



Trimble Connect

A Trimble Product

User Guide

Trimble Connect for Windows

November 30, 2020

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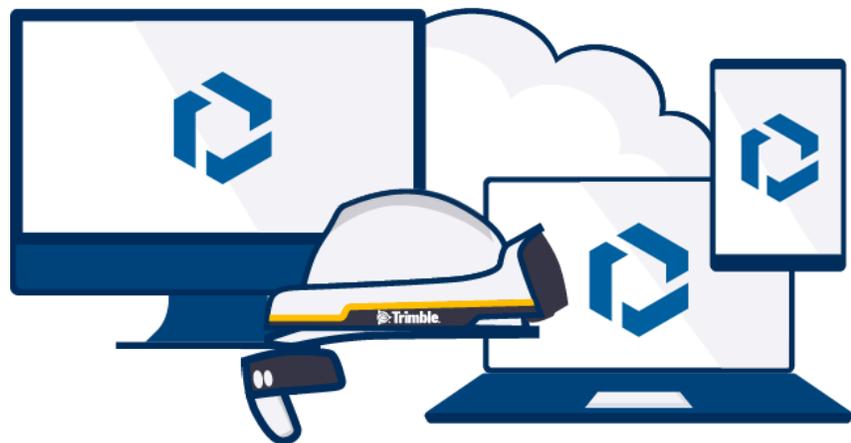
Before You Begin

Trimble Connect is a collaboration tool that connects the right people to the right constructible data, at the right time.

With Trimble Connect you can work anytime, anywhere and from any device – it's at your fingertips. You are always working with reliable and accurate information. Trimble Connect can be used in different phases of workflows, such as design coordination and review, on-site and off-site communication, and when managing activities and tasks during the entire project.

You can share 3D models, drawings and other documentation: View, review, reference and archive with revision history. Trimble Connect has easy-to-use user interfaces for desktop and mobile (both iOS and Android) and even on Mixed Reality (MR) devices. The platform helps you maintain control over changes thanks to constant collaboration, so that costly rework caused by outdated information becomes an inconvenience of the past.

Trimble Connect links data throughout each phase of the building life cycle to keep your project on schedule and on budget. You can upload and share documents from over 60 industry tools, or add your own source using the powerful API (Application Programming Interface). Trimble Connect and workflow tools are available in 17 languages.



Connect Licensing

Connect has 5 main levels of licensing which will give you access to certain areas in the application. Using Trimble Connect requires an active license. Learn more about our purchasing options [here](#).

	PERSONAL	BUSINESS	PREMIUM	PROJECT	ENTERPRISE
Project Creations	1	Unlimited	Unlimited	1	Unlimited
Total Storage	10 GB	Unlimited	Unlimited	Unlimited	Unlimited
Max File Size Upload¹	10 GB	10 GB	100 GB	100 GB	100 GB
Project Joins	5 ²	Unlimited	Unlimited	--	Unlimited
Clash Detection	✓	✓	✓	✓	✓
Task Mgmt	✓	✓	✓	✓	✓
Custom File Attributes	--	✓	✓	✓	✓
Workflow Extensions	Read-only	Read-only	Full access	Full access ³	Full access ⁴
Overview & Mgmt Users	--	Enabled for Act. Admin	Enabled for Act. Admin	Enabled for Act. Admin	Enabled for Act. Admin
Overview & Mgmt of Projects	--	Enabled for Act. Admin	Enabled for Act. Admin	Enabled for Act. Admin	Enabled for Act. Admin

1 Max file size upload per file using Trimble Connect Sync.

2 Personal license users can join up to 5 Personal or Business projects with full business access, after the limit is reached, users will have read-only access. Personal license users can join unlimited Enterprise Projects.

3 Full access for everyone on your project, including external users outside your organization.

4 Full access for everyone in your account as well as external users on projects created under your account.

Understanding Project Types & Features

Project type and Connect licenses go hand-in-hand. When you create a project, the license that is assigned to you also gets applied to the project. Some features may be restricted based on the license that is associated with the project.

As a general rule of thumb, the following is a breakdown of the type of project that is created based off the license that is used/assigned to the project:

Personal License	Personal Project
Business License	Business Project
Bus. Premium Lic.	Business Project
Enterprise License	Enterprise Project
Project License	Enterprise Project

Available Features by Project Type

	PERSONAL PROJECT	BUSINESS PROJECT	ENTERPRISE PROJECT
Storage	10 GB	Unlimited	Unlimited
Project members	5 total ⁵	Unlimited with some license restrictions ⁶	Unlimited - no license restrictions ⁷
Project invitations	5 total ⁸	Unlimited	Unlimited
Workflow Extensions	Available for users with Bus. Premium ⁹	Available for users with Bus. Premium ⁹	Full access for all project members

5 The number of project users includes removed users. Trimble Connect doesn't support re-inviting removed users to a project with a free license.

6 Personal license users can join up to 5 Personal or Business projects with full business access, after the limit is reached, users will have read-only access.

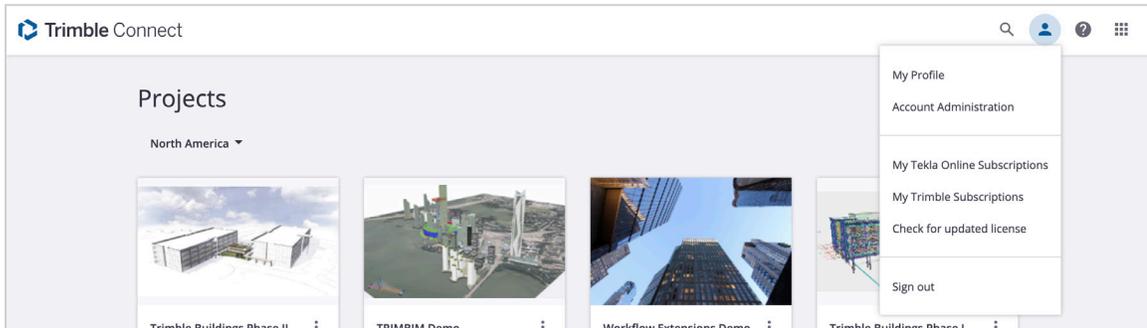
7 Personal license users can join unlimited Enterprise Projects.

8 The number of project invitations includes re-inviting removed users to a project.

9 Users with a Business Premium license can collaborate in all project types and be able to use all the Workflow Extensions. If other members in the project do not have Business Premium, they will have Read-only access to any data created and stored in the Organizer or Property Set Service.

