not want to see in the property tip, add them to the “Never show these” list.

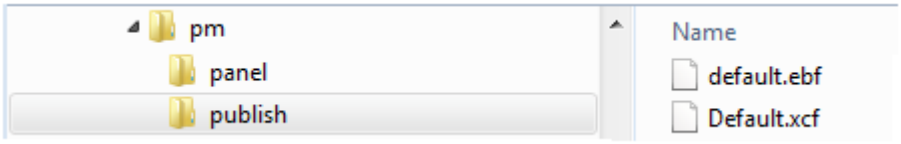


In the examples below, the picture on the left shows the property tip with default attributes, and in the picture on the right the attributes First Diameter (D21) and Modification Time (mot) have been added to the list of always shown attributes.



9.4.11.0.1.1. Default attribute settings in Plant Modeller

In the Plant Modeller, the default attributes to be shown in the property tip of a published .ebm model are set in the Default.ebf file, and the available attributes are listed in the Default.xcf file. These files can be found in the project folder …/site/pm/publish, and they are created when the model is first published.



Default.ebf

The *Default.ebf* file specifies the default attributes shown in the property tip. The default attributes are **sys** (system), **pli** (pipeline), **.qz** (cable tray) and **DE** (description). If Default.ebf is not modified, these four attributes are always shown in the property tip.

You can configure the default attribute settings by editing this row in Default.ebf and then publishing the model:

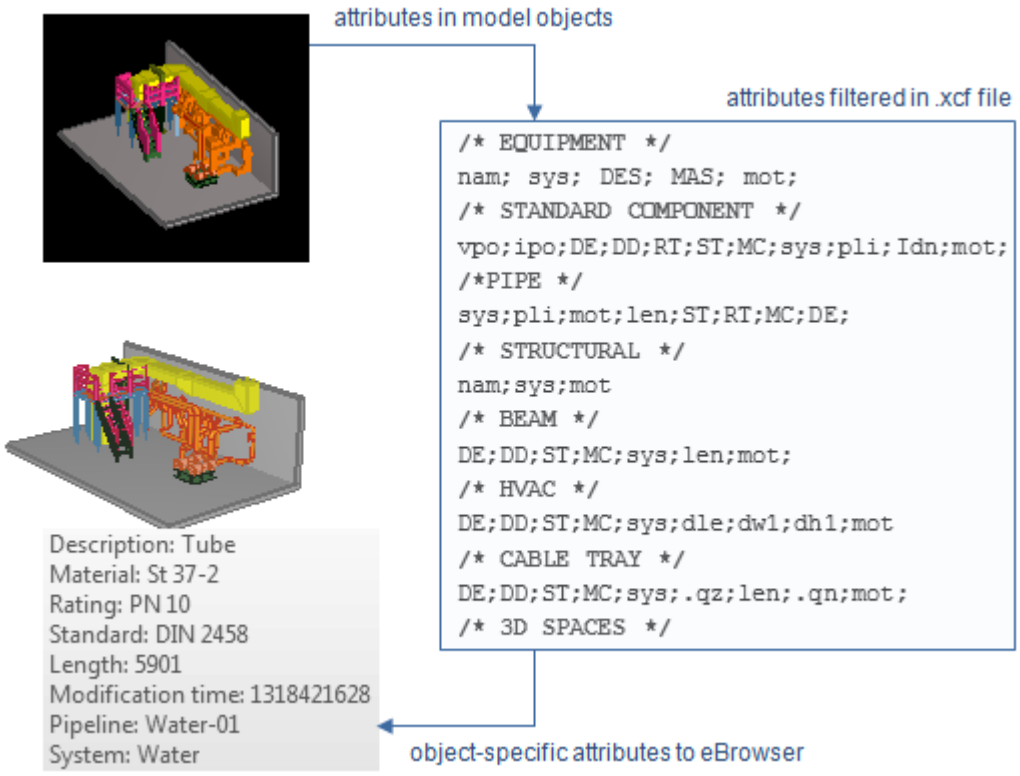
```
cnf objectTipAttributes;ott sys;ott pli;ott .qz;ott DE;;
```

Default.xcf

The *Default.xcf* file defines the attributes that are included in the available list in property tip settings. Those attributes are object-specific, so for example the attribute **mot** (modification time) must be included for every object type separately.

To include an attribute in the .ebm model, the attribute must be assigned to the model object in Plant Modeller. Then it must be listed for the object type as shown in the example row below. Finally, it must be added to the “Always show these” list in **Property Tip Settings**.

```
/* STANDARD COMPONENT */
obt 2;abr vpo;dsc Position Id;key 1;;
```



Related topics

View/Movement

9.4.11.0.2. Help

The Help toolbar button provides information about the 3D viewer.

9.4.11.0.2.1. About eShare App

Opens a dialog that displays 3D component version information as well as the address of the eShare server.

9.4.11.0.3. Coordinate system

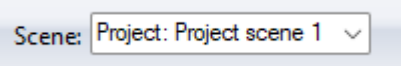
You can select the coordinate system that is used to view the 3D model from the Coordinate System drop-down menu in the main toolbar. These local coordinates can be defined in Plant Modeller. If

the Plant Modeller project, where the EBM is published from has local coordinates, all of them are shown in the published EBMs regardless of which coordinate system the published model is using.

When selecting a coordinate system, all geometry is transformed to the selected coordinate system and all the coordinates shown are in the selected coordinate system like Measure, Coordinate tool, Coordinate display and Clip Box.

Models without local coordinates: If the 3D model has reference planes defined, the coordinate system called "modelname coordinates" has these reference coordinates defined. If multiple models are loaded to eBrowser, you can select the used reference planes from the drop down menu by selecting the desired model coordinates.

9.4.11.0.4. Scene



The **Scene** field in the toolbar lists predefined scenes that have been specified in the application that published the model.

Primarily a scene defines the camera location, but also other settings such as lights, camera properties, a clip box area, and hidden objects. It could be that all scenes use the same settings and only the camera location changes, or all scenes could be using the same location and only the settings are different. The scene name is preceded by scene type: Model, Personal or Project.

- You can create a new scene in the current location simply by typing the scene name in the **Scene** field and pressing Enter. The custom scenes are stored in the eShareserver for the current user.
- You can create a new scene that contains a clip box. First create the clip box, and then with the clipping still enabled type the scene name in the **Scene** field and press Enter. The clip box is saved in the scene and displays when you open the scene.
- The scene saves the coordinate system in use and will change the coordinate system when the scene is opened, if the currently active coordinate system is different.
- You can delete a scene by selecting it from the list and pressing Delete. You are prompted to confirm the action.
- Settings for scene saving can be configured in Other options.

9.4.11.1. Navigation and shortcut keys

You can use a mouse and/or keyboard to move in the 3D view.

9.4.11.1.1. Shortcut keys

In the model viewer you can use the following shortcut keys.

Key	Alternative	Action
Function Keys		
F1		Help
F5	U	Update Model
Object Visibility		
Delete		Hide all selected visible objects
Insert		Show hidden objects
Visualization Control		
1		No Edges
2		Edges
4		Hide Insulations
5		Show Transparent Insulations
6		Show Opaque Insulations
Markups		
7		"Original" view
8		"Mixed" view
9		"Current" view
Delete		Remove selected shape
Views		
Backspace	Mouse Button 4	Return to Previous View

Key	Alternative	Action
H		Restore Horizontal
X		Turn to Look X+
Shift + X		Turn to Look X-
Y		Turn to Look Y+
Shift + Y		Turn to Look Y-
Z		Turn to Look Up
Shift + Z		Turn to Look Down
Shift + 1		Top view
Shift + 2		Bottom view
Shift + 3		Right view
Shift + 4		Left view
Shift + 5		Front view
Shift + 6		Back view
Shift + 7		Iso view

Related topics

Mouse navigation in orbit mode

9.4.11.1.2. Navigation keys

9.4.11.1.3. Navigation and gestures

In the 3D view, you can use a mouse or keyboard to move around in the model, pan the view, rotate the camera, and so on. Here, the term "pan" is equal to "strafe" or "sidestep", meaning movement parallel to the view plane. You can also mix the navigation methods—for example, use arrow keys for movement and mouse for adjusting the viewing angle.

In normal navigation mode you can walk (fly) freely anywhere in the model, whereas in orbit mode you can inspect a specific location by viewing it from different directions.

Note: You can adjust the viewing angle, movement speed, and screen frame rate in the application settings—see View/Movement.

9.4.11.1.3.1. Mouse navigation

You can use a mouse to move around in the model.

Button	Action
Left button	Hold down left mouse button to turn the camera left or right and to move forward or backward by dragging. Hold down Ctrl and left mouse button to turn the camera to any direction by dragging. Hold down Shift and left mouse button (or hold down left and right mouse button) to pan the model by dragging. Hold down Ctrl, Shift and left mouse button to turn the camera left or right and to move forward or backward in the XY-plane by dragging.
Middle button (mouse wheel)	Scroll the wheel to move forward or backward. Hold down middle button to pan the model by dragging. Hold down the Shift key (or the right mouse button) and the middle mouse button to orbit the camera around the cursor location. While moving forward or backward with keys, you can scroll the wheel to turn the camera up or down and press middle button to restore the horizontal level.
Right button	Hold down right mouse button to turn the camera to any direction by dragging.

9.4.11.1.3.2. Keyboard navigation

You can use the following keys to move around in the model.

You can use these keys in eShare App but not in standard eShare.

Key	Arrow Key	Action
W	⇧	Move forward. • W moves forward in the XY plane. • Up arrow key moves toward the center of the screen.
S	⇩	Move backward. • S moves backward in the XY plane. • Down arrow key moves away from the center of the screen.
Q	⇦	Turn the camera left.
E	⇨	Turn the camera right.
A	Shift + ⇦	Pan the model left.
D	Shift + ⇨	Pan the model right.
R	Shift + ⇧	Pan the model up.
F	Shift + ⇩	Pan the model down.
Page Up	Ctrl + ⇧	Turn the camera up.
Page Down	Ctrl + ⇩	Turn the camera down.
Shift		Holding down Shift triples the movement speed ("run mode") of the keys described above.
Ctrl + Shift		Holding down Ctrl + Shift locks the Z coordinate, which allows moving at a fixed height regardless of the viewing direction.

9.4.11.1.3.3. Navigation in orbit mode

Use the following methods to move around in the model when orbiting is enabled either from the main toolbar or from the toolbar of examine mode.

9.4.12. Mouse navigation in orbit mode

You can use a mouse to move around the orbit point or to move the orbit point itself.

Button	Action
Left button	Hold down left mouse button to rotate the view around the orbit point at a fixed distance by dragging.
Middle button (mouse wheel)	Hold down middle button to pan the model and the orbit point by dragging. Scroll the wheel to move toward or away from the orbit point. Hold down Shift and middle button to rotate the camera around the orbit point at a fixed distance by dragging.
Right button	Hold down right mouse button and drag to rotate the view around the orbit point, and to move toward or away from the orbit point.

9.4.13. Keyboard navigation in orbit mode

You can use the keyboard to move around the orbit point or to move the orbit point itself.

Key	Arrow Key	Action
W	⇧	Move toward the orbit point.
S	⇩	Move away from the orbit point.
Q	⇦	Rotate left around the orbit point.
E	⇨	Rotate right around the orbit point.
A	Shift + ⇦	Pan the model and the orbit point left.
D	Shift + ⇨	Pan the model and the orbit point right.
R	Shift + ⇧	Pan the model and the orbit point up.
F	Shift + ⇩	Pan the model and the orbit point down.
Page Up	Ctrl + ⇧	Turn the camera up.

Key	Arrow Key	Action
Page Down	Ctrl + ⇩	Turn the camera down.

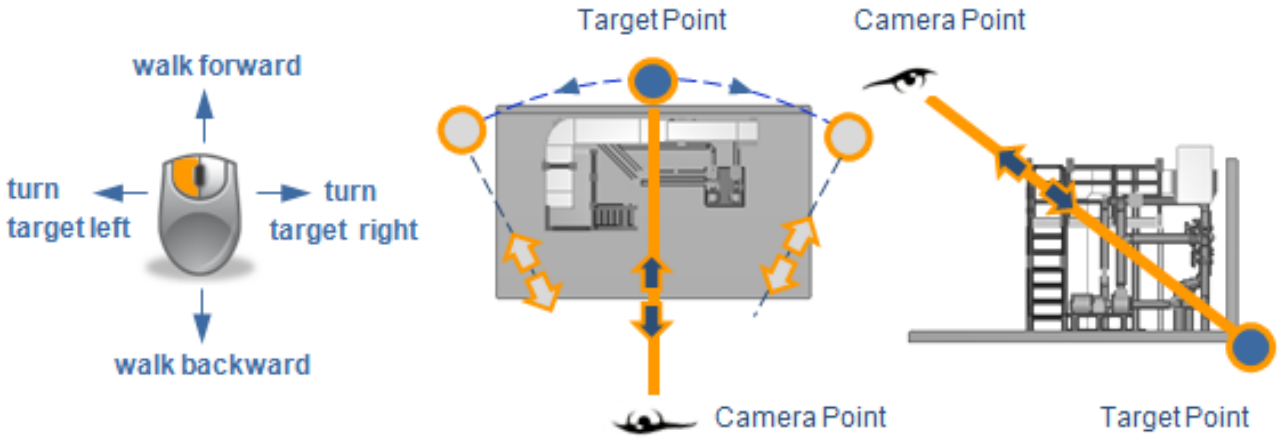
Related Topics

Orbiting

9.4.13.0.1. Walking

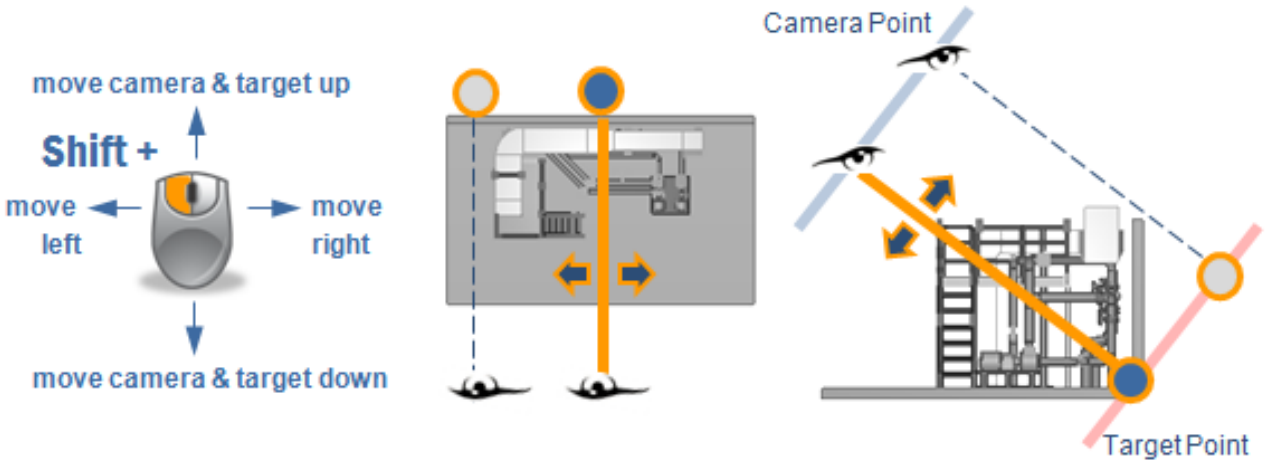
9.4.13.0.1.1. Basics

Hold down the left mouse button to move around in the model. You can move forward or backward by dragging the mouse up or down, respectively, and turn by moving the mouse cursor left or right. The cursor's distance from the center of the 3D view controls the movement speed. While holding down the left mouse button, you can start panning the view by holding down also the right mouse button. And if you then release the left mouse button, you can start turning the camera.



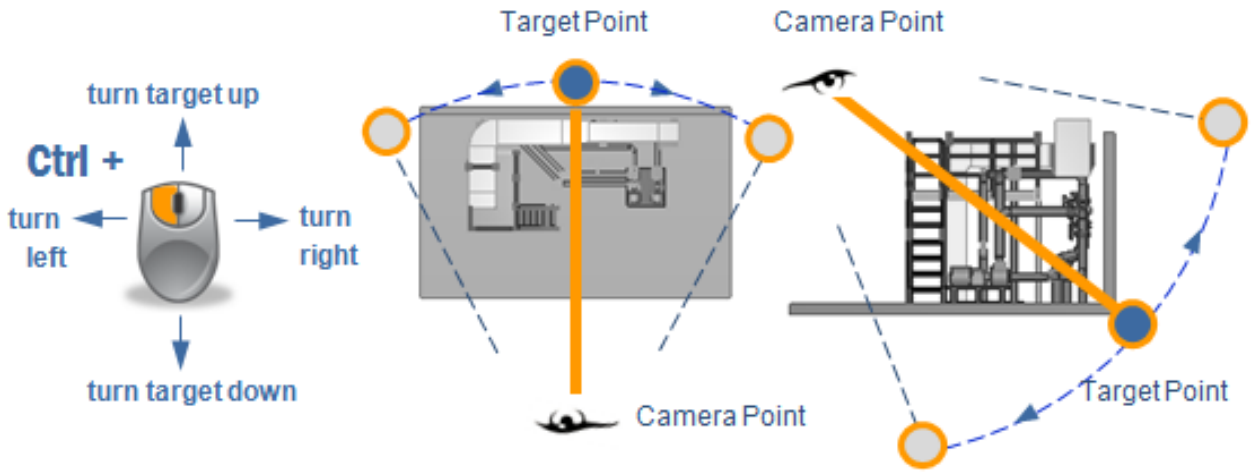
9.4.13.0.1.2. Pan the view

Holding down Shift while moving pans the view in the direction the mouse moves (movement is perpendicular to the view direction).



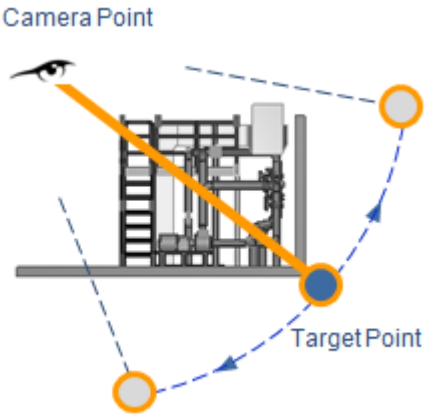
9.4.13.0.1.3. Look around

To look around your current position, hold down the Ctrl (Control) key and move the mouse to the required direction.