View & Manage Licenses

There are two places Trimble Connect paid licenses can be managed, the Trimble Account Management Portal or the Tekla Online system. You can quickly access either system directly in the Trimble Connect for Browser application by opening the **User (👤) dropdown menu**, where you will see options for My Trimble Subscriptions and/or My Tekla Online Subscriptions.



Note: Users with Personal licenses only will not see either of these menu options.

Trimble Account & Trimble Subscriptions

Business licenses for Trimble Connect can be purchased directly from the [Connect Storefront](#), via your Trimble Sales Rep or as part of a bundle with other Trimble Applications.

1. After purchasing your license, you will receive an entitlement letter by email.
2. Now you have access to [Trimble Account Management Portal](#) that allows you to manage your subscriptions: change plans, add/remove seats, and adjust auto-renewal settings.

Tekla Online Subscriptions

With one license, you have access to full Trimble Connect functionality and Tekla Structures Workflow Tools. See the phases of managing licenses.

1. After purchasing your license, you receive an entitlement letter by email. Now you have access to [Tekla Online Admin tool](#) that allows you to manage your organization's users access rights to Tekla Online services.
2. Invite users to your Tekla Online services organization to grant them Trimble Connect licenses. For more information about inviting users, see [Trimble Identity FAQ](#).

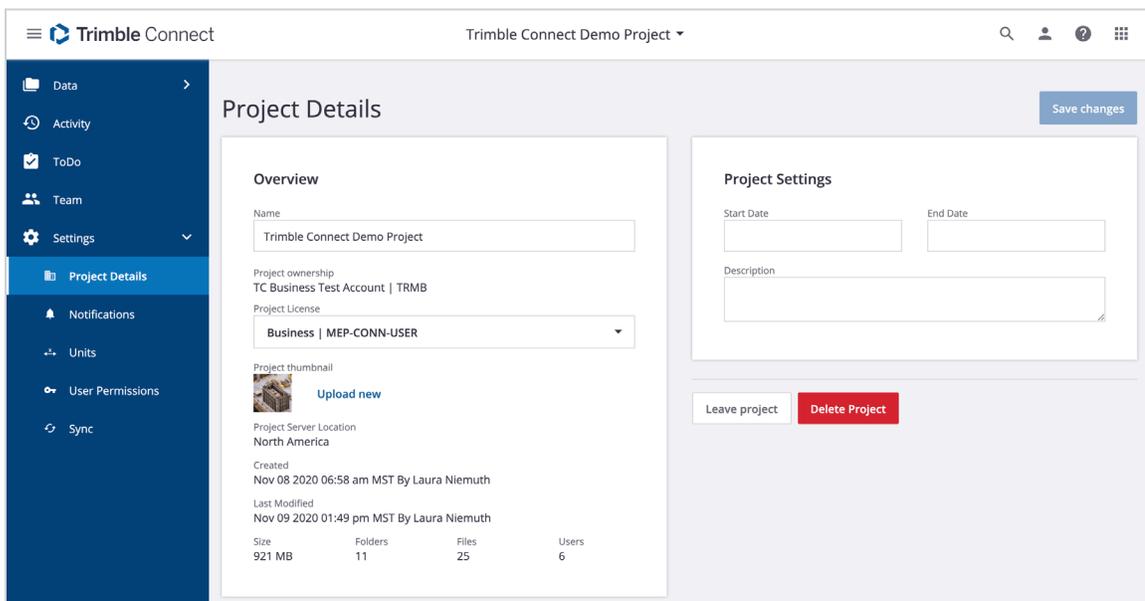
For more information about managing licenses in Tekla Online Admin Tool, see [Manage Trimble Identities and Tekla Online licenses](#).

Check for an Updated License

When a new Connect license is applied, you can make it available faster (on demand) using the new **“Check for updated license”** option in the User dropdown menu.

Update a Project License Updated

If you have recently been assigned a new license and want to change the license that is being used on one or more of your projects, you can update the project license by going to the Trimble Connect for Browser application, and updating the *project ownership* and/or *project license* in the **Project Details** page.



The screenshot displays the 'Project Details' page in the Trimble Connect application. The page is divided into several sections:

- Overview:** Contains fields for Name (Trimble Connect Demo Project), Project ownership (TC Business Test Account | TRMB), Project License (Business | MEP-CONN-USER), Project thumbnail (with an 'Upload new' button), Project Server Location (North America), Created date (Nov 08 2020 06:58 am MST By Laura Niemuth), Last Modified date (Nov 09 2020 01:49 pm MST By Laura Niemuth), and a summary table:

Size	Folders	Files	Users
921 MB	11	25	6
- Project Settings:** Contains fields for Start Date, End Date, and Description.
- Actions:** Includes buttons for 'Leave project' and 'Delete Project'.

Changing the project ownership will change the ownership of the project to the new account. Any existing file metadata being used on the project will be removed and will be replaced by the new account owner's file metadata template (if the new account is using the feature).

If the license you are trying to use comes from the same account, the ownership of the project will remain the same.

Note: This is a Project Admin function only and not available to all project users.

To update a project license ^{New}

1. Start by going to [Trimble Connect](#).
2. Open the project.
3. Go to the **Settings > Project Details** page.
4. Select the correct account from the **Project ownership** dropdown.
 - a. If you only have licenses from one account, this field will not be editable.
5. Select the correct project license from the **Project license** dropdown.
 - a. Only licenses from the chosen account will be listed.
 - b. If you only one license from an account, this field will not be editable.
6. Click **Save changes**.

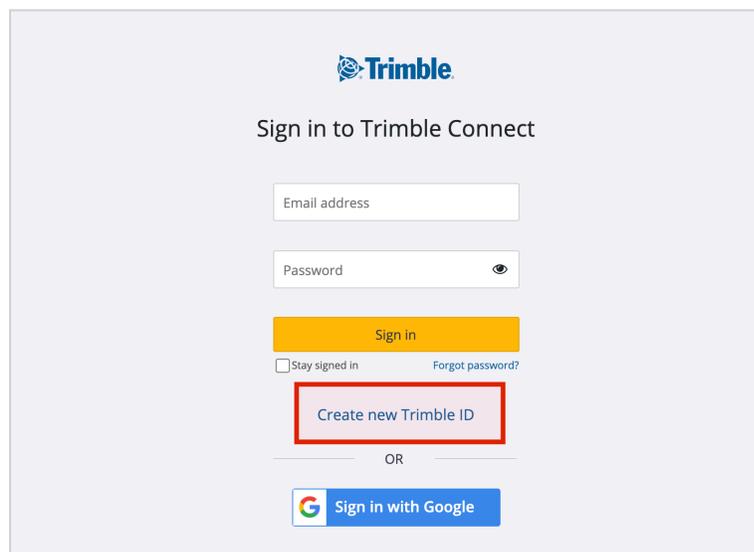
Managing Your Trimble Account & Connect Profile

You'll need your Trimble ID to log into any of the Trimble Connect applications.