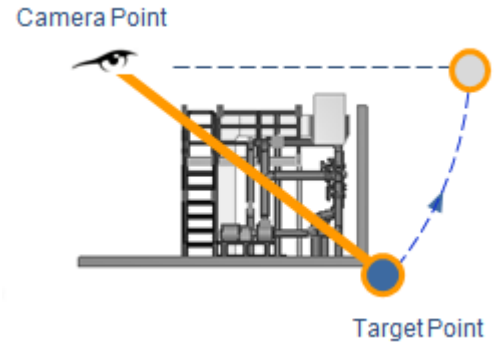
9.4.13.0.1.4. Look up or down

Hold down the Ctrl key and press arrow up or arrow down to rotate the viewing direction up or down.



9.4.13.0.1.5. Restore horizontal view

Select **Navigation Menu > Restore Horizontal** to restore the viewing direction to horizontal level.



Related topics

Mouse navigation in orbit mode

9.4.13.0.2. Orbiting a point

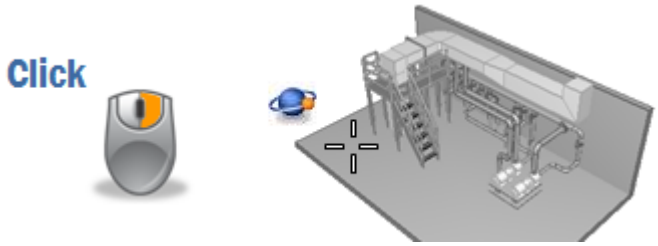
In normal navigation mode, the camera rotates around the user's viewpoint, to simulate an actual person walking around a facility and looking in different directions to see the surrounding objects.

In orbiting mode, you can rotate the camera around a specific point in the coordinate system of the 3D model, to observe an object of interest from different directions.

9.4.13.0.2.1. Specifying the orbit point

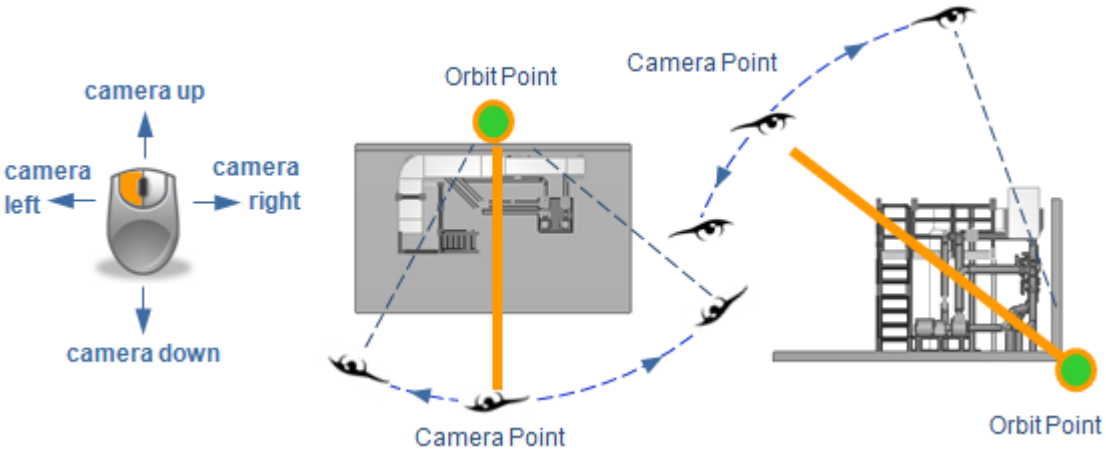
To orbit the camera around a specific point, first click the **Orbit Point** button  in the toolbar.

Then, navigate close to the location where you want the orbit point to be, and **right-click** that location. This will be the orbit point around which the camera will rotate until you click the orbit button again.



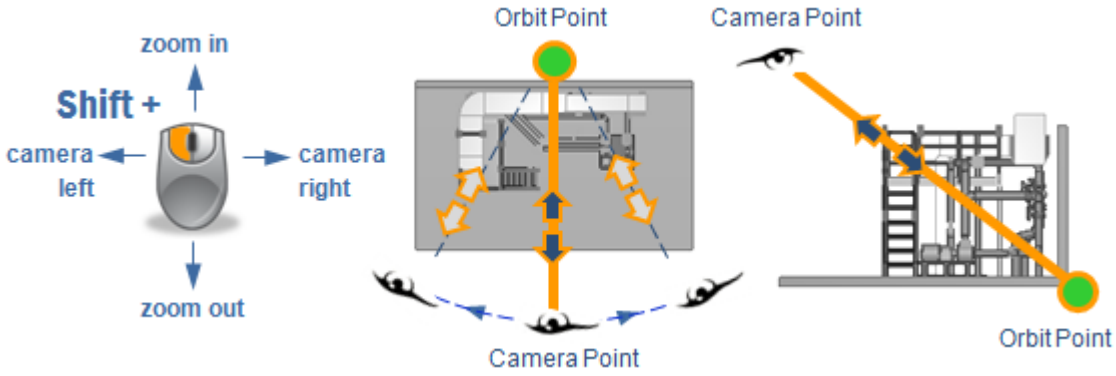
9.4.13.0.2.2. Basic orbiting

When you press down the left mouse button and move the mouse horizontally or vertically, the camera rotates around the orbit point in the specified direction. You can move the view 360 degrees horizontally, and 180 degrees vertically.



9.4.13.0.2.3. Zooming while orbiting

When you press down **Shift** during orbiting, you can zoom the view by moving the mouse up or down. (Horizontal movement still performs orbiting.)



9.4.13.0.2.4. Restoring default orbiting

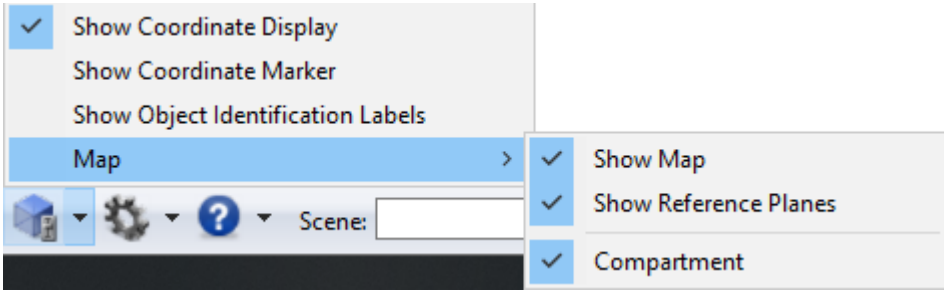
To make the camera orbit around the user's viewpoint again, click the **Stop Orbiting** button in the toolbar.

9.4.13.0.3. Navigation map

In CADMATIC Plant Modeller, designers can define 3D spaces that contain for example compartments, flooded volume, or blocks. These 3D spaces, together with planes defined by coordinate references, can be published to 3D models and shown in the 3D model viewer as a map of the model.

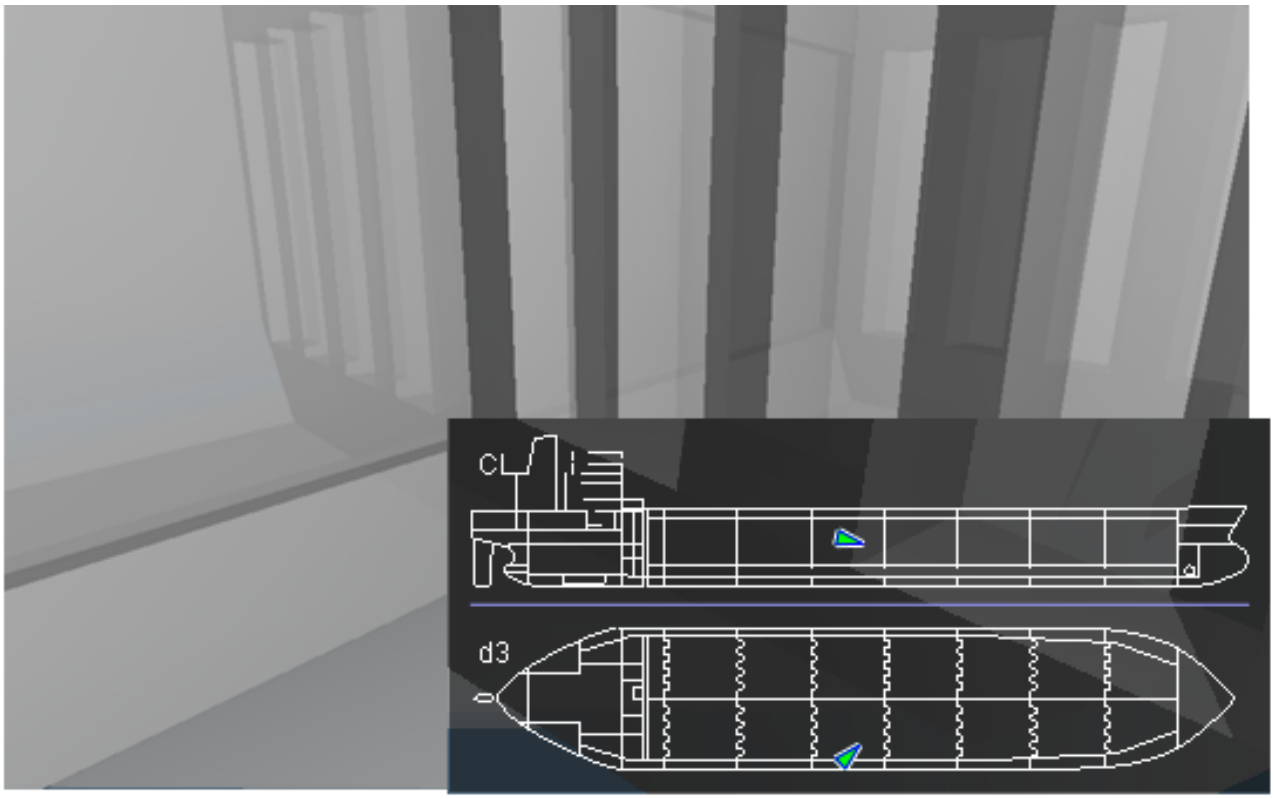
In a ship design project the map is generated by cutting the chosen 3D Space objects from CL (or y = 0 if CL does not exist) to produce a profile picture, and by cutting along each deck level to generate deck layout maps. The nearest deck below the camera is shown as the top view.

You can show or hide the navigation map and its reference planes from the menu of the **Visualization Control** toolbar button . The settings are saved; if you hide the map and close the model, the map is not shown the next time you open the model viewer.

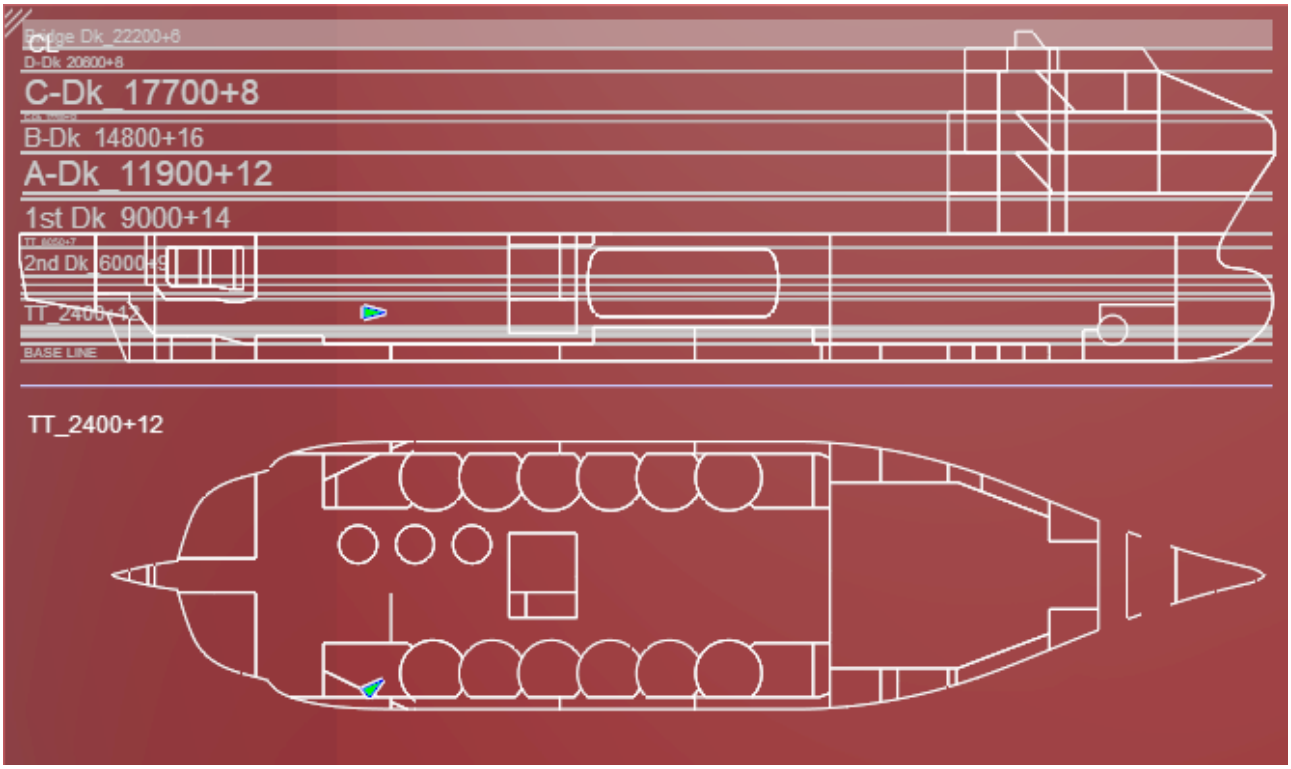


When displaying the map, the small triangles indicate your current camera location and viewing angle within the model. You can click anywhere in the map to change the camera location. If the triangle icon is not filled with color, you are outside the area covered by the map.

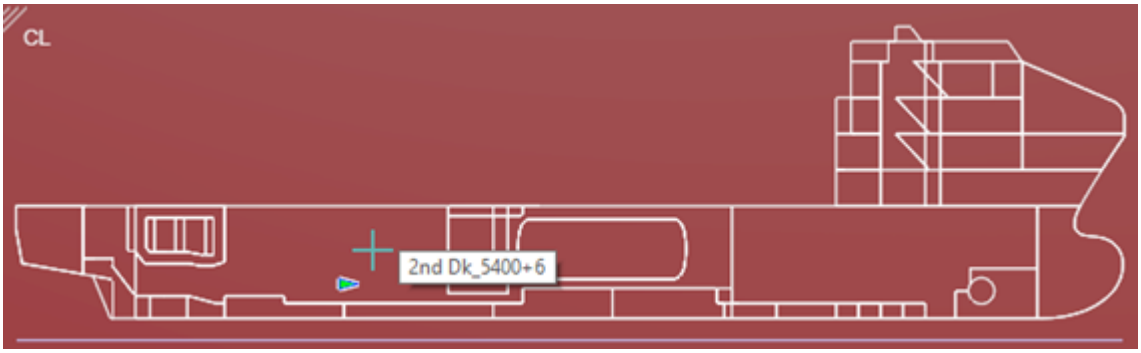
You can resize the navigation map by dragging from the triangle in the top-left corner.



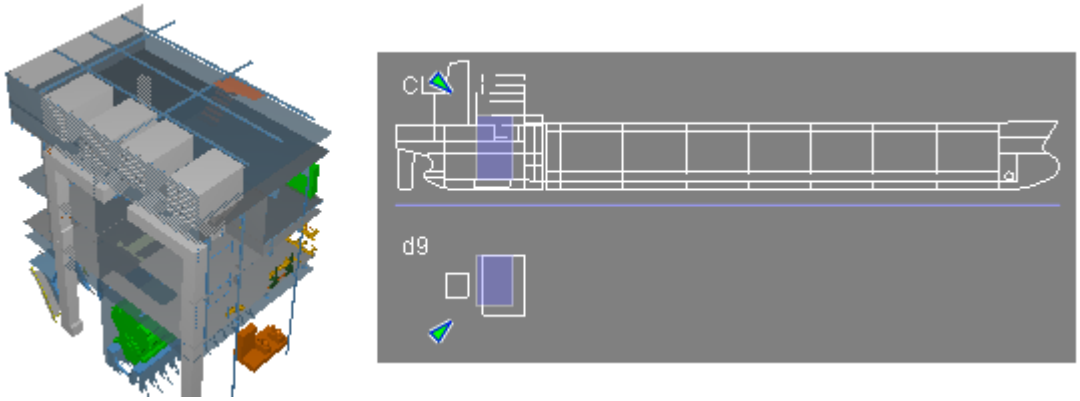
If you have enabled the map's reference planes, the program shows the reference planes on the navigation map as gray lines. It also shows the reference plane names. When you hover over the planes with the mouse, the plane that the cursor is on is highlighted.



If you have not enabled the map's reference planes, the reference plane's name is showed in a tooltip.



The map also shows the clipping box, if you have defined one:



Smart Points and Markups that are at the same floor or deck level as the user and inside the map area are shown in the map.

You can resize the map pane by dragging its upper-left corner.

Related topics

Map

9.4.13.1. 3D view modes

When a user opens a specific view or tool, the 3D view enters a special mode that can be recognized from the additional toolbar at the top of the view. While operating in such modes, the 3D view might not provide the same functions as normally, and the special mode is active until the user specifically closes it.

9.4.13.1.1. Examine mode

Examine mode lets you have a better look at selected objects or an object group and orbit around the selection, while other objects are hidden. You can highlight and X-ray the examined items and also dim, hide or make the other objects transparent.

To examine items, right-click an item in the model tree or the 3D view and select the appropriate command such as **Examine**. In the 3D view, you can select to examine multiple items by holding down Ctrl and selecting them one by one, and then right-clicking the selection to select the examine command from the context menu.

When you want to resume the normal mode, click the exit button in the examine mode toolbar.