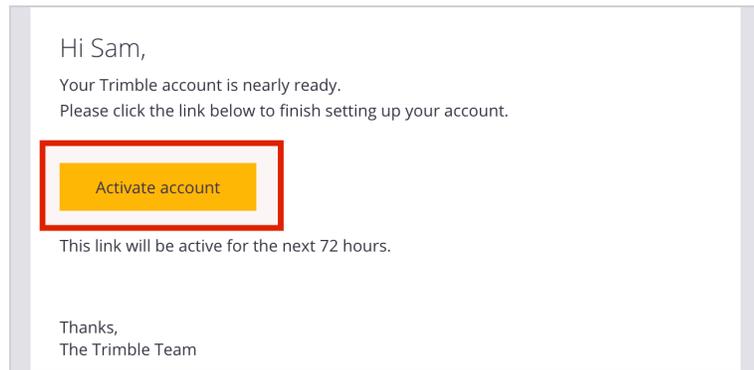
Creating Your Trimble ID

If you are new to Connect, and have never signed up for any other Trimble applications before, you will first need to create a **Trimble Identity User Account**, which you can use to sign in to any Trimble application, including Trimble Connect.

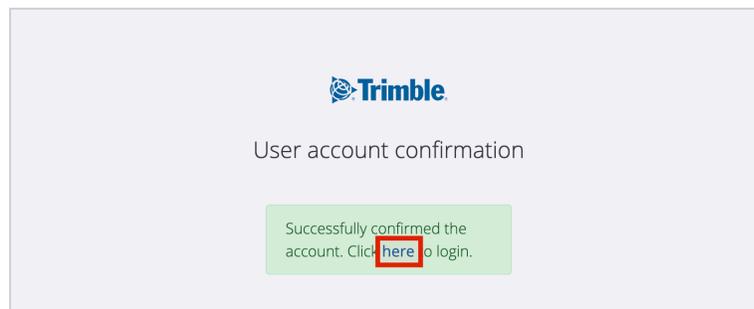
1. Start by going to [Trimble Connect](#)
2. You will be asked to sign in to your Trimble Account
3. Click **Create new Trimble ID** to create a new account



4. You will be taken to the Create your account page
5. Enter your name, email address, and password. Click **Create new account**
6. You will be asked to confirm your email
7. Go to your inbox and open the confirmation email. Click **Activate**



8. You can now sign in to your account



9. Once you sign in to your account, you will be asked to complete your Connect Profile (covered in the next section)

IMPORTANT NOTES

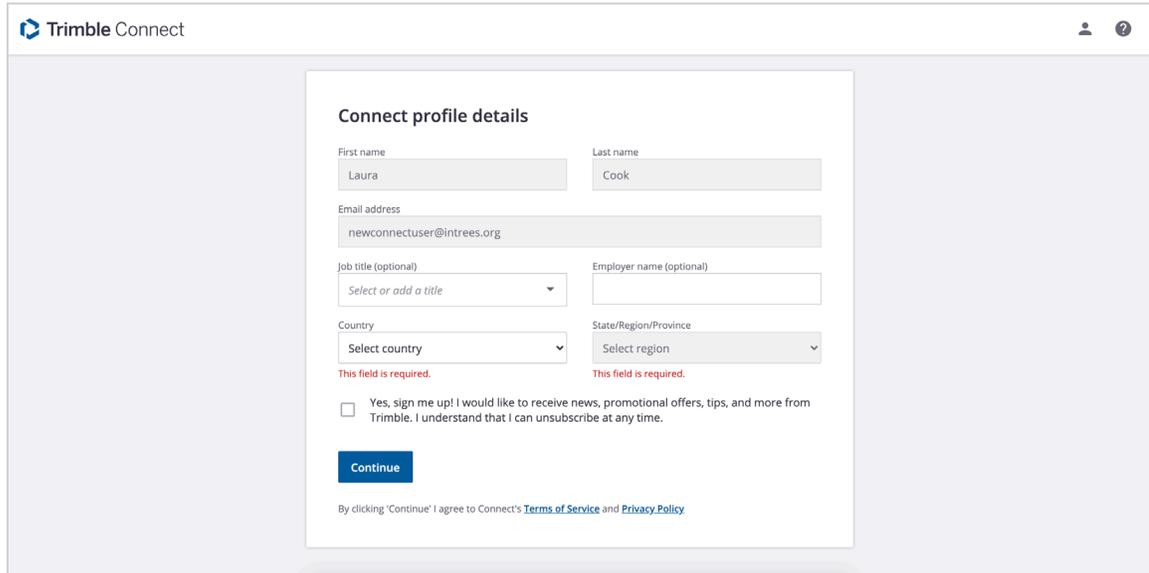
Email Address This must be a unique email address and cannot be associated to any existing Trimble Accounts. If you get an error that the email address is being used already, you can go through the Forgot Password flow to reset your password if you have forgotten it.

Password Passwords must contain

- 8 Characters
- A digit [0-9]
- A combination of lower & uppercase letters [aA-zZ]
- A special character [!@#\$\$%&*^_+]

Creating Your Connect Profile

If you are signing in to Connect for the first time, you will be asked to complete your Connect profile before you can continue.



The screenshot shows the Trimble Connect web interface. At the top left is the Trimble Connect logo, and at the top right are user and help icons. The main content is a form titled "Connect profile details". The form contains the following fields:

- First name: Text input with "Laura" entered.
- Last name: Text input with "Cook" entered.
- Email address: Text input with "newconnectuser@intrees.org" entered.
- Job title (optional): Dropdown menu with "Select or add a title" selected.
- Employer name (optional): Text input.
- Country: Dropdown menu with "Select country" selected. Below it is a red error message: "This field is required."
- State/Region/Province: Dropdown menu with "Select region" selected. Below it is a red error message: "This field is required."
- Subscription: A checkbox is unchecked. The text next to it reads: "Yes, sign me up! I would like to receive news, promotional offers, tips, and more from Trimble. I understand that I can unsubscribe at any time."
- Continue: A blue button.

At the bottom of the form, there is a small text line: "By clicking 'Continue' I agree to Connect's [Terms of Service](#) and [Privacy Policy](#)".

Once you have completed this step, you will be taken to the Projects page where you can now start using Trimble Connect!

User Profile Information Updated

Your full Connect profile can be accessed from the **My Profile** page in the [Trimble Connect for Browser](#) application. It contains the below information.