9.4.13.1.1.1. Examine mode toolbar

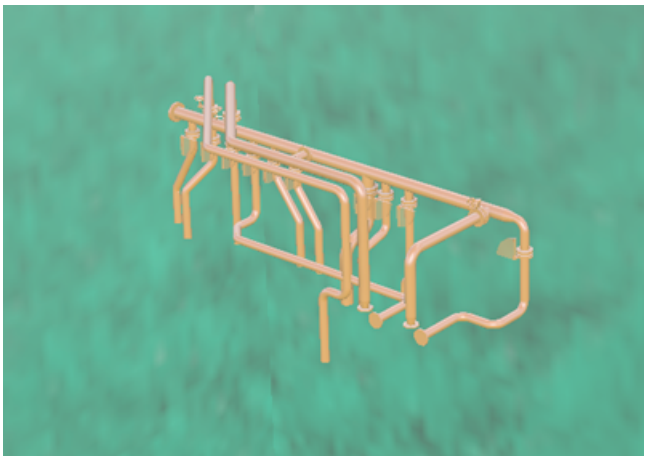
The examine mode toolbar provides a set of tools that allow you to examine the model using different option.

9.4.14. Orbiting

You can enable or disable orbiting.

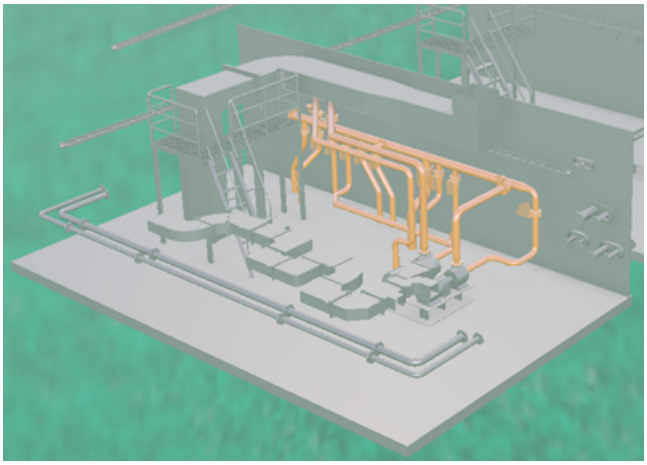
9.4.15. Hide other objects / Show all visible objects

You can hide other objects except the selected objects.



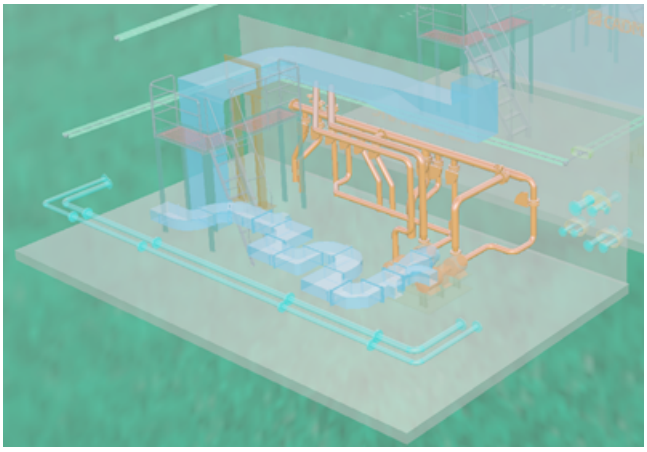
9.4.16. Dim other objects / Show original colors

You can dim other objects except the selected objects.



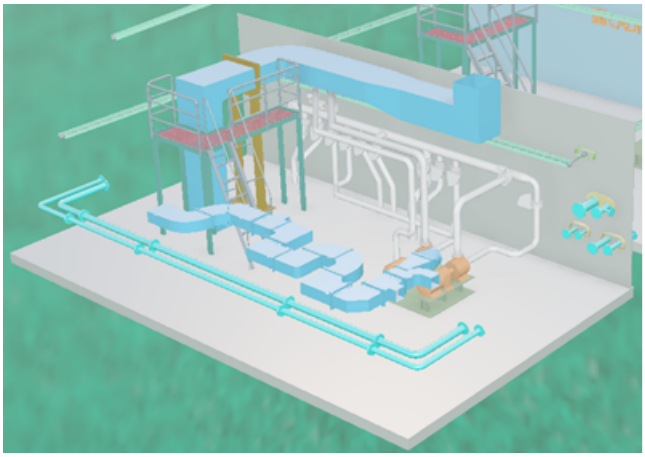
9.4.17. Make other objects transparent / Show all visible objects

You can make other objects except the selected objects transparent.



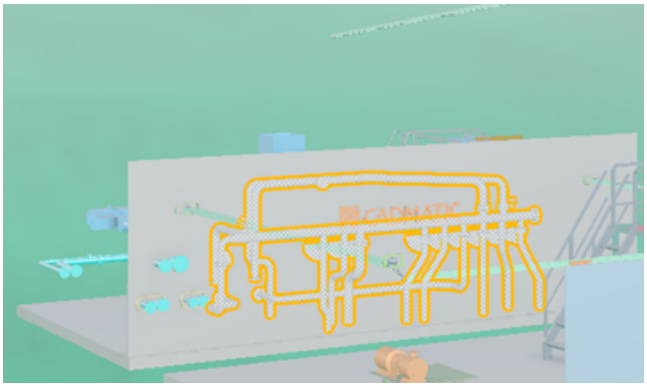
9.4.18. Force examined objects highlighted / Don't force highlighting

You can highlight the examined objects.



9.4.19. Force examined objects to X-Ray mode / Don't force X-Ray mode

You can make the examined objects completely visible even if they are located behind other objects.



9.4.20. Fit clipbox to examined objects

You can make the clipbox fit the examined objects.

9.4.21. View details for an object or a group

You can view the details of the examined object or group.

9.4.21.0.0.1. Defining examine mode settings in URLs

When you use the search in eShare, the links in the search results contain parameters that open the specific object or object group in the 3D view in examine mode. You can enhance these links so that they automatically turn orbiting on or off and show or hide the other objects, instead of having to select these settings manually from the examine mode toolbar. This can be especially useful if you export search results to a Microsoft Excel file and want specific links in the file to open with specific settings.

To do this, append the URLs with `&examineFlags=<value>`, where <value> specifies a number from 0 to 64, to indicate the following settings:

- 0 = Disable orbiting, show all objects
- 1 = Enable orbiting, show all objects
- 2 = Disable orbiting, hide other objects
- 3 = Enable orbiting, hide other objects
- 4 = Dim all objects that are not being examined
- 8 = Turn off highlighting for the examined objects
- 16 = Turn off the X-ray mode for the examined objects
- 32 = Open the examined objects in clip box
- 64 = Clear the selection highlight of the examined objects and show the objects according to the applied visual style

For example, if the position ID of some object in the 3D model is "P001", you can use the following kind of URL to start examining that object so that orbiting is enabled and also all other objects are visible:

https://<server>:<port>/#/p/<projectGUID>/model?positionId=P001&examineFlags=1

9.4.22. Examining multiple objects with URL parameters

You can examine multiple objects with the following URL parameters:

- multiExamine

  Use the object's attribute abbreviation and value as the values. Separate the attribute and the value with a colon (:) and the objects with a vertical line (|).

Example URL: *https://<domain>:<port>/#/p/<project id>/model?multiExamine=.n5:AE-SW-P001|.n5:722-PS1|.n5:722-PS2|[sys]:722-SWC|.ne:R110202*

- geometryID and modelTimeStamp

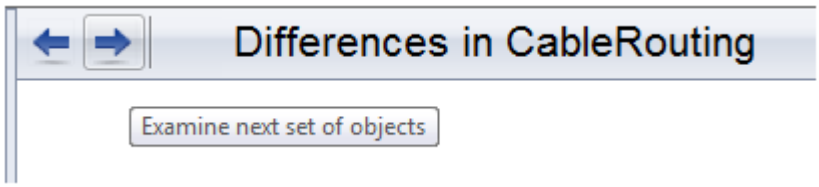
  Use the geometry IDs as the values. Separate the values with a comma (,). Also provide the model timestamp

  Example URL: *https://<domain>:<port>/#/p/<project id>/model?geometryId=3453001,3453065,3453129&modelTimestamp=2020-01-07T08:40:31.710*

The maximum length of the URL is 2048 characters. Note that the browser encodes certain characters, such as vertical line (|), and these characters take the space of three characters instead of one character.

9.4.22.0.0.1. Examine mode history

Whenever you enter the examine mode, the application stores this as an event in the "examination timeline", and you can revisit previously examined object sets by moving back and forward with the arrow buttons of the examine mode toolbar.



The history stores normal examine modes, 3D space examine modes, and difference examine modes, all in the same timeline.

For each entry, the history remembers the examined object set and the last camera position, including whether or not orbiting was enabled. It does not remember other settings of the examine mode toolbar, such as highlighting and object visibility.

Any new entries are stored in the current position of the timeline, not at the end—if you go back in the history and then in the middle of the sequence start examining some new object, the history from that point forward is not cleared, and the new entry is stored in the current "slot" of the history.

9.4.22.0.0.2. Examining 3D spaces

When examining a containment, the space object is shown as transparent and the objects that it contains are hidden. In the examine mode toolbar, you can change the visualization in the same way as with other object types, but in addition there is a button that allows you to show or hide the space objects that are being examined.

Related topics

Navigation in orbit mode

9.4.22.0.1. Markup mode

Opening an existing markup or starting to create a new one activates the Markup mode. Accepting or canceling the changes to the Markup item exits this mode. When in Markup mode:

- Instead of showing a tab the sidebar displays a pane for entering the following information.
  - **Type** — Select the markup type.
  - **Title** — Enter a descriptive title (required).
  - **Assignee** — Allows assigning the markup to a specific project user. As you start typing the name in the field, the matching user names are listed and you can select the correct assignee from the list.

    In the project's front page, "My latest markups" shows the most recent markups assigned to the current user, and selecting the "All Assigned to Me" search shows all Markups assigned to the current user. In **Search > Points and Markups** it is possible to search markups also based on a previous assignee.
  - **Linked to Model Item** — Select the attribute, such as Equipment ID, to which to link the markup.
  - **Markup Status** — Select the status. (The status list is defined when publishing the 3D model from a design project.)
  - **Markup Importance** — Select "Low", "Normal", or "High".
  - **Markup Comment** — Enter any comments that you want others to see.
  - **Upload Photos** — Add photos to the markup. You can add multiple photos at the same time. The supported formats are BMP, GIF, EXIF, JPG, JPEG and PNG.
- The 3D view displays the markup editor toolbar.

9.4.22.0.1.1. Markup editor toolbar

The Markup editor toolbar provides a set of drawing tools that allow you to highlight specific aspects of the model, using the color selected from the color field. You can add detailed model information by taking measurements, and adding coordinate, or attribute labels to objects.

9.4.23. Rectangle, ellipse, cloud

You can draw a rectangle, ellipse, or cloud.

9.4.24. Freehand line, straight line, arrow

You can draw a freehand line, straight line, or arrow.

When drawing a straight line or arrow, you can hold down Shift to make the line snap in 15° increments.

9.4.25. Text

You can add text.

9.4.26. Measure lengths

You can add measurements. See Measure on how to use the measuring tool.

9.4.27. Coordinate label

You can add coordinate labels.

Activating this tool displays a coordinate label in the 3D view, showing the coordinates of the current cursor location. Right-click the location to use, drag the coordinate label to a place where it does not cover anything important, and right-click to accept the location of the label.

9.4.28. Attribute label

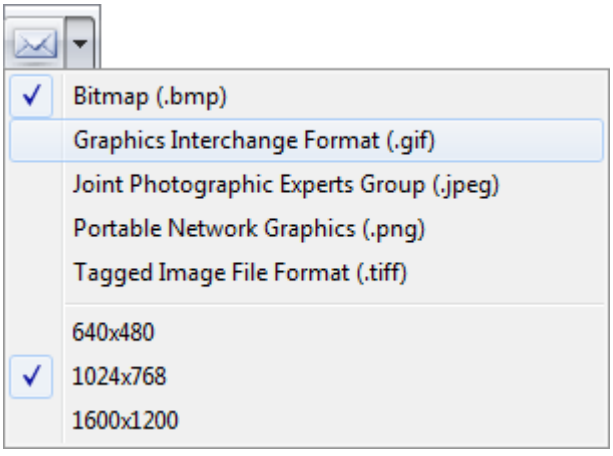
You can add attribute labels.

Activating this tool displays an attribute label in the 3D view, showing the attributes of the object in the current cursor location. Right-click the location to use, drag the attribute label to a place where it does not cover anything important, and right-click to accept the location of the label.

9.4.29. Remove selected shape

You can delete any shape you have added with the Markup editor toolbar by selecting the item and then clicking the removal tool.

9.4.30. Email drawing as an image



You can e-mail the 3D view with its markings as an image file to another user.

You can select the graphics file format and image size to use. The selections are saved in Windows Registry.

9.4.31. Color

You can select the color to use for each shape that you add with the Markup editor toolbar, either before activating the drawing tool or by selecting an existing shape and then the required color.

9.4.32. Current, mixed, original, photo

You can select how to display the 3D view:

- **Current** — Show the 3D model using current object visibility settings.
- **Mixed** — Show the current view and the original view at the same time.
- **Original** — Show the 3D model as it was in the original Markup.
- **Photo** — Browse photos attached to the markup. Use the on-screen arrow buttons to move between the images.

9.4.32.0.1. Bubble view mode

When a point cloud contains scanner position information, in eShare App you can view the point cloud from the location where the 3D scanner was positioned. This is called bubble view mode, and while operating in this mode you cannot move the camera around like you normally can. To close the bubble view mode, click the **X** button in the bubble view mode toolbar.

For more details, see Point clouds.

9.4.32.1. Context menu

On the **Model** tab and in the 3D view, you can perform a number of actions from the right-click menu. Some of the commands can be used on a single entity or multiple entities, while some are only available when a single entity is selected.

9.4.32.1.1. Examine

Enables the object examination mode. See Orbiting.

9.4.32.1.2. Select geometric objects

Removes items that do not represent physical objects (groups, 3D Spaces, cable routing objects etc.) from the current selection.

9.4.32.1.3. Hide

Hides the selected objects.

To make hidden objects visible again, see Selecting objects and changing their visibility.

9.4.32.1.4. Show selected and hide unselected

Shows the selected objects and hides all unselected objects.

To make hidden objects visible again, see Selecting objects and changing their visibility.

9.4.32.1.5. Hide unselected

Hides all unselected objects.

To make hidden objects visible again, see Selecting objects and changing their visibility.

9.4.32.1.6. Transparency

Sets the selected objects to be transparent. You can also set this property via script interface by using the method for that purpose.

The model viewer also supports transparent materials that are defined in the COS configuration object.

9.4.32.1.7. Make others transparent

Makes all other visible objects transparent except the selected objects.

9.4.32.1.8. Show through other objects

Shows the outlines of the selected objects through other objects such as walls. (Only available from the model tree.)

9.4.32.1.9. Goto near point

You can set the camera location near the selected object.

9.4.32.1.10. Locate in tree

Finds the selected object from the currently active hierarchy and shows its location in the model tree.

9.4.32.1.11. Fit clip box

Fits the clip box to the selected objects. See also Enabling clip box from the model tree.

9.4.32.1.12. Show with surroundings

Crops the model so that it only shows the selected objects and objects that are close to the selected objects.

9.4.32.1.13. Check for collisions

Allows running a collision check for the selected objects. See Performing collision checks with default settings for details.

9.4.32.1.14. Show as table

Allows viewing the selected branch of the model tree as a table, displaying attributes that are used to form the tree as columns.

The command is disabled if the selected hierarchy is based on associations instead of tags. See Viewing model tree as a table.

9.4.32.1.15. Add Smart Point

Allows adding a new Smart Point to the current cursor location, as described in Smart Points.

Note: If the option is disabled, project administrator has not defined any Smart Point Types for this project.

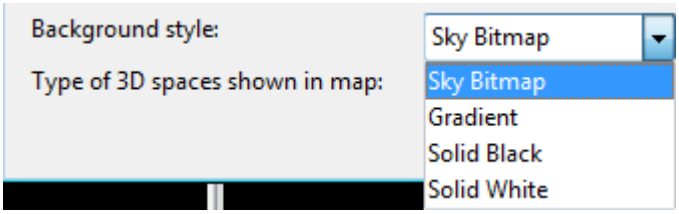
9.4.32.1.16. Add markup

Allows adding a new markup to the current cursor location. See Markups.

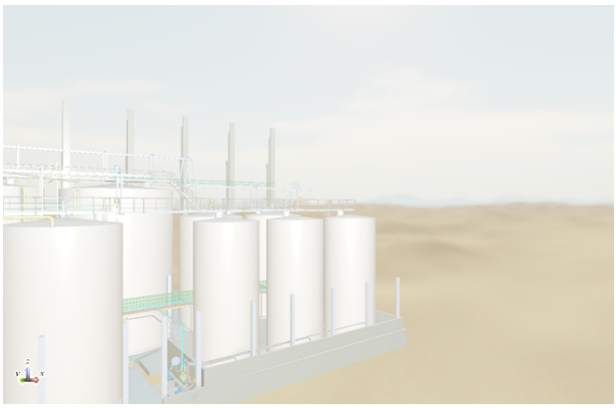
9.4.32.2. Background visualization

An *.ebmx model has a default background that is defined when publishing the model. For example, when selecting **Model > Publish > eBrowser Model** in Plant Modeller, the designer can choose the

default background to be one of the following: Sky Bitmap (default), Gradient, Solid Black, or Solid White.



When selecting **Sky Bitmap**, CADMATIC Outfitting publishes the model with a background that shows sky and sea, and CADMATIC Plant publishes it with a background that shows sky and ground.



In the model viewer, you can change the background in the settings. The default setting is “EBM defined”, meaning that the default background is the one defined in the model file. You can manually set the background to be one of the following: Blue Gradient, Solid Black, Solid White, Default, EBM defined, Desert, Grass Field, or Ocean.

Related topics

Visualization

9.4.32.3. Selecting objects and changing their visibility

This section provides information on selecting objects and changing their visibility. Note that just selecting an object does not move the focus in the 3D view to the object.

By selecting you can target operations to certain object or group of objects. These operations can be, for example, functions in the context menu, hiding/showing objects in the model tree, or assigning visual styles in eShare.