Trimble Connect

Profile Save

Basic information

First name (required) Last name (required)

Email address

[Change Password](#)

Preferences

Language Preference

Country

Time zone

Work

Employer Job Title

Basic Information

Profile Photo	This will be displayed in Connect projects on the Team page.
First & Last Name	Choose how you want your name to be displayed inside Trimble Applications.
Email Address	You cannot change an email address tied to an existing TID account. You will need to create a new account to use a new email address.
Password	Update your password for your account.

Contact Information

Work phone	Add your work phone number
Mobile phone	Add your mobile phone number

Preferences

Language	Connect can be translated into 17 different languages. For more information see Trimble Connect Supported Languages ↓
Country	Select your country. This option will filter out the available time zones listed.
Time zone	This is used for showing the timestamps localized to where you are.

Work

Employer	Add your Employer name. This will be shown inside projects on the team page and activity page.
Job Title	Choose from a predefined list of options or type your own.

Linked Accounts **New**

All accounts which have assigned you a license or that you are an Admin for will be listed here. Please contact the corresponding Account Admin if you need to be unassigned a license from that account.

Update Your Profile & Preferences

You can update various parts of your user profile by going to the **My Profile** page in the [Trimble Connect for Browser](#) application.

To update your profile:

1. Log in to your account in the [Trimble Connect for Browser](#) application.
2. Click on the **User dropdown menu** (located in the application header).
3. Click **My Profile**.
4. Edit the desired fields.
5. Once you are finished, click the **Save** button.

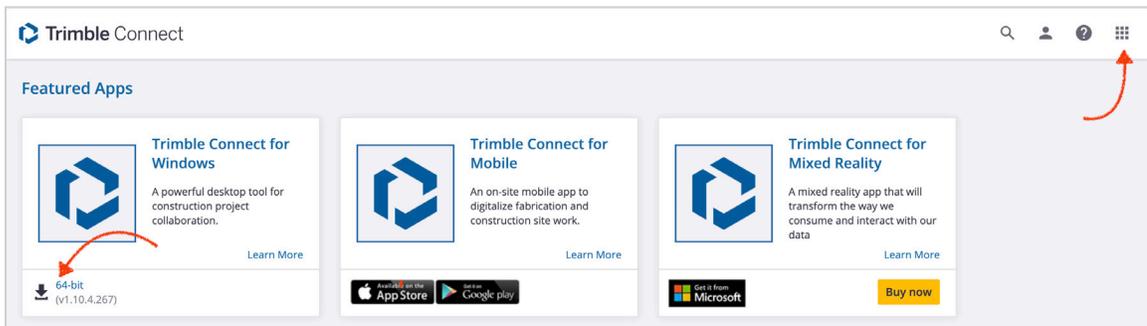
All of this information is part of your [Trimble Identity User Account](#) (also known as TID—which includes your user name and password credentials).

Installation Guide

Installation

Download Trimble Connect for Windows

After you have signed up for Trimble Connect, you will be able to access the [Trimble Connect App Store](#), where you can download the Trimble Connect for Windows installation file.

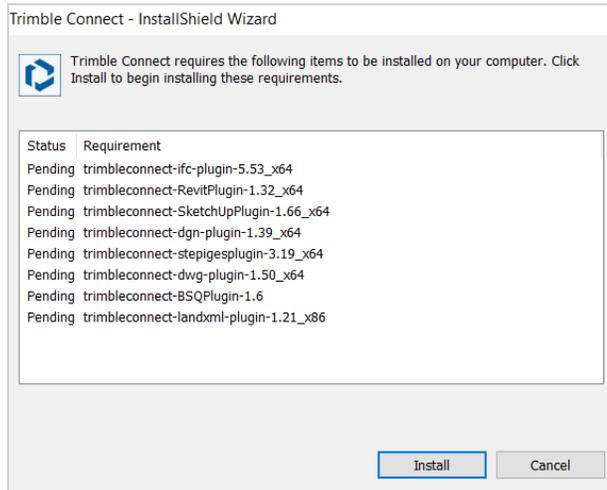


You don't need to delete previous versions of Trimble Connect before installing either a new Trimble Connect or an update of an already-installed version of Trimble Connect.

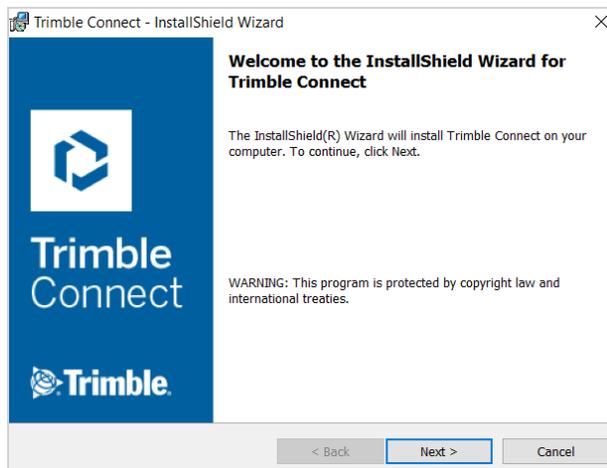
Check to see if your device meets our [System Requirements](#) ↓

Installing Trimble Connect for Windows

1. Before Trimble Connect for Windows can be installed, you first will need to install different plugins in order to read various files types while using Trimble Connect for Windows.

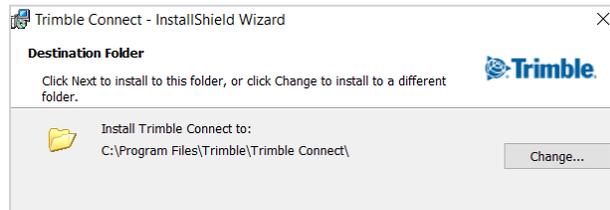


2. Once the plugins are installed, the Trimble Connect for Windows installation will start.

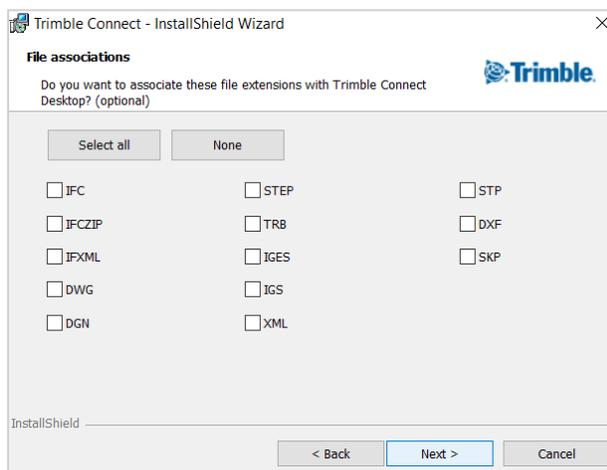


3. Next you will be asked to **accept the license agreement**.

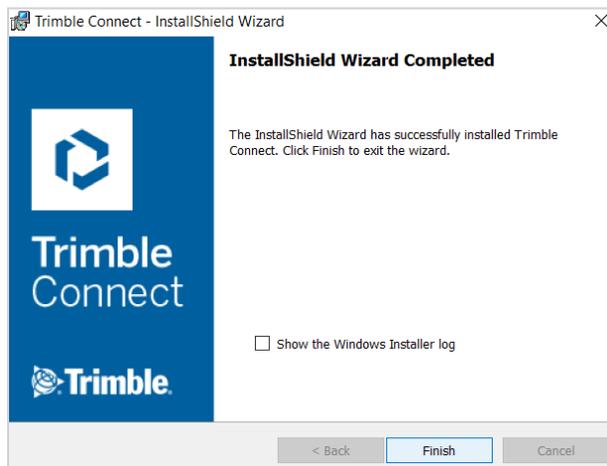
- Next you can decide to install Trimble Connect for Windows to a non default location (C:\Program Files\Trimble\Trimble Connect\).



- You will then be asked which files should automatically be opened in Trimble Connect



- Trimble Connect for Windows will then be installed.



Admin Installation

Administrative installation of Trimble Connect for Windows allows company IT administrators to distribute and install Trimble Connect to their users in a centralized way. This is necessary when user rights prevent users from self-installing the software and when company IT administrators want to manage the usage of software versions in their domain.

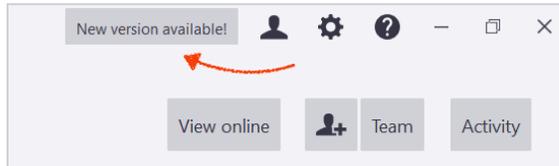
The installer requires administrative rights. Trimble Connect for Windows interface is meant to be installed to all users, and per-user installation is not allowed. If you use the command line to set `ALLUSERS=""`, the installer will override the setting and it is set to `ALLUSERS=1`.

Distribute Trimble Connect for Windows

1. **Download the latest installer**
 - a. Sign in to [Trimble Connect](#)
 - b. Download Trimble Connect Desktop from the [Trimble Connect App Store](#), found in the top right corner after signing in.
2. **Verify the installer**
 - a. Open the installer properties, check the Digital Signature, and make sure it is signed by Trimble Solutions Corporation.
 - b. Create a folder for prerequisites (d:\preq is used in this example).
 - c. Create a folder for Trimble Connect Desktop installer (d:\installer is used in this example).
3. **Extract installer files**
 - a. Open the command line (cmd) and navigate to the folder where the Trimble Connect for Windows installer can be found.
 - b. Execute the command:
`TrimbleConnectSetup-VersionNumber-x64.exe /ad:\preq`
The installer starts running.
 - c. Installation wizard will ask to specify the folder for the installer, use d:\installer and finish the installation.
4. **Distribution**
 - a. Now you should have all prerequisites under the folder d:\preq, each in its own subfolder.
 - b. In the d:\installer folder is found the Trimble Connect.msi, as well as the folder content for program files and program data. When running the msi installer, it will install the folder structure and files under program files. It is suggested to use the .msi installer instead of copying the folder structure.
 - c. Now you can use your distribution process for all these files.

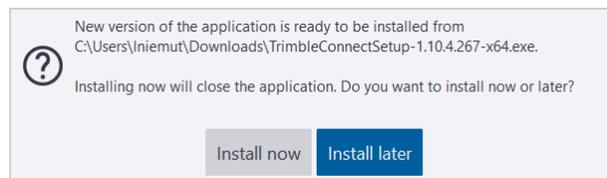
Update Installation

When a new version of Trimble Connect for Windows is available, a message will be shown in the top right corner of the application, informing you that a new version is available and can be downloaded and installed. This message will remain displayed until you have updated your version of Trimble Connect for Windows.



To Update the Application

1. Click **New versions available!**
2. You will be asked to choose the folder you want the installer to be downloaded in. Click **Ok**.
3. The download will start.
4. Once the new installer is downloaded, a dialog appears in Trimble Connect for Windows application, giving the user the opportunity to install the new Trimble Connect for Windows version now or later.



5. Click **Install now**.
6. Trimble Connect for Windows will close and the install wizard will walk you through the process.

Uninstall Trimble Connect for Windows

When uninstalling Trimble Connect for Windows, only the software is uninstalled, not the plugins that were installed with it. These plugins might be used by other software such as Tekla Structures. They need to be removed one by one manually to be uninstalled.

Starting Trimble Connect with Command Line

Trimble Connect for Windows can also be started using a URL either in the command line, or using an Internet browser if needed. The supported URL format is:

```
trimbleconnect:/projects/[project-id]?show=[view parameter],[panel parameter]
```

Parameters

- Supported view parameters: projects, data, 3d (default is data)
- Supported panel parameters: clashes, models, objects, Todos, views (default is models)
- These parameters are case insensitive.

Example: `trimbleconnect:/projects/rQR1yhTGj9I?show=3D,Todos`

In that example, at start, Trimble Connect for Windows would open at the project `rQR1yhTGj9I` 3D view, with the Todos tab shown instead of the models tab.

BIMsight Package

Bimsight TBP package can be added from tekla BIMsight directly to Trimble Connect for Windows, by simply drag and dropping the tbp package into Trimble Connect for Windows library.

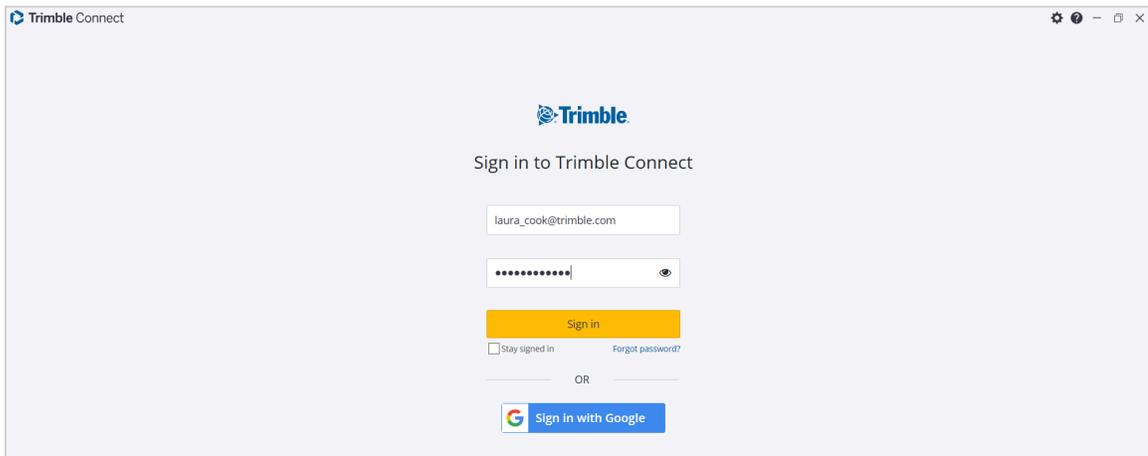
When doing so, a new unpublished project is created in Trimble Connect for Windows, with the same name and thumbnail than the BIMsight project. All models, and model folders are created accordingly in the Trimble Connect for Windows project. All models still have their former alignments. Other files (non-models) found in the project are added in a new folder created automatically and called Documents.