When an object or a group is selected it gets selection color in 3D view and it is highlighted in the model tree. Selections are indicated also when the tree is not fully expanded.

Selecting a cable object highlights all the objects belonging to that cable in the model tree. All the cable objects are also highlighted in the 3D view to enable visualizing the cable route.

Dark blue color is applied to objects you have selected by clicking them, the nodes and objects that inherit the selection from the clicked object will be in a slightly lighter blue, and the parent nodes that are partially selected will be in light blue color.

When a single object is selected, right-clicking the object displays commands relevant to the object, and when multiple objects are selected, right-clicking the selection displays commands that are relevant to the group.

9.4.32.3.1. Selecting objects

On the **Model** tab and in the 3D view, click on an object or object group to select it. To select multiple objects or groups, hold down Ctrl while clicking on the objects or groups. To select all objects and groups in the 3D view, press Ctrl +A.

In the model tree, you can select a range of objects or groups by holding down Shift while selecting the first and the last object or group of the selected range.

If you double-click an object in the model tree, the object is opened in examine mode. To examine multiple objects, select the objects and then select **Examine** from the context menu.

When multiple objects are selected and you click an individual object without holding down Ctrl, or Shift in the model tree, only that single object gets selected.

To expand the selection to an object's parent objects, press Shift and click the object. The selection expands first to the next-level parent object (for example pipe to pipeline), then to the system, and then to the entire model.

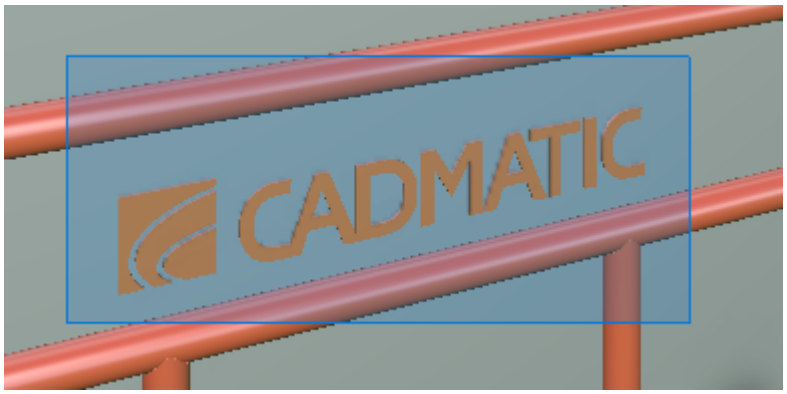
If you continue to click the object after the model level has been selected, only the initially selected object remains selected.

9.4.32.3.2. Selecting objects in the 3D view by drawing a box

In the 3D view, you can select a set of objects by holding down Alt and left mouse button while drawing a rectangle around the required objects. This selects only objects that are visible in the current viewing direction, and not for example objects that are behind a wall.

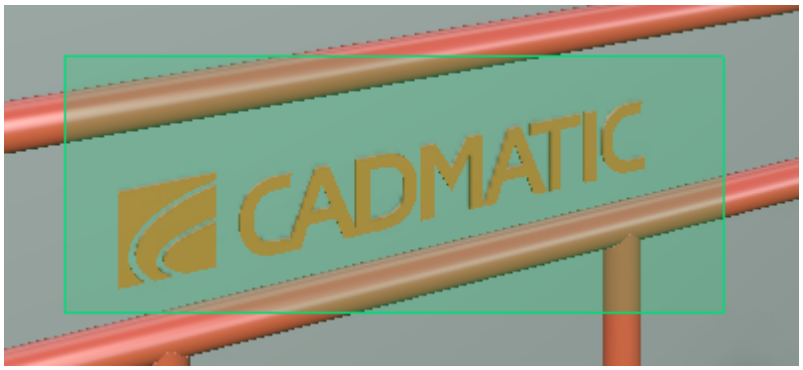
- Drawing from *left to right* creates a blue rectangle that selects the objects which are fully inside the rectangle.

  In this example, only the Cadmatic logo will be selected:



- Drawing from *right to left* displays a green rectangle that selects the objects which either intersect the rectangle or are fully inside it.

  In this example, the Cadmatic logo, the pipes that touch the rectangle, and the wall in the background will be selected:



Additionally, if you are holding down Ctrl when you release the left mouse button, the objects get added to a previously made selection. Therefore, you can draw multiple selection boxes by holding down both Ctrl and Alt while drawing.

9.4.32.3.3. Selecting all visible objects

In the 3D view, you can select all visible or partially visible objects by pressing Ctrl + A. The selected objects are highlighted in the **Model** tab.

9.4.32.3.4. Unselecting objects

Hold down Ctrl and click on the object or group to remove the selection only from that object or group.

To remove all selections, click on an empty area in the model or in the 3D view, or press Esc.

Related topics

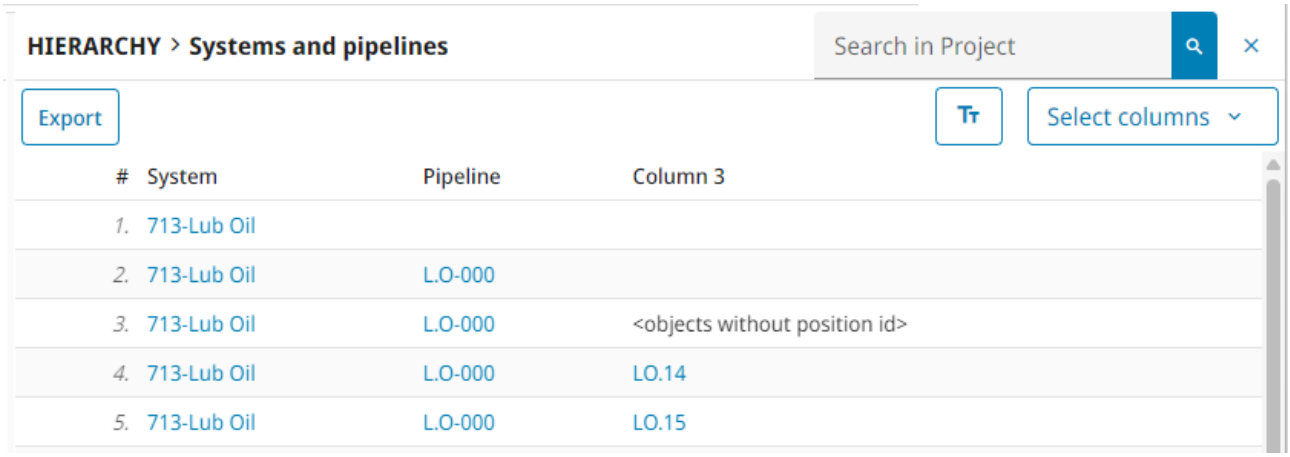
Context menu

Model tab

Undo or redo last visibility change

9.4.32.4. Viewing model tree as a table

A selected branch of the model tree can be viewed as a table by first selecting the model tree branch, and then **Show as table** from the context menu.



In the table view you can do the following:

- Export the table as an Excel file by selecting **Export**.
- Resize the text in the table by selecting
- Select displayed columns using **Select columns** to select and filter from the drop-down menu which columns are included in the table.

9.4.32.5. Collision checking

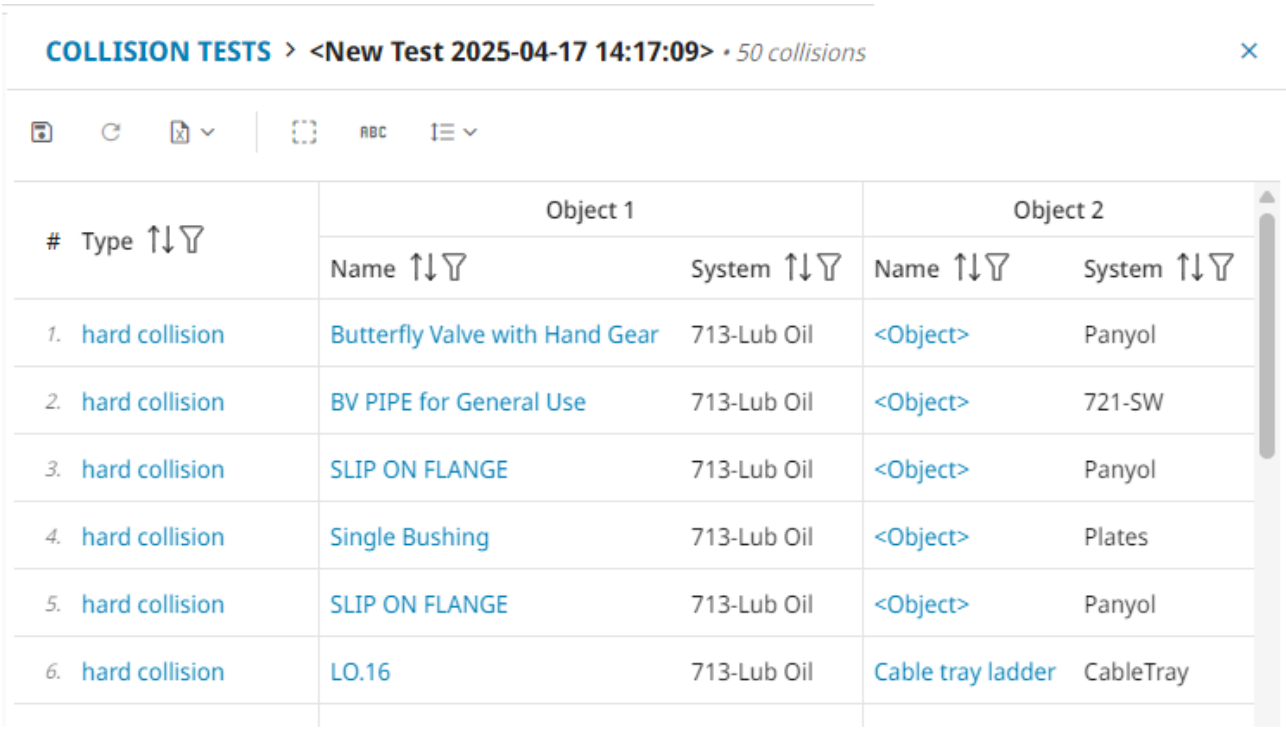
CADMATIC eShare App can perform collision checks to investigate whether parts collide with other parts.

CADMATIC eShare can be used to examine the results of collision checks.

9.4.32.5.1. Performing collision checks

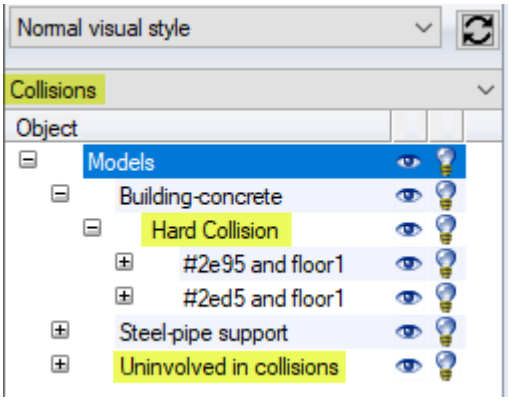
Collision checks test whether objects collide with other objects, contact other objects, or violate clearance limits. On the **Model** tab, from the context menu by selecting **Check for Collisions** you can run a collision check with default settings to see whether the objects in one node of the object tree collide with any other objects. By using the **Check for Collisions** tool from the main toolbar, you can do more complex object selections and also customize the collision check settings.

When the checks are completed, the **Collision tests** pane with a table containing the collisions is automatically displayed, and you can browse the table to see where violations occur. If there are no collisions, the pane opens displaying text *No collisions*. See Viewing saved collision test results.



#	Type	Object 1		Object 2	
		Name	System	Name	System
1.	hard collision	Butterfly Valve with Hand Gear	713-Lub Oil	<Object>	Panyol
2.	hard collision	BV PIPE for General Use	713-Lub Oil	<Object>	721-SW
3.	hard collision	SLIP ON FLANGE	713-Lub Oil	<Object>	Panyol
4.	hard collision	Single Bushing	713-Lub Oil	<Object>	Plates
5.	hard collision	SLIP ON FLANGE	713-Lub Oil	<Object>	Panyol
6.	hard collision	LO.16	713-Lub Oil	Cable tray ladder	CableTray

To view the results in the object tree, select Show sidebar button  in the main toolbar.

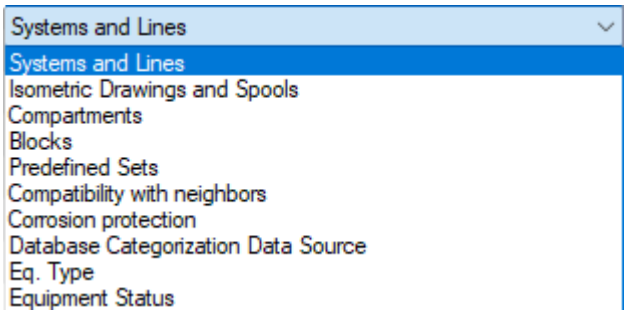


9.4.32.5.1.1. Performing collision checks with default settings

You can run a collision check with default settings to test whether one set of objects collides with any other objects.

Do the following:

1. On the **Model** tab, select the object hierarchy that you want to use to select which objects to include in the collision check.

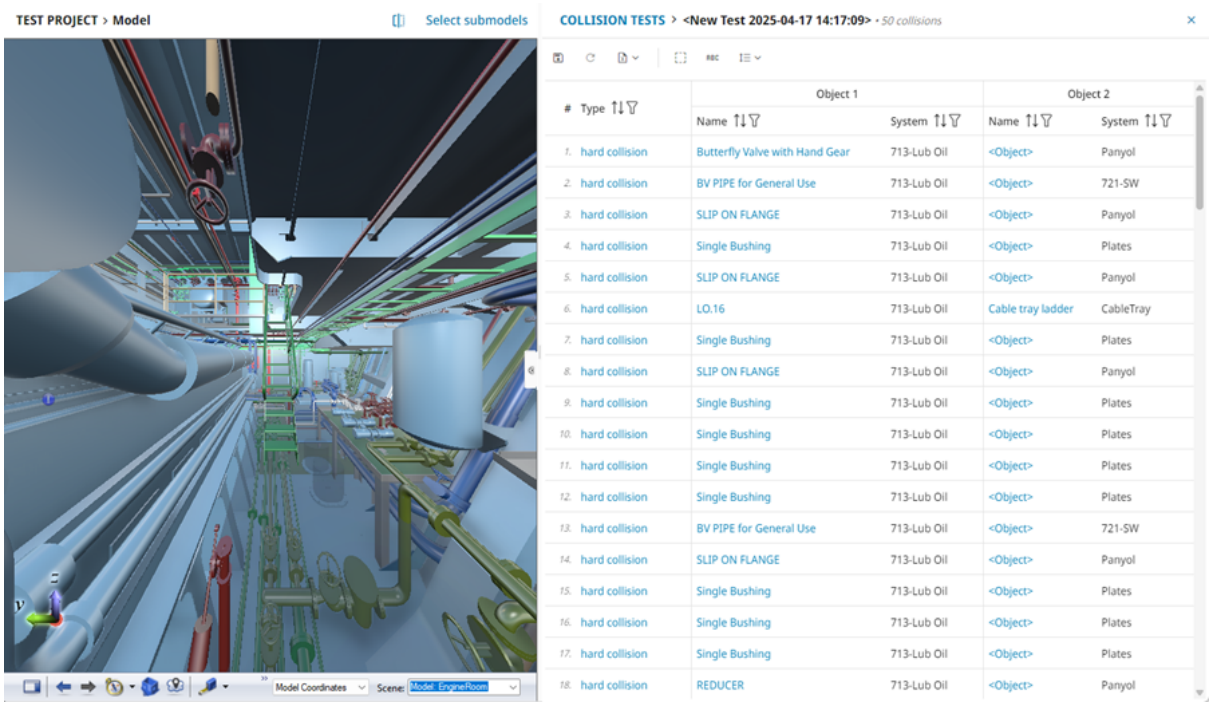


2. In the hierarchical object tree, right-click the node that contains the objects to be checked, and select the check method to use from the **Check for Collisions** context menu:
   - **Only Collisions (Faster)** – Performs a quick check for collisions and contacts between objects, and reports both types as collisions. The check ignores cases where objects are less than 1 mm apart but there is no physical hit. This is faster than the complete check but not all contacts might be noticed.
   - **With Contacts and Clearance Violations** – Performs a complete check for collisions, contacts, and clearance violations between objects. This is more accurate than the fast method but can take significantly more time, especially when there is a large number of objects to be checked.
3. When the specified check is finished, the **Collision tests** pane with a table containing the collisions is automatically displayed, and you can browse the table to see where violations

occur. If there are no collisions, the pane displays *No collisions*. To enable all project users to view the collision test results later in eShare App or in eShare, you need to save the results using Save button . See Viewing saved collision test results.

Note: In some cases the collision test results cannot be saved and rerun in the **Collision tests** pane, if the selections in model tree are such that cannot be rerun using the Check for Collisions dialog.

To examine a collision, select either the type of collision, or the object in the table and the collision opens in Examine mode.



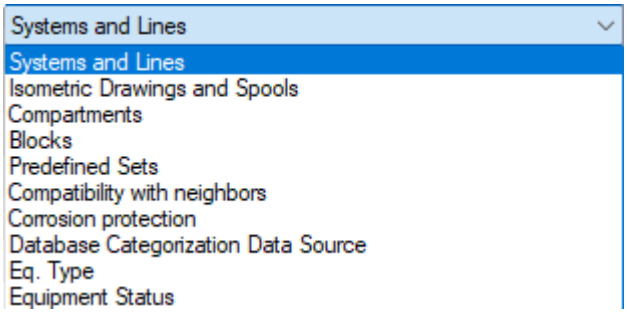
9.4.32.5.1.2. Using the check for collisions tool

In the Check for Collisions tool you can select any combination of objects to be checked against other objects, and you can specify various settings for the check to be performed.