The project can be published whenever it is wanted.

Getting Started

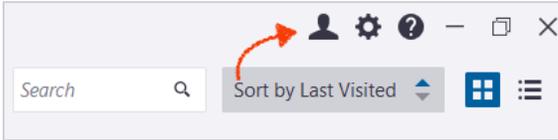
Sign In to Your Account

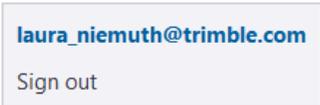
After starting Trimble Connect for Windows for the first time, you will be asked to sign in to your Trimble Account.



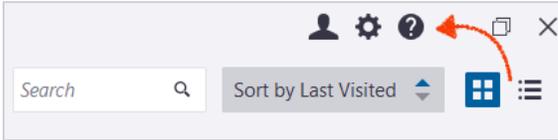
More information on Trimble Accounts can be found in the [Trimble Connect for Browser User Guide](#) ↓

User Menu



OPTION	DESCRIPTION
	Opens the User menu 
User Email	Users can go to Trimble Connect for Browser by clicking on his Connect email address.
Sign Out	You can also sign out of the application, which will close any open project, and take you back to the sign in screen, where you will be asked to input your credentials. Once a user has signed in and checks the stay signed in checkbox, he can then use Trimble Connect for Windows even if he loses Internet connection, as long as he doesn't sign out. All changes will be synchronized to the server when Internet connection has been restored.

Help Center



OPTION	DESCRIPTION
	<p>Help center can be found in the upper right corner of the Trimble Connect for Windows window.</p> <p>When clicking the help center button, the Help menu appears:</p> <div data-bbox="565 819 701 1003"><p>Need help?</p><p>EULA</p><p>Privacy</p><p>About</p></div>
Need Help?	<p>Clicking Need Help? opens the help center home page in the default browser. User documentation about Trimble Connect, news and announcements, and most commonly asked questions can be found in the help center.</p>
EULA	<p>Clicking EULA opens the help center terms of services in the default browser.</p>
Privacy	<p>Clicking Privacy opens Trimble's Commitment to Online Privacy web page in the user's default browser.</p>
About	<p>Clicking About opens the About Trimble Connect dialog, where you can find the Trimble Connect for Windows version and other information.</p>

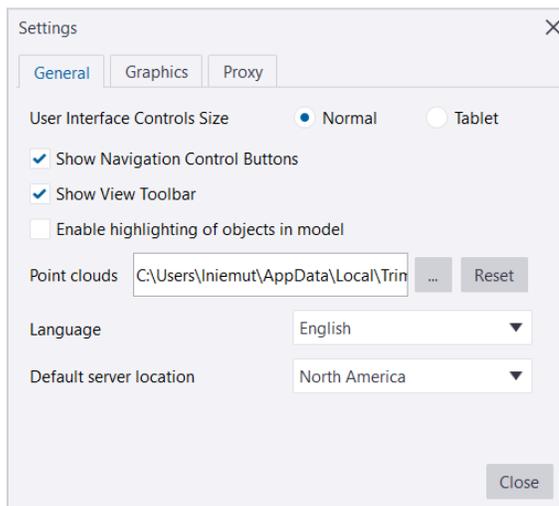
Application Settings

All settings are applied instantly, except for the graphics and language settings, which require Trimble Connect for Windows to be restarted. Settings are saved and remain the same even when closing the project or restarting Trimble Connect for Windows.

The language and server location settings are synchronized between the different Trimble Connect clients.

Open the Trimble Connect for Windows settings by clicking **Settings** (⚙️), found in the upper right corner of the application.

General Settings



OPTION	DESCRIPTION
User Interface	<p data-bbox="565 373 873 407">Tablet vs. Normal Mode</p> <p data-bbox="565 432 1425 541">When switching the interface to tablet mode, the all interface is adapted for usage on touch devices. It means that the buttons, scroll bars and tabs become wider to be clicked easily.</p>

Navigation Controls Buttons	<p data-bbox="565 562 1182 596">Navigation control buttons can be shown/hidden.</p> <p data-bbox="565 621 1425 720">The navigation controls are found in the upper right corner of the 3D Viewer. They can be used to change navigation mode, rotate the view, zoom in/out, and put the 3D view into fullscreen mode.</p>
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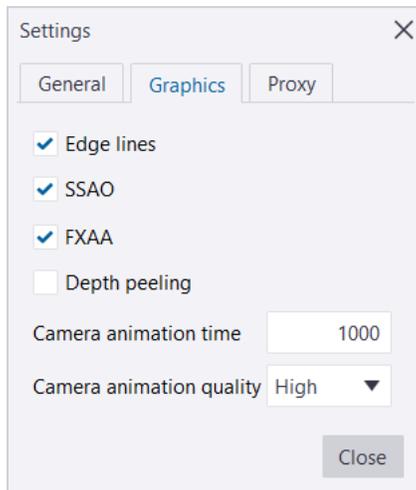
By default navigation control buttons are shown.

Show View Toolbar	The View Toolbar (used in the 3D Viewer) can be shown/hidden.
--------------------------	---



OPTION	DESCRIPTION
Enable Highlighting	<p>Highlighting of objects in the model is enabled.</p> <p>The highlight setting is disabled by default. If value off/on in the registry will be used.</p> <p>When highlighting is disabled, hovering over an object will not highlight the object anymore and highlights for markups and grids will also be disabled.</p> <p>If the CTRL key is pressed while hovering, the highlight will be enabled on the fly as long as the CTRL key remains pressed. As soon as the button is released, the highlight will be disabled again.</p>
Point Clouds	<p>A new folder for point clouds conversion can be chosen.</p> <p>The point clouds conversion folder is set to a default location, i.e:</p> <p>C:\Users\UserName\AppData\Local\Trimble\Trimble Connect\Import</p>
Language	<p>You can define the language the application is translated in.</p> <p>When changing the language, a dialog will ask you if you want to restart now or later. The chosen language will be applied <i>only</i> after restarting the software.</p> <div data-bbox="565 1155 1430 1312" style="border: 1px solid #ccc; padding: 10px; background-color: #f9f9f9;">  Application restart is required for the language setting to take effect. <div style="text-align: right; margin-top: 10px;"> Restart now Restart later </div> </div>
Default Server Location	<p>The default server to load projects and create projects in can be defined.</p> <p>When setting the server location, it will be remembered, and the next time the user creates a new project, it will use the chosen server.</p> <ul style="list-style-type: none"> • Default server location is set to the last chosen location. • Default server location setting is now used in automated project creation when opening model file(s) from windows explorer (ex: when a file is open with Trimble Connect for Windows, this will open in the default server location)

Graphics



OPTION	DESCRIPTION
Edge Lines	Edge lines can be enabled/disabled.
SSAO	SSAO can be enabled/disabled.
FXAA	FXAA lines can be enabled/disabled.
Depth Peeling	Depth peeling can be enabled/disabled.
Camera Animation	Camera animation time can be set between 10-5000 / milliseconds
Animation Quality	Camera animation quality can be set to High/Medium/Low

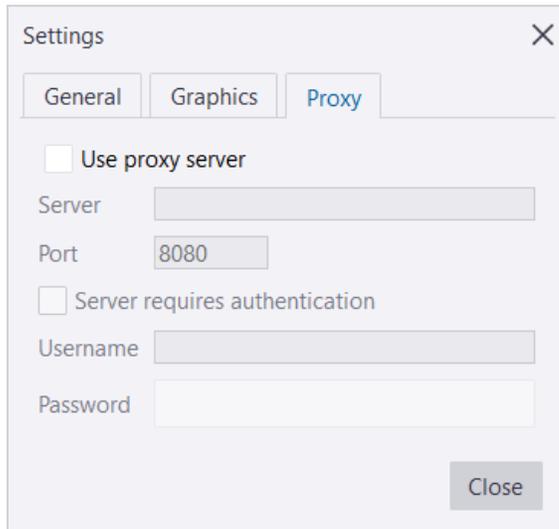
Note

DirectX is used, with edge lines, SSAO and FXAA enabled.

DirectX is now the default and only available 3D engine. OpenGL is no longer supported in Trimble Connect for Windows starting from version 1.6.

Proxy

Trimble Connect for Windows doesn't use any proxy server.



The image shows a screenshot of the 'Settings' dialog box for Trimble Connect for Windows, specifically the 'Proxy' tab. The dialog box has a title bar with 'Settings' and a close button (X). Below the title bar are three tabs: 'General', 'Graphics', and 'Proxy'. The 'Proxy' tab is selected. The main content area contains the following options and fields:

- Use proxy server
- Server: [Empty text box]
- Port: [8080]
- Server requires authentication
- Username: [Empty text box]
- Password: [Empty text box]

A 'Close' button is located at the bottom right of the dialog box.

Projects

Managing Projects

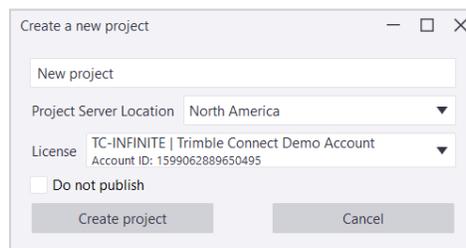
When opening Trimble Connect for Windows, and after the user has signed in, the project library is shown. All projects the user has access to, i.e. all already downloaded projects, all projects the user created and the ones that have been shared with him will be listed on this page.

Create a New Project

New projects can be created from the project library by clicking the **New Project** button.

You can also choose not to publish the project (projects are published at creation by default). This means that the project will be only saved locally on your Windows machine until you decide to publish.

1. After starting Trimble Connect for Windows, click **New Project** in the upper-left corner of the application.



2. Type name for the project and select the project server location.
3. If you have multiple licenses, select the correct license in the License list.
4. Choose if you want to publish or not publish a project.
5. Click **Create project**.

Project Fields & Descriptions

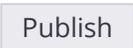
OPTION	DESCRIPTION
Project Server Location	<p>The project server location setting is important as Trimble Connect servers are located in three different regions, North America, Europe, and Asia, to increase the performance for customers located all over the world. Select the region closest to you.</p> <p>Note: The project server location <i>cannot be changed</i> once the project is created.</p>
License	<p>Inside the dropdown menu, you will see a list of all licenses available for your Trimble Identity, along with the account information where the license comes from. Select the license/account you want the new project to belong to. The selection can be changed later in Project Details in the Trimble Connect for Browser application.</p> <p>Note: Project ownership is determined by the project's license which is applied during project creation. The account which owns the license is considered the project owner.</p>
Do not publish	<p>To upload the project automatically to the server: Make sure the Do not publish checkbox is <i>not</i> selected. The project is only visible to you until you invite more users to the project.</p> <p>To prevent uploading the project automatically to the server: Select the Do not publish checkbox. You can later upload the project to the server by clicking Publish under the project thumbnail.</p>

Project Tile Functions



OPTION	DESCRIPTION
	Favorite Projects Project can be starred by clicking the star under the project thumbnail. Stars can then be used to sort projects.
	Open the last 3D View This will load the project directly in the 3D Viewer with the last saved view loaded.
	Opens the Project Menu <div data-bbox="566 1171 820 1287"><p>Invite users Set project image Delete project</p></div> Invite Users If you have the permissions to do so, this will open the Invite User Dialog . Set Project Image A new project thumbnail can be set for the project by hovering over the project and clicking the select thumbnail button. Any (and only) picture file can be used as a thumbnail. Delete project Projects can be deleted by using the delete project button. When deleting a project, a user can decide to delete only locally or both locally and from the cloud if he is user admin. He can delete it only locally if he is a normal user.