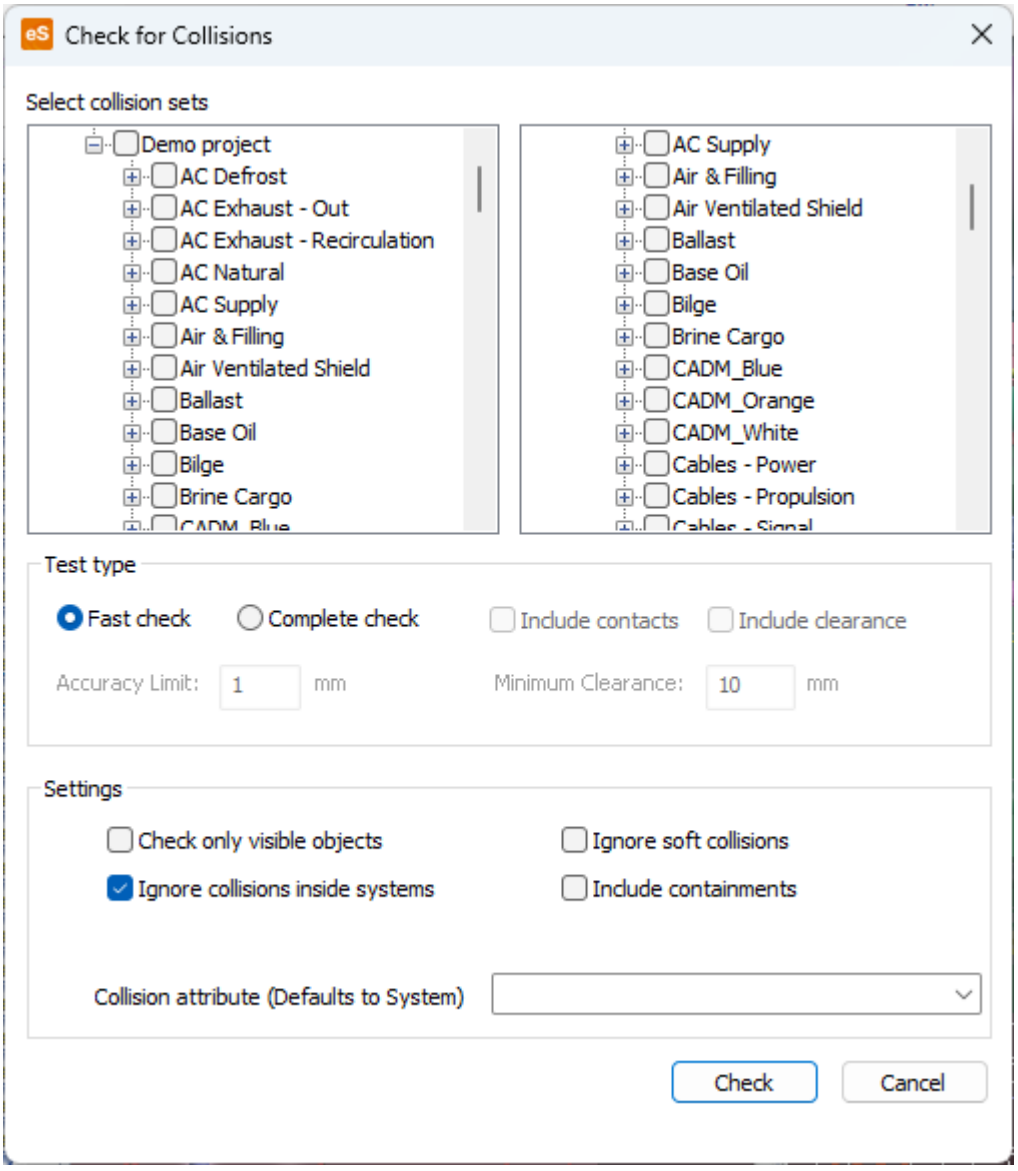
Do the following:

1. On the **Model** tab, select the object hierarchy that you want to use to select which objects to include in the collision check.

   For example, if the model contains blocks and you set the hierarchy menu to Blocks, you will be able to check for collisions between block boundaries.



2. In the main toolbar, click the Check for Collisions button  . The Check for Collisions dialog opens.



3. In Select collision sets, select which sets of objects to compare to which.

For example, if the hierarchical tree is arranged by blocks, you can select one block from the left pane and then its neighboring blocks from the right pane, to check whether that one block collides with the others.

4. In the Test type section, first select what type of tests to run:

   Fast check – Performs a simpler collision check which is faster to execute. All hits between objects are listed as collisions. **Accuracy limit** is not used.

   Complete check – Performs a more thorough check for collisions between objects. Hits are listed by type. If **Include contacts** is enabled, also contacts are included. If **Include clearance** is enabled, also clearance violations are included. A collision is reported when object overlap is greater than the specified **Accuracy limit** value; a contact is reported when object overlap is smaller than **Accuracy limit** but objects are less than **Accuracy limit** apart; a clearance violation is reported when objects are more than **Accuracy limit** but less than **Minimum clearance** apart.

5. Still in the Test type section, specify the tolerance values to consider between objects:

   Accuracy Limit – Specifies the tolerance value to use in collision checks (1-100 mm). A collision is reported if objects collide at least by the amount specified in this field.

   Minimum Clearance – Specifies the tolerance value to use in clearance violation checks (1–10000 mm). A clearance violation is reported if objects are closer to each other than value specified in this field.

6. In the Settings section, specify the following settings:

   Check only visible objects – If selected, hidden objects are not checked for collisions.

   Ignore collisions inside systems – If selected, collisions are not checked between objects that belong to the same system.

   Ignore soft collisions – If selected, collisions are not checked between objects and insulation or 3D spaces.

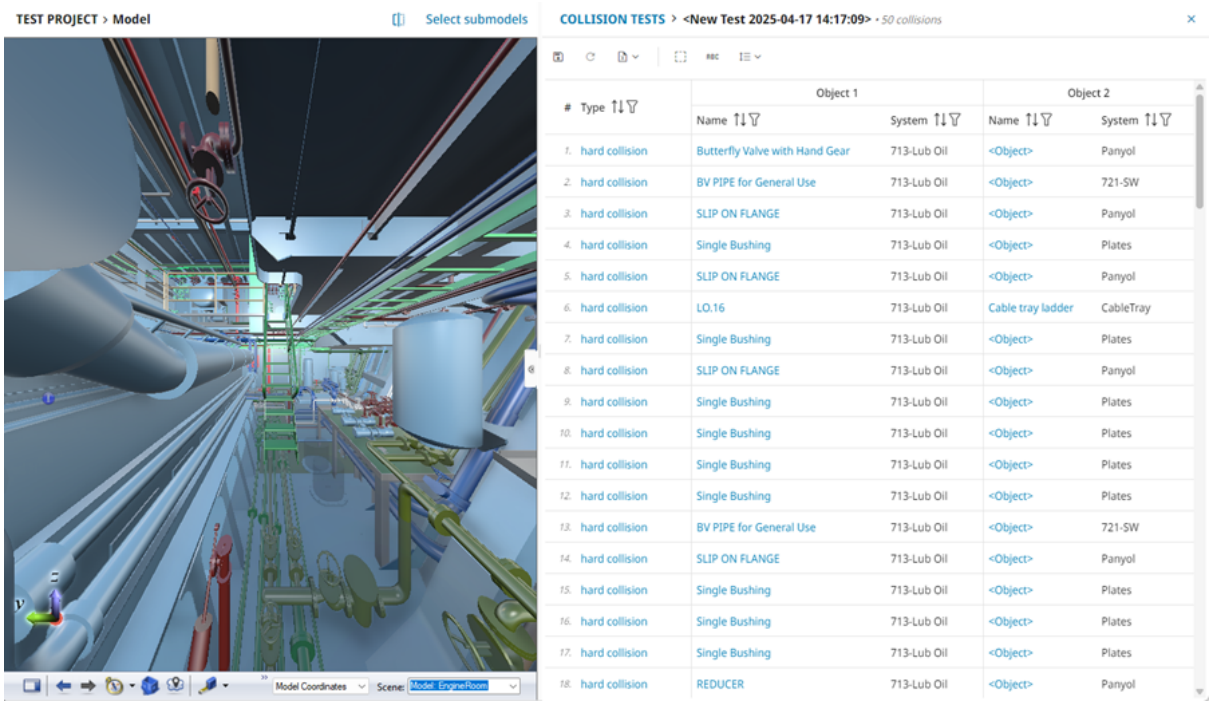
   Include containments – If selected, in addition to Passages and Service Spaces also the following 3D space objects are included in the check: Blocks, Super Blocks, Sub Blocks, Compartments, Fire Zones, Flooded Volumes, and Outfit Areas.

   Collision attribute – Specifies an attribute, whose value, if present, will be saved for each colliding object in each collision. Can be useful for models that do not have reliable object GUIDs for storing a piece of extra information, e.g., the system the object belongs to.

7. Click **Check** to run the check.

8. While the check runs you can click **Cancel** if you need to cancel the checking; no violations will be reported in this case.
9. When the check is completed, the **Collision tests** pane with a table containing the collisions is automatically displayed, and you can browse the table to see where violations occur. If there are no collisions, the pane opens displaying text *No collisions*.To enable all project users to view the collision test results later in eShare App or in eShare, you need to save the results using Save button  . See Viewing saved collision test results.

   To examine a collision, select either the type of collision, or the object in the table and the collision opens in Examine mode.



   To view the results in the object tree, select Show sidebar button  in the main toolbar. To examine a collision from the model tree, select the violation, and then **Examine** from the context menu.

9.4.32.5.2. Viewing saved collision test results

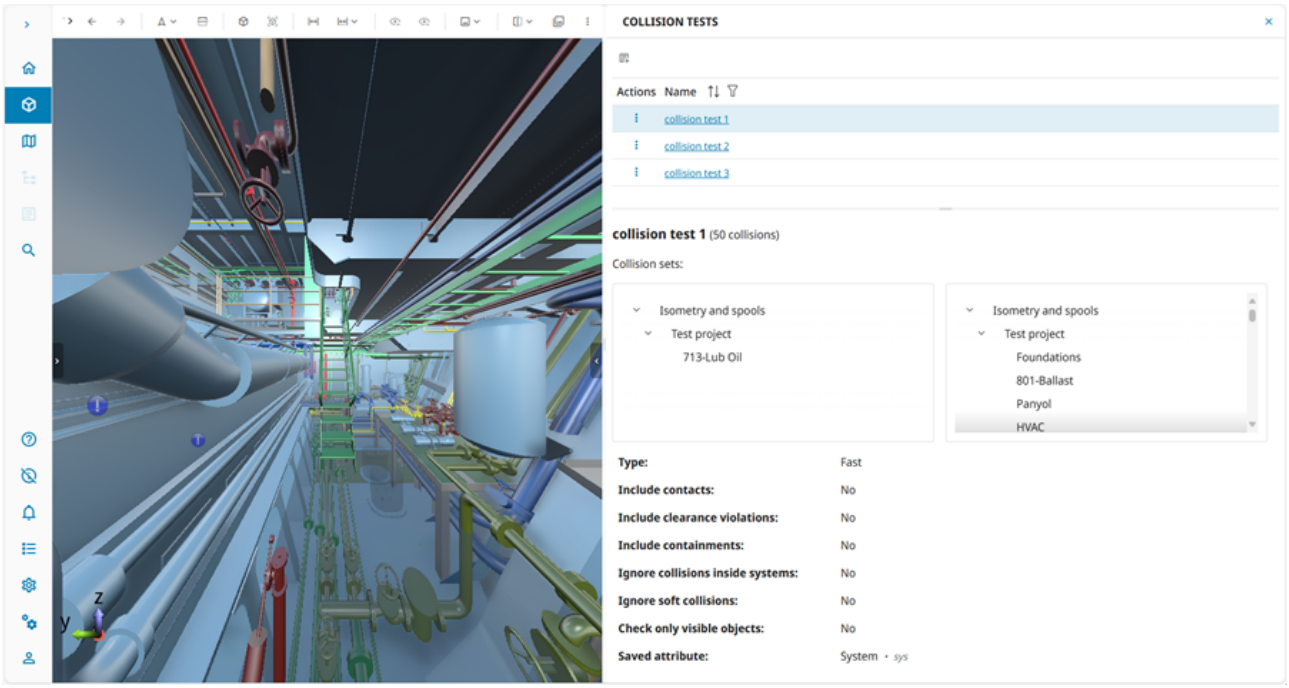
Prerequisites

- Collision test has been performed in eShare App. See Performing collision checks.
- Collision test results have been saved in eShare App. See Performing collision checks

Note: In some cases the collision test results cannot be saved and rerun in the **Collision tests** pane, if the collision check was initiated from the model tree using such selections that cannot be rerun using the Check for Collisions dialog.

Do the following:

- In model view, select **Split screen** and **Model - Collisions**.



You can view information on any saved collision test by selecting the row. Selecting the name of the test will open the results in the collisions test pane.

The list can be filtered based on the names of the tests.

You can copy, rename, delete, or clear the results for any test by selecting ⋮ and then the desired function.

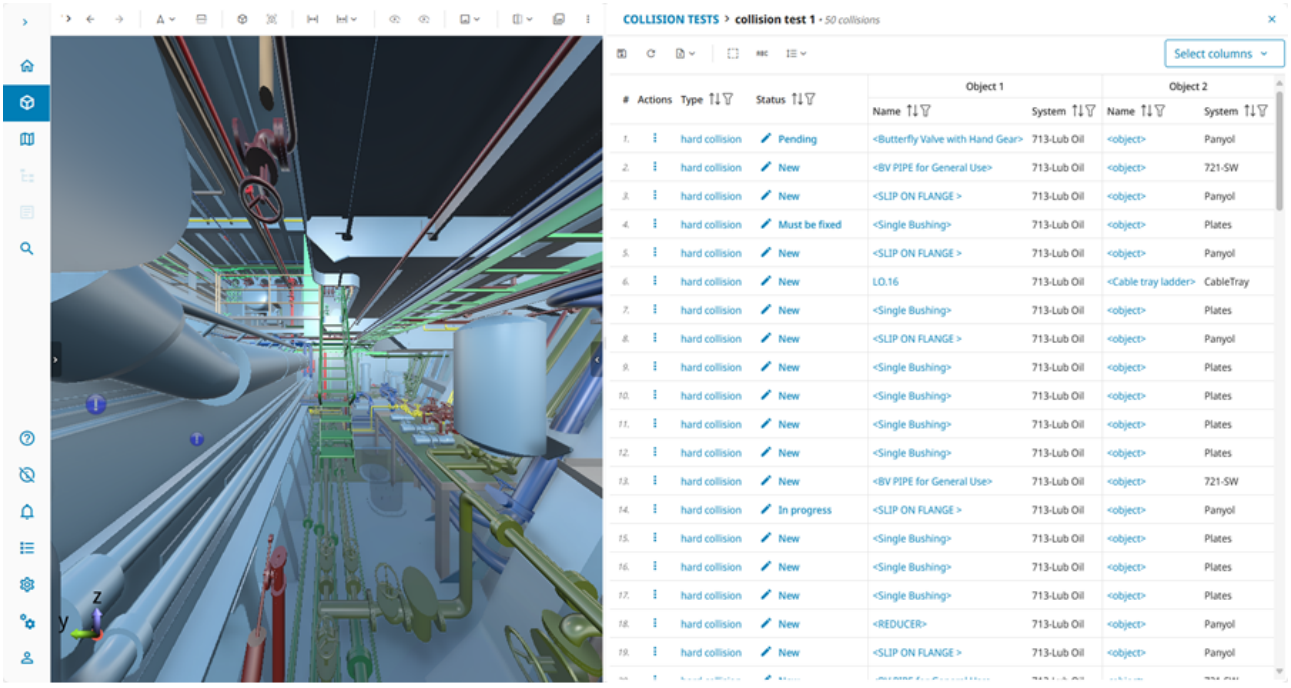
To run a new collision check, select and Check for Collisions dialog opens.

Note: Collision checks can be run only in eShare App.

9.4.32.5.2.1. Viewing collision test results in collisions tests pane

Do the following:

1. In model view, select **Split screen** and **Model - Collisions** from the drop-down menu.
2. In collision tests list, select the name of the collision test you want to examine.
   The collision test results open in **Collision tests** pane.



In the **Collision tests** pane you can do the following:

- View the collision in Examine mode by clicking either on the collision type or the name of the object
- – Save changes made to the collision statuses
- – Rerun the collision test. Opens the Check for Collisions dialog.

  Note: Collision checks can be run only in eShare App.

- – Export the results as an Excel file, by selecting **Export All** or **Export Filtered**
- – Hide/show flipped collisions
- – Hide/show saved attributes
- – Select the density of the table as **Comfortable** or **Compact**
- Select displayed columns using **Select columns** to select and filter from the drop-down menu which columns are included in the table.
- In **Actions** column, select and then create markup for either object in the menu

- View and change the status of the collision in the **Status** column. Newly found collisions have status **New**, but it will automatically change to **Pending**, if the collision test is rerun. You can change the status manually to any other status (**Pending**, **In progress**, **Must be fixed**, and **Ignore**) except **Fixed** – the collision will get status **Fixed** when it is not detected anymore upon the subsequent collision test run.
- Sort and filter the table columns using  and  .
- Open the collision tests list by selecting **Collision tests** at the top

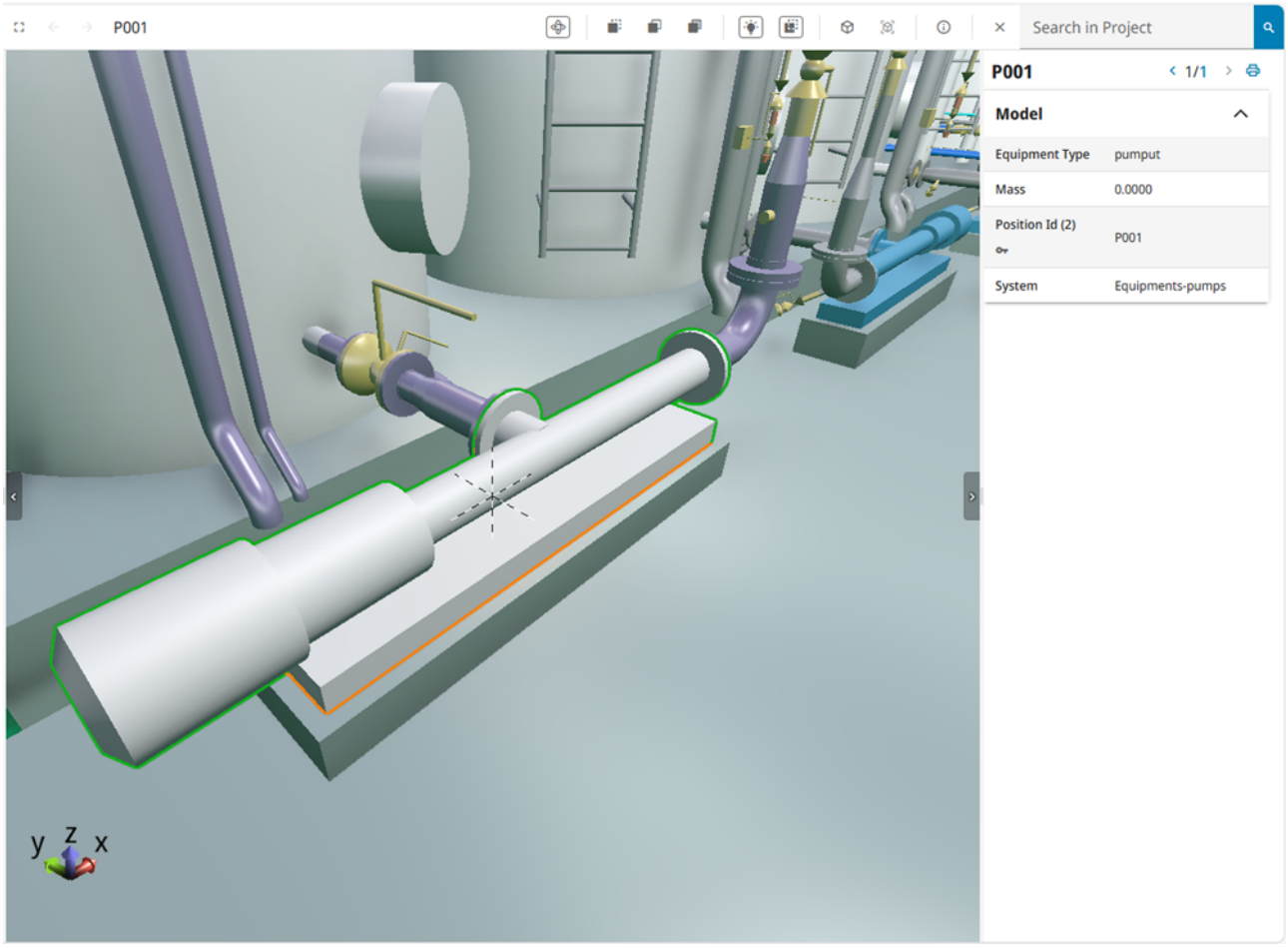
Related topics

Performing collision checks

Split screen

9.4.32.6. Properties pane

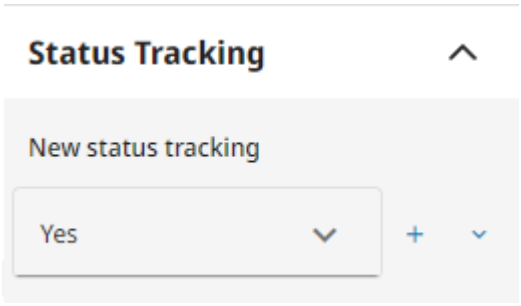
In the Model view of CADMATIC eShare, the pane on the right side of Model shows the properties of the currently selected entity, such as its name and attributes. If the selected entity is a segment or a node of a cable, the details of the cable are shown in a collapsed category. If the object has related nodes, the details of the node are shown in a collapsed category. It can also display any additional information that might be available from different data sources that administrator has enabled for the project: links to design drawings which describe the selected entity, links to online catalogs maintained by component manufacturers, and so on.



- The print button allows the information, together with a snapshot of the current 3D view, to be printed out. Note that also collapsed sections of the properties pane will be visible in print-outs. When a print-out contains a QR code, CADMATIC eGo can read the QR code to open the same entity in its 3D viewer, using the camera location and viewing direction specified in the QR code.
- If the pane contains links to web pages, clicking a link will open a new browser/tab or always the same tab, as specified by administrator in the hyperlink adapter settings.
- If the pane contains links to documents, clicking the document name opens the document. The document automatically zooms to the correct location in the document.

  If the linked documents contain indexed documents, **Select metadata** will be available to enable viewing document metadata.
- If the pane shows attributes, hovering the mouse cursor over an attribute displays its tag:

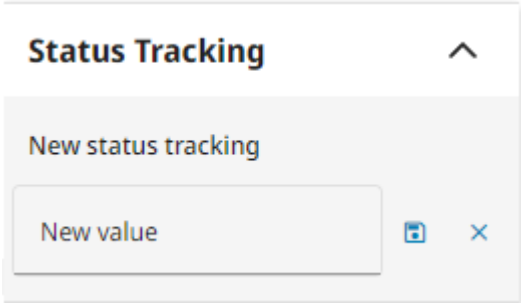
- If the pane shows status tracking values, clicking the value field shows the possible status changes if there are any, and clicking the blue arrow next to the value field shows a log of previous status changes.



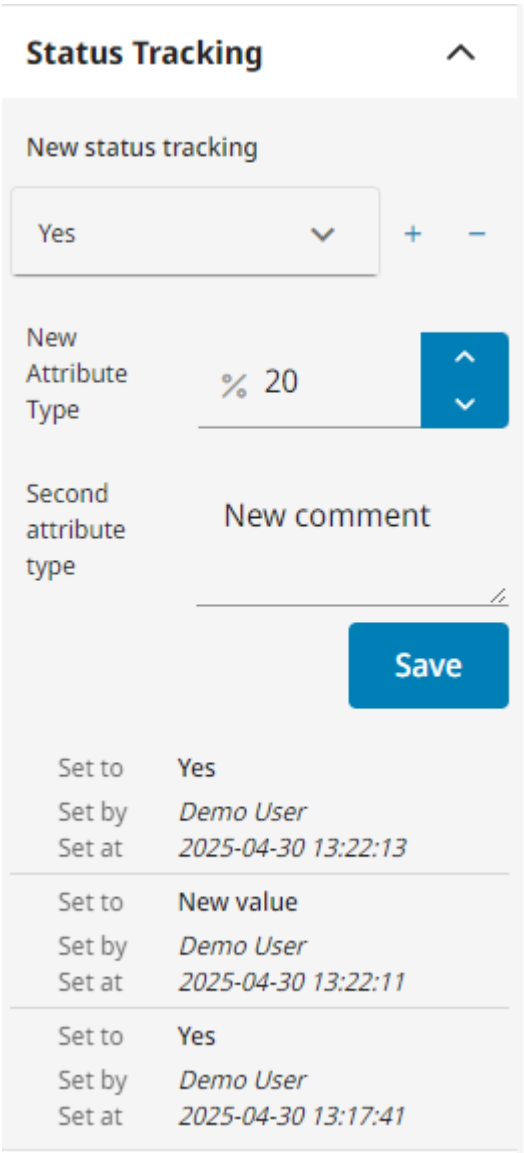
You can select multiple objects and change their status to the same target status. The objects can have different source statuses.

Note: If you are examining an object and the visual style menu is set to color objects according to status, after changing the status value you must close the examination mode to see the updated color in the 3D view.

To add new status tracking value, click the + button (if adding values is enabled). Type the new value or select from the drop-down menu and click Save button.



When the status tracking is expanded, new attribute types can be modified or added and change saved with **Save** button.



You can control the visibility of the properties pane by adding the parameter **attributePaneVisibility** to the eShare URL and setting it to either "show" or "hide". This example URL shows the sidebar but hides the properties pane:

*https://<domain>:<port>/#/p/<project id>/model?treeVisibility=show&**attributePaneVisibility=hide***

For more information on URL parameters, see URL parameters.

9.4.32.6.1. Weight and center attributes

If the pane shows weight and center attributes, you can display the center of gravity as a marker in 3D view by selecting . The marker has a label with the attribute description. Different types of

attributes have markers in different colors to help distinguish between them.

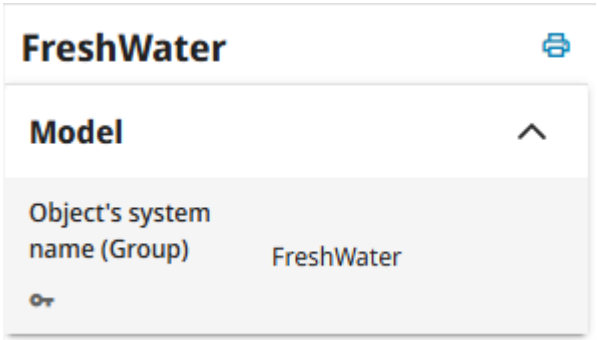
Previously created markers are retained, if new items are added or items removed from the current selection. The labels of old points are appended with an index with the format [1] to indicate that they are not current information. When the item selection is cleared, or a completely new object is selected (Ctrl is not pressed while selecting), the previous markers are cleared as well.

If there are markers added for a given attribute type, clear the markers by selecting ✕.

You can select to show or hide center of gravity attributes by type by selecting or . When an attribute type is hidden, no operations can be performed on that type.

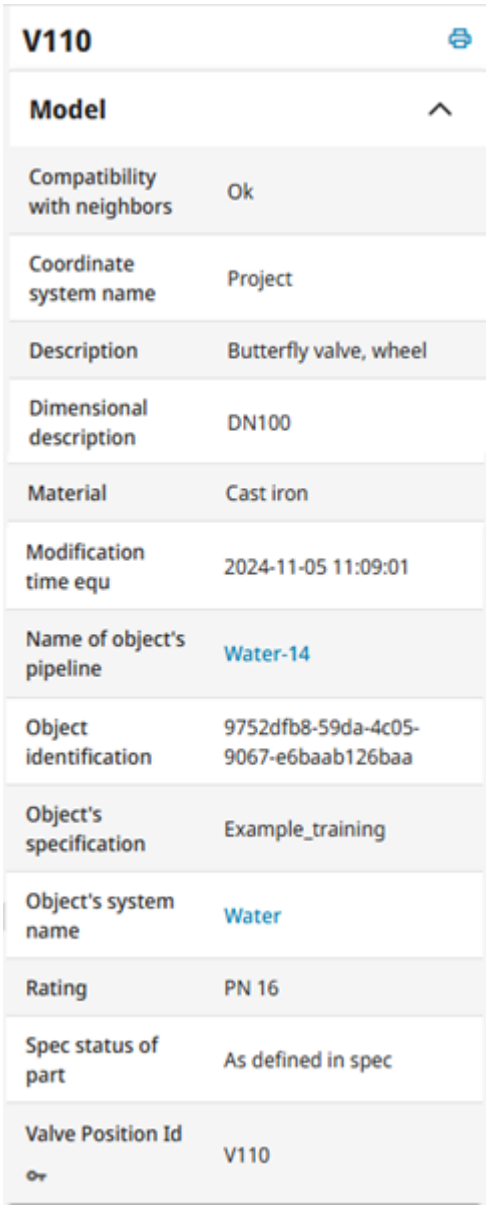
9.4.32.6.2. Object group properties

When an object group such as a System is selected, the properties pane shows the group name and group attributes. If using status tracking, you can change the status tracking value of the group.



9.4.32.6.3. Model object properties

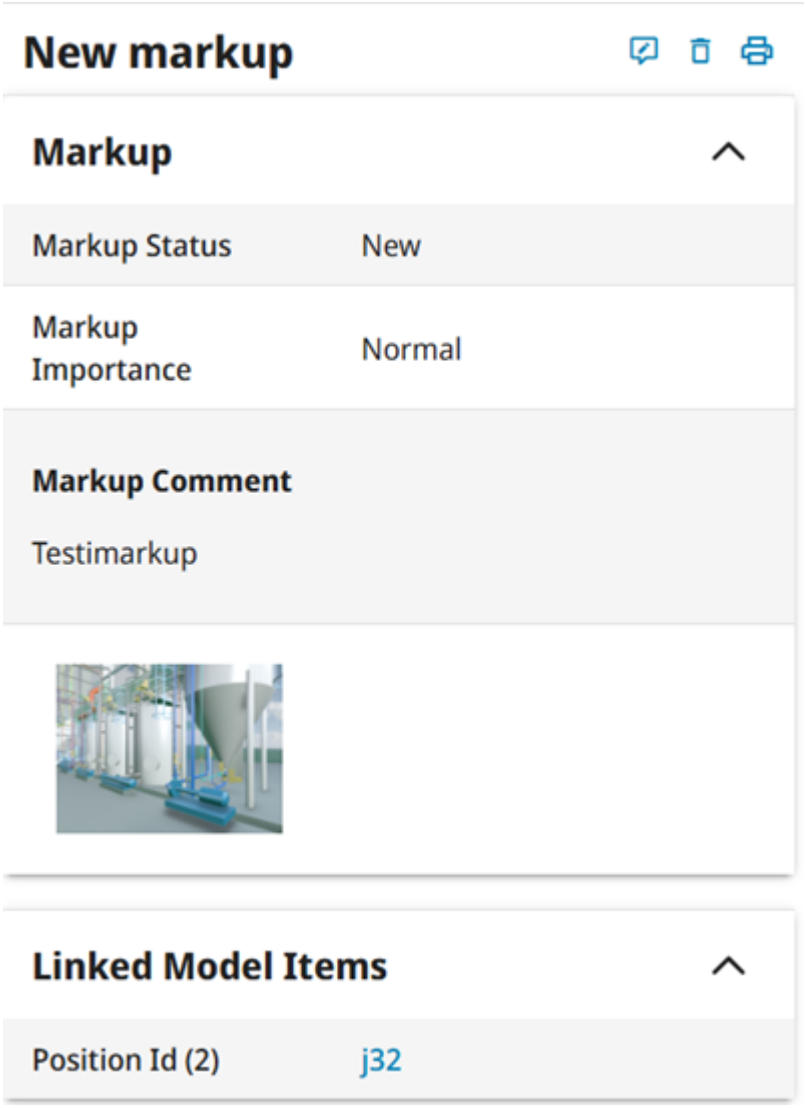
When a single model object is selected, the properties pane shows the object name, object attributes, and any additional information available to the object. The properties include also information on the used coordinate system, if it is defined in the EBM.



9.4.32.6.4. Markup properties

When a Markup is selected, the properties pane shows the Markup's name, type, status, importance, latest comment, thumbnail picture, and additional properties such as assignee if defined in the Markup Type configuration. Also linked model items are shown in a collapsed category.

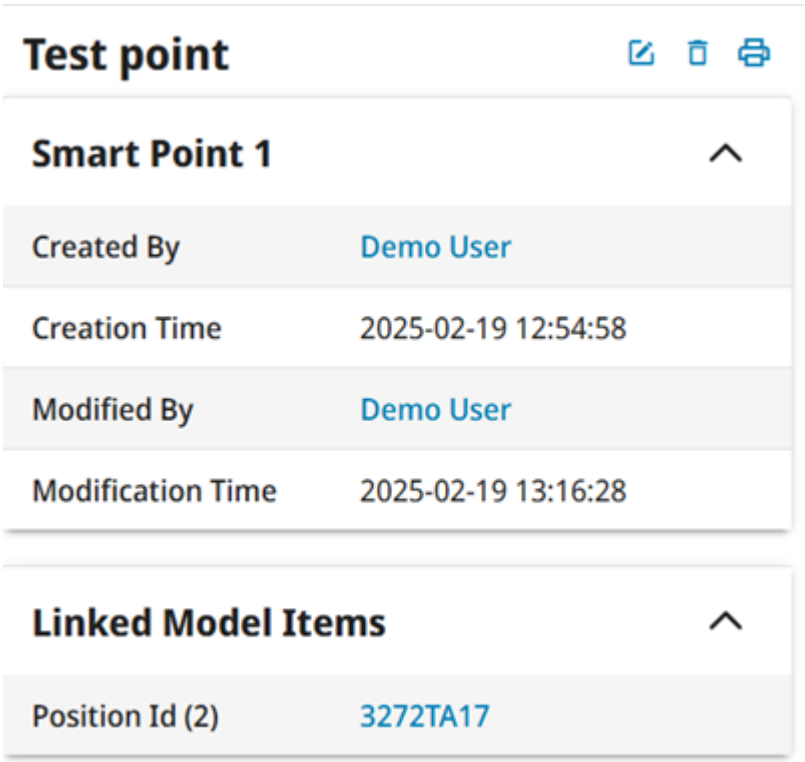
- – Select to edit the Markup.
- – Select to delete the Markup.



9.4.32.6.5. Smart Point properties

When a Smart Point is selected, the properties pane shows its name, type, and attributes.

- – Select to edit the attribute values.
- – Select to delete the Smart Point.



Related topics

Documents Viewer

9.4.32.7. Smart Points

Smart Points are specialized markers that are linked to an object or object group and display information about that entity. The information that a Smart Point contains can be user-defined or obtained from an external system or database—as defined in the Smart Point Type configuration in eShare. Smart Points can be seen as icons in the 3D model, and the user can select a Smart Point to see the information that it contains. If the Smart Point uses attributes, the user can also add information by editing the attribute values. Smart Points can be created and modified in both eShare and eGo, and the changes can be synchronized from one program to the other. Smart Points can be downloaded also to CADMATIC Plant Modeller. Accordingly, Smart Points can be used to quickly add status information or other comments during a meeting or an on-site visit.

Smart Points are available if project administrator has enabled them for your project. In the 3D model, when you are close enough to a Smart Point icon you can also see the Smart Point's name. Normally, points that are further away display a smaller icon to indicate distance. But, selecting to

examine an object or object group always displays its icons in full size, to make it easier to see all the Smart Points of a large object, such as a long pipeline.

You can select a Smart Point that is fairly close to you by clicking it. The Smart Point is highlighted and its details are displayed in the properties pane on the right. You can see its standard attributes such as name, type and external ID, as well as any user-definable attributes or attributes obtained from an external data source. Also a change log is available if project administrator has enabled this function in the Smart Point Type settings. When viewing a Smart Point that uses a PI Adapter, the data is constantly updated from the PI database, and there is a chart that you can click to expand the chart view.

In addition to finding Smart Points by browsing the model, you can use the search function of eShare to locate Smart Points. See Search.

Depending on the Smart Point Type configuration, you might or might not have permission to see or modify Smart Points of a specific type.

9.4.32.7.1. Adding a Smart Point

In the 3D model viewer you can add Smart Points to objects and object groups.

Prerequisites

- Project administrator has created one or more Smart Point Types for this project.
- Depending on Smart Point Type configuration, you might need permissions to be able to create Smart Points. If you do not have sufficient permissions to create Smart Points, the **Add Smart Point** option is not available.

Do the following:

1. In the 3D model viewer, locate the object to which you want to add a Smart Point.
2. Right-click the location in the object where the Smart Point is to be placed, and select **Add Smart Point** from the right-click menu. The **New Smart Point** pane is displayed on the right.
3. In the **New Smart Point** pane, enter the following information.
    - **Type** – Select the Smart Point Type. This determines the color and the icon of the Smart Point in the 3D view, and whether the Smart Point Type has attributes.
    - **Name** – Enter a display name for the Smart Point.

- **External ID** – If the Smart Point Type requires an external ID, enter the required value. For example, if the Smart Point Type uses a hypertext adapter to perform a web search, enter the search string in this field.
- **Link to Model Item** – Select the attribute, such as Equipment ID, to which to link the Smart Point. Only attributes of type "Key" and "Group" are listed.
- **[attribute name]** – If the Smart Point Type has any attributes, you can select or enter a value for each attribute.

4. Click **Save**.

Results

The Smart Point is added to the object and the Smart Point icon displays near the object.

9.4.32.7.2. Editing a Smart Point

In the **Model** view you can edit the properties of existing Smart Points, but not their location or object link. Edit the properties for example to set the value of a Smart Point attribute. Attributes that a Smart Point gets from an external data source, however, cannot be edited.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to edit Smart Points. If you do not have sufficient access rights, the Smart Point is in view-only mode and the **Edit Smart Point** button is not available.

Do the following:

1. In the 3D model viewer, select the Smart Point to edit.
2. In the properties pane, click the **Edit Smart Point** button .
3. Edit attribute type, name (or external identifier), and values as appropriate, and then click **Save**.

9.4.32.7.3. Deleting a Smart Point

In the 3D model viewer you can delete a Smart Point to remove it from the target object.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to delete Smart Points. If you do not have sufficient permissions, the **Delete Smart Point** button is not available.

Do the following:

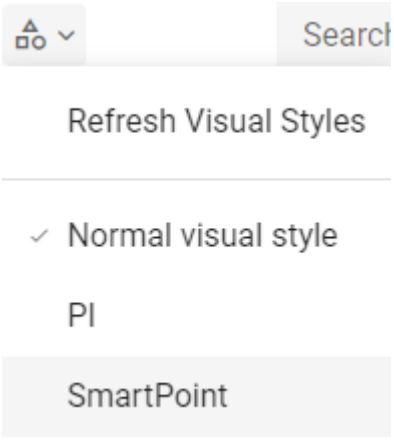
1. In the Model view, select the Smart Point to delete.
2. In the Smart Point properties pane, click the delete button . You are prompted to confirm the action.

9.4.32.7.4. Displaying objects with Smart Points as a visual style

The **Visual Styles** drop-down menu in Model view lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to highlight objects that contain Smart Points of that type.

Do the following:

- In the **Model** tab, click **Visual Styles** button in the main toolbar, and select the required Smart Point Type from the drop-down menu.



Objects and object groups that contain Smart Points of the specified type are highlighted in the 3D view. The color legend is displayed at the bottom of the model view. If an object has several Smart Points that relate to different attributes, for example one Smart Point for Valve Position and another for Pipeline, the object is highlighted with the "Multiple Categories" color.

Related Actions

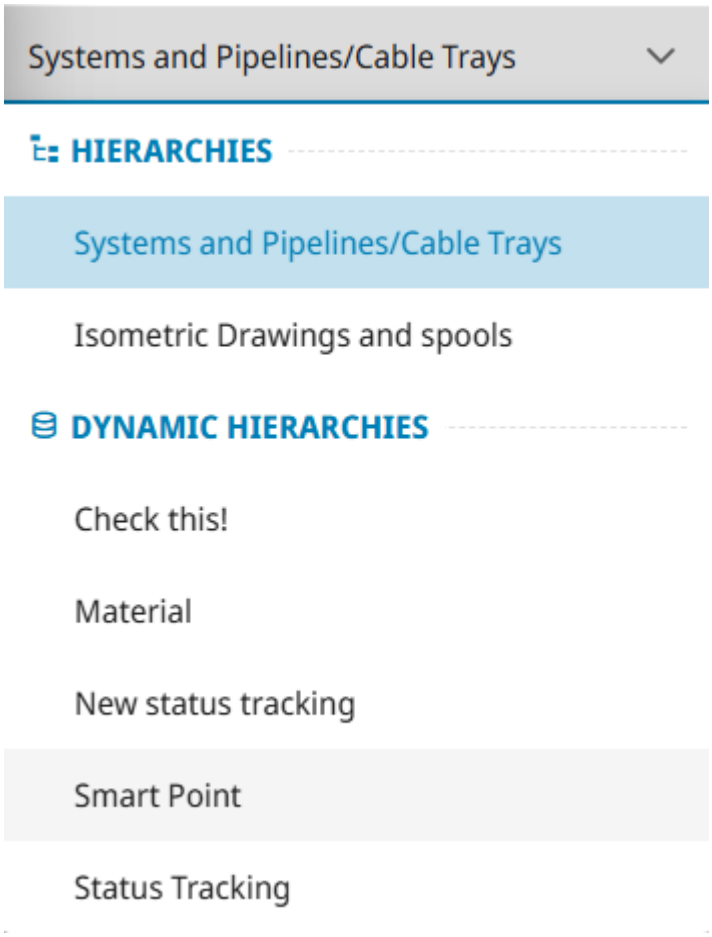
- After selecting a visual style, if you add, edit, or delete Smart Points, select **Refresh Visual Styles** in the Visual Styles drop-down menu to update the object colors in the 3D view.

9.4.32.7.5. Displaying objects with Smart Points as a hierarchy

The **Hierarchy** drop-down menu of the 3D model viewer lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to list the objects and object groups that have Smart Points of that type.

Do the following:

- On the **Model** tab, open the **Hierarchy** drop-down menu, and select the required Smart Point Type from the list.



  The **Model** tab displays a hierarchical list of entities that contain Smart Points of the specified type, and you can right-click an object to examine it or to hide all other objects, for example.

9.4.32.8. Markups

The Markups functionality of CADMATIC eShare allows the participants of a design project to add comments and status information to a model, and then share the information with each other. Markups synchronized from CADMATIC eGo can also contain photos.

All projects have one default Markup Type that you can use to create Markups. In addition, project administrator can create additional custom Markup Types, and define which users have permission to view, create, update, upload, and delete Markups, as described in . Markups can be assigned to a specific user, if project administrator has enabled this function in your project.

Markups can be viewed in any coordinate system and the reference coordinates shown match the currently active coordinate system.

9.4.32.8.1. Adding new markups

In the 3D model viewer, users can add Markups manually by navigating to the location where the Markup should be placed, and then selecting **Add Markup** from the right-click menu. You can add Markups also in the bubble view of a point cloud.

This opens the Markup editor where you can add comments and simple graphics to the Markup, or email the Markup as a picture, for example. See Markup Mode for details.

If you do not have permissions to create Markups, the **Add Markup** option is not available.

9.4.32.8.2. Uploading a markup file

In the front page of a project, click **Upload Markups** to upload Markups from an .ebx, .bcfzip, or .bcf file.

If you do not have permissions to create or update Markups, the **Upload Markups** option is not available.

9.4.32.8.3. Accessing markups from the project's home view

The latest Markups are listed as thumbnail images in the home tab of the project. Clicking the thumbnail image opens the Markup in the model viewer. Clicking the thumbnail image of a Document Markup opens it in Documents Viewer. Use the search links on the page to see more items. If you have sufficient permissions, you can update the Markups. If you do not have permissions to update Markups, the Markups are displayed in view mode.

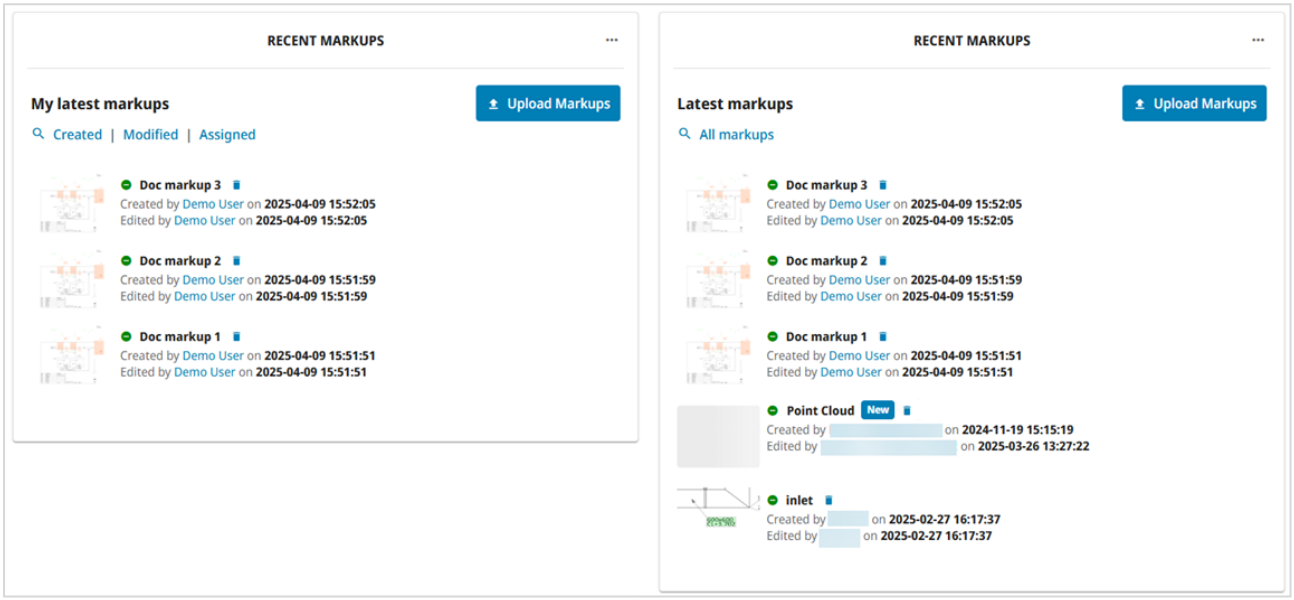
My latest markups – Lists the Model and Document Markups that the current user has recently added or modified or that have recently been assigned to the current user.

- **All Created by Me** – Opens the **Search** view and lists all Model Markups that the current user has created.

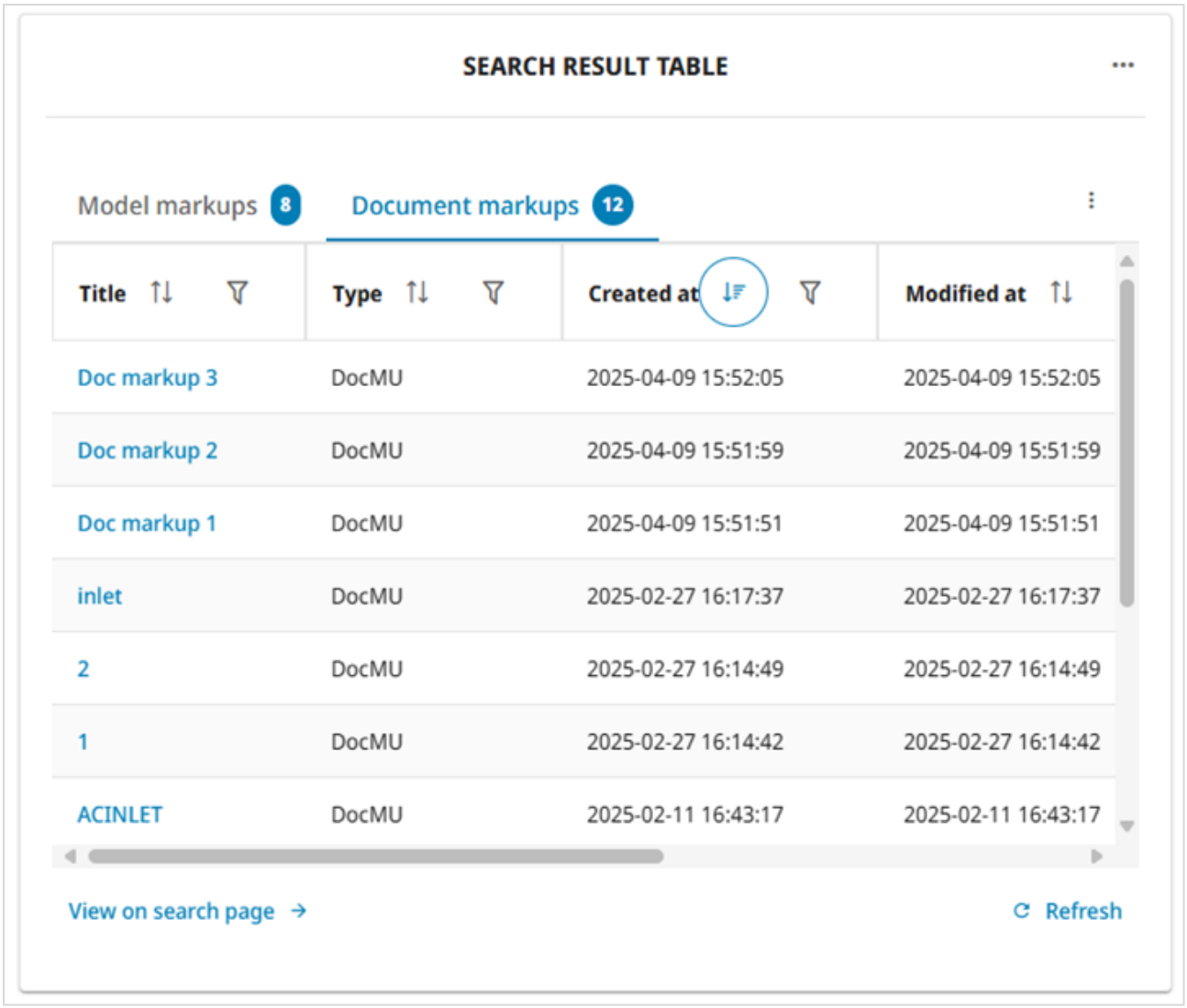
- **All Modified by Me** – Opens the **Search** view and lists all Model Markups that the current user has modified.
- **All Assigned to Me** – Opens the **Search** view and lists all Model Markups that are assigned to the current user.

Latest markups – Lists the Markups that any user has recently added or modified.

- **All Markups** – Opens the **Search** view and lists all Model Markups in the project.



Search Result Table widget – If a search result table widget with a markup search has been configured to a tab in Home view, Model markups are visible there.



9.4.32.8.4. Finding markups with search

In the **Search** view, you can use the "Points and Markups" search to find specific Markups. After performing a search, you can save the search for future use, and you can export Model Markups from search results to a Microsoft Excel file, a Microsoft Word file, or an .ebx, or .bcfzip file.

When Markups are configured to support assignees, you can use the search to find Markups based on their current or previous assignee.

See Search methods for details.

9.4.32.8.5. Exporting markups

You can export a Markups file (.ebx, or .bcfzip) from the **Search** view and then open it, for example, with CADMATIC eBrowser. See Exporting a model markup file (.ebx) or Exporting a model markup file (.bcfzip).

9.4.32.8.6. Deleting markups

Markups can be deleted in the following ways:

- In the front page of a project, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In the properties pane when viewing the Markup in 3D Model, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In search results when viewing the results in list view, the delete button next to the Markup's title deletes the Markup, even if it was created by another user.. The delete button is not available if you do not have the required permissions.

9.4.32.9. Point clouds

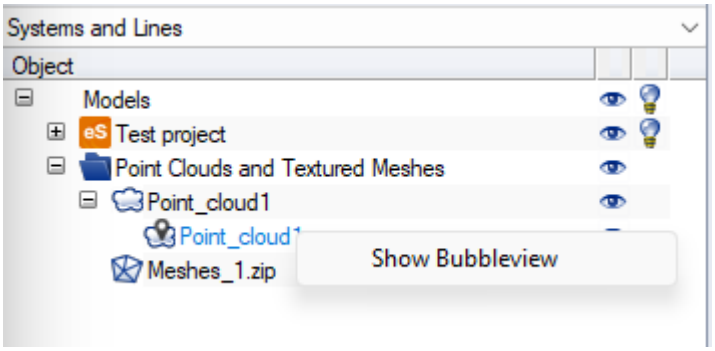
When revamping an existing building or ship so that some existing structures are removed and new ones are added, it is useful to be able to see how the old and the new structures will fit together. Point clouds allow you to do exactly that. If the existing structures have been scanned with a 3D scanner and the data is available as point cloud files, you can open the point clouds and the 3D models of the newly designed structures at the same time to see how they match. You can also use the Show Point Cloud Difference tool in Visualization Control menu. See Point clouds.

Note: Point clouds are always defined in project coordinates.

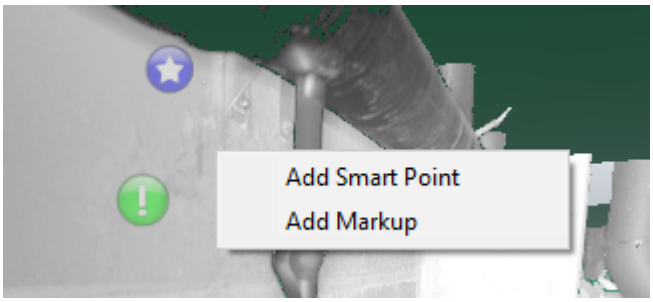
When eShare administrator has added point clouds to the eShare server as described in CADMATIC eShare *Administration Guide*, in eShare App you can see the point clouds in the model tree. eShare automatically loads the point clouds when you move in the model. You do not have to select the next point cloud from the list when you want to enter it.

It is possible to show a hierarchy for the point clouds. The hierarchy is defined by eShare administrator.

You can toggle the visibility of the point clouds by clicking the eye icon.

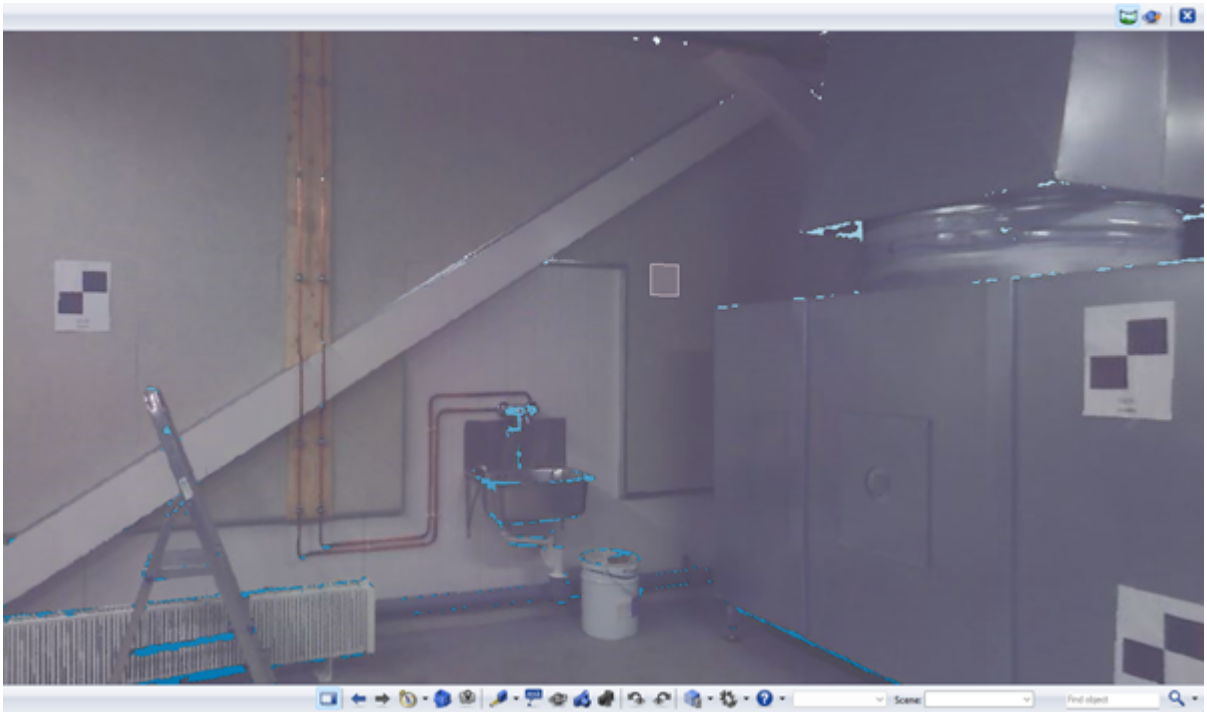


The point cloud files must contain scanner position information to be listed here. You can take snapshots and measurements, but measurements might not be exact. Right-click a bubble view to add a Smart Point or markup to it.



9.4.32.9.1. Bubble view

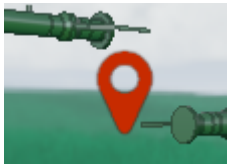
Entering the bubble view mode moves the camera to the scanner position. You can rotate the view around this position, and you can zoom in or out with the mouse wheel. In panoramic view, you can move the camera by clicking the arrow marker, or focus the camera by clicking the rectangle.



There are various ways to open a bubble view:

- You can open the bubble view of a specific point cloud by right-clicking the point cloud in the object tree and selecting **Show Bubbleview**.

- You can click the bubble view button in the main toolbar to open the nearest bubble view. If the button is not enabled, either the currently loaded point clouds do not have scanner position information, or a bubble view is already open.
- You can click a scanner position marker in the 3D view. You can do this also when a bubble view is already open, to move the viewpoint to another scanner position.



In bubble view mode, an additional toolbar is displayed at the top of the 3D view. The toolbar displays the name of the point cloud, a button for switching between point view and panoramic view, a button for orbiting around the scanner position, and a button for closing the bubble view. Closing the bubble view sets the viewing angle to where it was before entering the bubble view.

9.4.32.9.2. E57 file format feature support

CADMATIC supports reading the E57 feature categories XYZ, RAE, RGB, INT and MUL.

Support for E57 features

Feature Name	Abbreviation	Read	Write
Cartesian points	XYZ	Yes	—
Cylindrical imagery	CYL	—	—
Geodetic information	GEO	—	—
Multiple images	MIM	—	—
Multiple returns	RET	—	—
Multiple scans	MUL	Yes	—
Pinhole imagery	PIN	—	—
Point color	RGB	Yes	—

Feature Name	Abbreviation	Read	Write
Point groups	GRP	—	—
Point intensity	INT	Yes	—
Spherical imagery	SPH	—	—
Spherical points	RAE	Yes	—
Structured point sets	STR	—	—
Time stamps	TIM	—	—
Visual reference imagery	REF	—	—

Support for E57 extensions

Extension Name	Read	Write
ASPRS LAS format information	—	—
Point normals	—	—

For more information on E57 features, see http://www.libe57.org/features.html.

Related topics

Enter nearest bubble view

9.4.32.10. Textured meshes (eShare App only)

When eShare administrator has added textured meshes to the eShare server as described in CADMATIC eShare *Administration Guide*, in eShare App you can see the textured meshes in the model tree. eShare App automatically downloads and views synchronized textured meshes, and loads them when you move in the model in eShare App. You do not have to select the next textured mesh from the list when you want to enter it.

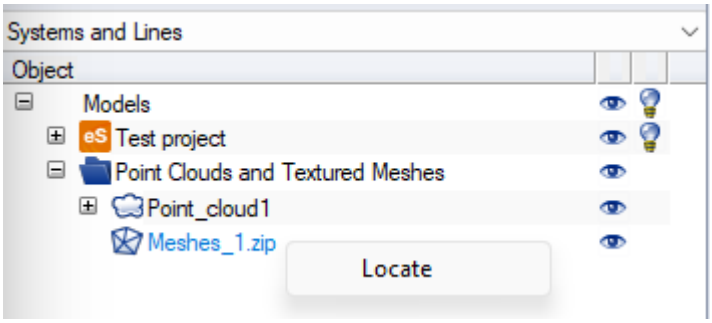
The number of meshes that are loaded in detailed mode in eShare App can be configured in eShare App settings. See Point clouds.

You can toggle the visibility of the textured meshes by clicking the eye icon.

9.4.32.10.1. Textured meshes in the model tree

Textured meshes are located in a separate Point Clouds and Textured Meshes branch of the object tree, and its subnodes are alphabetically sorted. Double-clicking the textured mesh will locate it in the 3D model. You can also right-click the textured mesh in the model tree and select **Locate**.

It is possible to show a hierarchy for textured meshes. The hierarchy is defined by eShare administrator.



9.4.32.11. Viewing 4D sequences (only in eShare App)

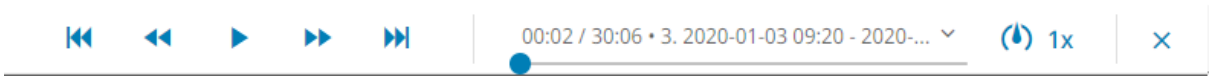
eShare App enables using 4D sequences to visualize status trackings or data from a database adapter.

Prerequisites

- There are 4D sequences configured to the project by a project administrator. See Creating a new status tracker.
- Database adapter and 4D sequence data source have been configured to the project by a project administrator. See Database adapter.

Do the following:

1. In **Model** tab, select the 4D sequence from the visual style menu drop-down. 4D sequences have the prefix *4D*.
2. The sequence is shown in playback mode.
3. Use the controls at the top of the 3D view to play, move forward/backward within the step or move to previous/next step. You can drag the progress bar, or select a specific sequence step from the drop-down menu. You can also select the playback speed from **0.25x**, **0.5x**, **1x**, **2x**, or **4x**.



4. Close the playback mode with the exit button.

9.4.32.12. Presentation mode (beta, only in eShare App)

Presentation mode is a visualization mode for visualizing the 3D model with emphasis on lighting options and enhanced quality. The visualization is based on rendering technology called ray tracing. The mode is in beta version, which means that the functionality is limited and possibly unstable.

Presentation mode is only available in eShare App.

Presentation mode is launched from **Visualization control > Show in Presentation Mode**. See Show in Presentation Mode.

Prerequisites

- Windows 10 or later
- Hardware accelerated ray tracing support in the graphics processor
- A GPU with a high amount of VRAM is recommended. 6 GB is sufficient for small and medium-sized models, but 12 GB or even more is required for larger models.
- Graphics drivers supporting Vulkan 1.3 or later:
  - Nvidia
    - All Nvidia RTX series GPUs
    - Driver 473.11 or later
  - AMD
    - AMD Radeon RX 6000 series or higher GPUs
    - Driver 22.2.1 or later
  - Intel
    - All Intel Arc series GPUs (Arc GPU has not been tested and support is not guaranteed, use at your discretion)
    - Any driver since 2023 should support Vulkan 1.3

9.4.32.12.1. Rendering features in presentation mode

Presentation mode deploys a rendering technique called ray tracing to render a scene with realistic and physically based lighting.

9.4.32.12.1.1. Lighting model and lighting sources

Presentation mode attempts to solve global illumination for a particular scene by taking into account lighting from direct and indirect light sources. Direct light sources include the sun, spotlight, and the sky. Indirect light is the light that bounces around in the scene. Indirect lighting is simulated with path tracing, where any single path has a maximum ray depth of 3 (i.e. 2 bounces).

Sun

Sun is modeled as an area light source in the shape of a circular disk. This disk has an angular diameter of 0.53° on the sky, which is on average the same size as the actual sun as seen from the earth. This disk shaped area light will produce physically accurate soft shadows.

Sky

The sky is rendered using a realistic atmosphere model that approximates the earth's atmosphere. The atmosphere is modeled by Rayleigh and Mie scattering, which takes into account the different scattering profiles for different wavelengths in the atmosphere. In effect, the color and light output from the sky is accurately affected by the position of the sun.

Spotlight

This is a single light source that can be moved within the scene. The light source is a point light with customizable conical radiation pattern.

9.4.32.12.1.2. Materials

Presentation mode can model light interaction with two different material types: diffuse and specular. The first material models fully matte Lambertian diffuse surfaces. The second material type is used for shiny surfaces with varying roughness and reflectance properties. The specular materials are modeled with GGX microfacet model.

Related topics

Using the VR view

9.4.32.13. URL parameters

You can build an eShare URL with URL parameters, for example, when you want to link to eShare from an external system. Separate the parameter and the value with an equals sign (=), and separate the parameters with an ampersand character (&). The order of the parameters does not affect the result.

For example: https://<server>:<port>/#/p/<project id>/model?<urlParameter>=<urlParameterValue>&<urlParameter2>=<urlParameter2Value>&...

The maximum length of the URL is 2048 characters. Note that some characters, for example, vertical line and space character, are encoded by the browser and take the space of three characters instead of one.

Parameter	Description	Value range
positionId&tag	Examine an object by using its position ID. Examine an object based on the object's tag. An object's tag is the abbreviation of	Position ID of the object. Example: https://<server>:<port>/#/p/<projectGUID>/model?positionId=722-PS1 Tag of the object. Example: https://<server>:<port>/#/p/<projectGUID>/model?positionId=722-PS1&tag=.n5

	the object's attribute. A tag is needed to differentiate objects, if two or more objects share the same position ID. To examine an object based on the object's tag, you also need to provide the object's position Id parame	

	ter. Used only with key attributes.	
groupParentTag&groupChildTag&groupId	Examine a group object by specifying the parent and child object's attribute abbreviation, and the group's ID. groupParentTag is the abbreviation of the group's attribute in brackets	Example: https://<server>:<port>/#/p/<project id>/model?groupParentTag=[sys]&groupChildTag=sys&groupId=Air

	[]. groupChildTag is the abbreviation of the group's attribute. groupId is the value of the group's attribute.	
attributeValue&tag	Used with tag to locate any object or group of objects by attribute abbreviation and value.	If the following string finds only one instance, it opens the object in examine mode: Example: https://<server>:<port>/#/p/<projectGUID>/model?tag=len&attributeValue=1950 If the following string finds multiple instances, the search page opens: Example: https://<server>:<port>/#/p/<projectGUID>/model?tag=len&attributeValue=619 --> Multiple hits opens search page If the following string finds a group, it opens in examine mode: Example: https://<server>:<port>/#/p/<projectGUID>/model?tag=[pli]&attributeValue=177-035

attributePaneVisibility	Defines the visibility of the properties pane.	Show – shows the properties pane Hide – hides the properties pane. Example: https://<server>:<port>/#/p/<projectGUID>/model?attributePaneVisibility=Show
examineBranchPath	Opens the defined branch in the model tree.	Define the complete path to the branch in the model tree, starting from "Models". Separate the branches with three semicolons (;;;). Use the hierarchyName parameter to define the source hierarchy of the given path. Example: https://<server>:<port>/#/p/<project id>/model?examineBranchPath=Models;;;Branch1;;;Branch2&hierarchyName=Isometric%20Drawings%20and%20Spools
examineFlags	Enables modifying the examine parameters when examining an object with a URL parameter. Combine the examineFlags parame	0 = Disable orbiting, show all objects 1 = Enable orbiting, show all objects 2 = Disable orbiting, hide other objects 4 = Dim all objects that are not being examined 8 = Turn off highlighting for the examined objects 16 = Turn off the X-ray mode for the examined objects 32 = Open the examined objects in clip box 64 = Clear the selection highlight of the examined objects and show the objects according to the applied visual style For example, if the position ID of an object in the 3D model is "P001", you can use the following kind of URL to start examining that object so that orbiting is enabled and also all other objects are visible: Example: https://<server>:<port>/#/p/<projectGUID>/model?positionId=P001&examineFlags=1

	ter with the multiExamine parameter to include multiple objects in the URL. You can also combine the flags. For example, flags 1 + 2 = 3, which enables orbiting and hides other objects.	
hierarchyName	Changes the active hierarchy.	Name of the hierarchy. Example: https://<server>:<port>/#/p/<project id>/model?hierarchyName=Isometric%20drawings%20and%20spools sets the hierarchy to "Isometric drawings and spools".

guidId	Allows examining an object or a group based on its GUID id. This is useful when the original 3D model imported to eShare contained GUID id data.	GUID id of the object or group. Example: https://<server>:<port>/#/p/<projectGUID>/model?guidId=A491C908-AFF2-4369-BE2E-D7BB1F3A974A
pointCloud	Enter a point cloud view by using its GUID id.	GUID id of the point cloud. Example: https://<server>:<port>/#/p/<projectGUID>/model?pointCloud=3d60ec73-117e-ef11-a2eb-00144d151290
pointId	Examine a Smart Point by using its ID.	Smart Point ID. Example: https://<server>:<port>/#/p/<projectGUID>/model?pointId=654321

pointReference&poiKind	Locate a point in the model and show its properties by using the point's External Id	pointReference should be given the desired point's exact External Id, and poiKind can be used to specify the type of the point. pointReference can be used without poiKind, but poiKind cannot be used on its own. Example: https://<server>:<port>/#/p/<project id>/model?pointReference=ID1234&poiKind=SmartPointType1
markupId	Examine a Markup by using its ID.	Markup ID Example: https://<server>:<port>/#/p/<projectGUID>/model?markupId=123456
multiExamine	Enables examining multiple objects.	Objects' attribute abbreviation and value. In case of group objects, use the parent attribute abbreviation. Separate the objects with a vertical bar (|) and the attribute abbreviations and values with a colon (:). Example: http://<server>:<port>/#/p/<project id>/model?multiExamine=.n5:AE-SW-P001|.n5:722-PS1|.n5:722-PS2|[sys]:722-SWC|.ne:R110202
searchFor&searchScope	searchFor takes a string which is matched directly to the	With searchScope the types are separated with a comma, and are case-insensitive. If searchScope is not given in the URL, but searchFor is, the default scope used is "objects, groups, points". Available types are: objects – search through the objects in the model; searchFor tries to match to the object's key attribute's value

	entities of the given scope. searchScope takes a string which lists the types of entities that searchFor goes through.	groups – search through the groups in the model; searchFor tries to match to the group's key attribute's value points – search through the points of interest (smart points, markups) in the model; searchFor tries to match the point's name value. If unsuccessful, it tries to match the point's external ID value. smartPoints – search through the smart points in the model; searchFor tries to match the smart point's name value. If unsuccessful, it tries to match the smart point's external ID value. smartPointsByName – search through the smart points in the model; searchFor tries to match the smart point's name value only smartPointsById – search through the smart points in the model; searchFor tries to match the smart point's external ID value only markups – search through the markups in the model; searchFor tries to match the markup's name value The scope is iterated in the given order when finding a match. If a match or multiple matches is found in one type, the search is stopped, which means that possible other matches found in other types will not be found. If there is a single match, eShare Model view will examine it. The parameter examineFlags can be used to alter the way an object is examined, but it will not do anything if the match is a Smart Point. If there are multiple matches,eShare will take the user to search, where all found matches will be shown. The parameters searchFor and searchScope can be combined with following old parameters: tag – narrows down the search with objects and groups

		poiKind – narrows down the search with points of interests Examples: <domain:port>/model?searchFor=exampleName&examineFlags=17 <domain:port>/model?searchFor=exampleName&searchScope=objects,smartPoints <domain:port>/model?searchFor=exampleName&searchScope=points&poiKind=PoiKindName <domain:port>/model?searchFor=exampleName&tag=sys
treeVisibility	Specifies the visibility of the model tree sidebar.	Show – shows the sidebar. Hide – hides sidebar. Example: https://<server>:<port>/#/p/<projectGUID>/model?treeVisibility=Show
visualStyleName	Specifies the visual style that is applied to the 3D model.	Name of the visual style, can be the predefined or project-specific visual style. Example: https://<server>:<port>/#/p/<projectGUID>/model?visualStyleName=Normal visual style
x&y&z&r&s	Moves the camera to the specified	Coordinates of the location. Example: https://<server>:<port>/#/p/<projectGUID>/model?x=23131&y=-5079&z=10208

	location (x, y, z coordinates), with the optional rotation and slope (r and s coordinates).	