Project Statuses

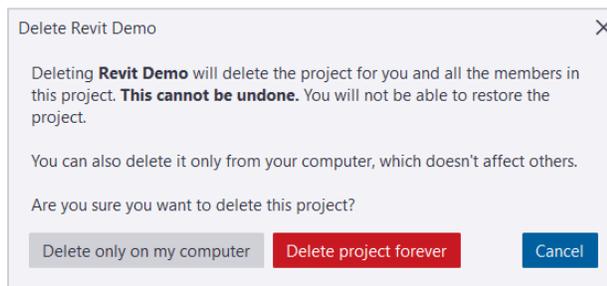
OPTION	DESCRIPTION
	<p>Project Synchronizing</p> <p>Once a project has been created it will automatically appear in the user project library and is synchronized with the server. Every time synchronization with the server happens, the synchronization icon can be seen. Synchronization happens automatically at regular time intervals.</p>
	<p>Project Synchronized</p> <p>When forcing the synchronization from the project library, only project entities are synchronized. This means that all items such as folders and Todos will be synchronized, but the files and models won't. To synchronize files, the user needs to open the project. For each project, once entities are synchronized, the next icon appears under the project thumbnail.</p>
	<p>Project Needs to be Downloaded</p> <p>If a project has been shared with the user, but he didn't download it yet, instead of a check mark is shown a download symbol. Clicking that icon will synchronize the project entities.</p>
	<p>Unpublished Project</p> <p>The project exists only locally and has not yet been uploaded to the server.</p> <p>To upload the project on the server, click Publish.</p>
	<p>Project is Offline</p> <p>Trimble Connect for Windows is in offline mode. All changes are synchronized when the Internet connection is available again.</p>

Delete a Project

You can delete Trimble Connect projects on your Windows computer or tablet only or from both the machine and from the cloud.

If you delete a project locally, the project is only removed from your computer. However, if you delete a project both locally and from the cloud, the project will be deleted permanently for all users.

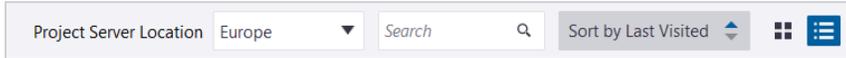
1. On the Trimble Connect for Windows Project page, click ☰ at the lower-right corner of a project.
2. Select **Delete project**.
3. In the confirmation dialog box, select one of the following to delete the project:



- a. **Delete only on my computer:** The project is only deleted on your computer. If necessary, you can download the project onto your computer again.
- b. **Delete project forever:** The project is permanently deleted on your local computer and on the cloud.

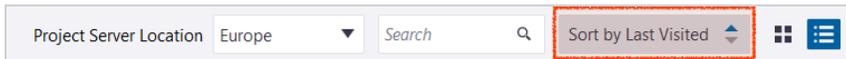
More information on Project Management can be found in the [Trimble Connect for Browser User Guide](#) ↓

Project Sorting & Filtering



Sorting Projects

Sorting can be done in ascending or descending by clicking the arrows in the **Sort by** box. The blue arrow indicates the current sort order (ascending shown below).

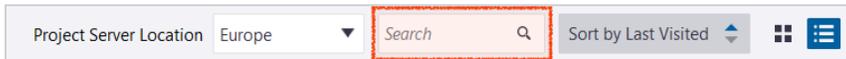


Projects can be sorted from project library using the next properties:

- Name
- Last modified
- Last visited (default)
- Local/Cloud only
- Starred/Unstarred

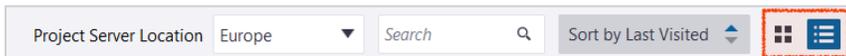
Search for a Project

You can search through your project library by using the search field. Only projects matching the search criteria are displayed in the library. The search field is cleared by default when opening Trimble Connect for Windows.



Switch Project Views

The project library can also be switched between **Tile View** (☐) and **List View** (☰). In list view thumbnails are smaller and projects are shown as a table. All project functionalities work the same. Project removal and thumbnail update functionalities are accessible through the right click contextual menu.



Offline Mode

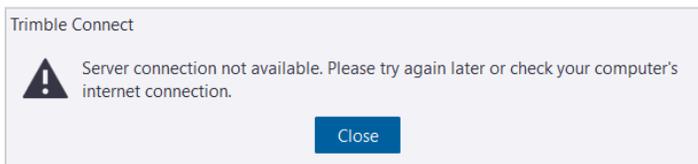
When losing Internet connection, Trimble Connect for Windows goes into offline mode. Trimble Connect for Windows can still be used offline, as all features except the project synchronization is enabled. All changes will be synchronized when Internet connection is restored. If a user adds files to a project while being offline, he can then upload them to the server manually after recovering Internet connection.

While being offline, the login button turns into a **warning symbol** ⚠, to indicate that the Internet connection has been lost. The warning symbol can also be seen under project thumbnails.

When opening a project in offline mode, it is also indicated in the Trimble Connect for Windows main title bar, where it says **Project Name - offline**.



Also, when opening Trimble Connect for Windows while being offline, a dialog informs the user that Trimble Connect for Windows is going to be used in offline mode.



Project Settings

To open the project settings in Trimble Connect for Windows click **Settings (⚙)** located in the right corner of the application. When clicking the icon while being inside a project, the application settings are also available in different tabs.

Quantity	Unit	Precision
Distance	Foot (ft)	0.01
Area	Sq Foot (ft2)	0.01
Volume	C Yard (yd3)	0.01
Weight	Pound (lb)	0.01
Angle	Degrees (deg)	0.01

Quantity	Unit	Precision
Distance	Ft-In	1/2

Unit Settings

Set the standard units to be used throughout the project. Trimble Connect has expanded unit settings for the project system and allows users to specify display precision on each unit e.g. Length, Area, Volume Angle and Measurements Length. Unit setting support varies by application.

Supported Settings

Unit System

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
Metric	✓	✓	✓	✓
Imperial (decimal)	✓	✓	✓	✓
Imperial (fractional)	✗	✗	✓	✓
Custom	✓	✓	✓	✓

Display Precision

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
0, 0.1, 0.01, 0.001	✓	✓	✓	✓
½, ¼, ⅛, 1/16 1/32 1/64	✗	✓	✓	✓

Distance

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
Millimeter (mm)	✓	✓	✓	✓
Centimeter (cm)	✓	✓	✓	✓
Meter (m)	✓	✓	✓	✓
Kilometer (km)	✓	✓	✓	✓
Inch (in)	✓	✓	✓	✓
Foot (ft)	✓	✓	✓	✓
Yard (yd)	✓	✓	✓	✓

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
Ft-in	X	✓	✓	✓
Mile (mi)	✓	✓	✓	✓

Area

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
mm ²	✓	✓	✓	✓
cm ²	✓	✓	✓	✓
m ²	✓	✓	✓	✓
in ²	✓	✓	✓	✓
ft ²	✓	✓	✓	✓
yd ²	✓	✓	✓	✓

Volume

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
mm ³	✓	✓	✓	✓
cm ³	✓	✓	✓	✓
m ³	✓	✓	✓	✓
in ³	✓	✓	✓	✓
ft ³	✓	✓	✓	✓
yd ³	✓	✓	✓	✓

Weight

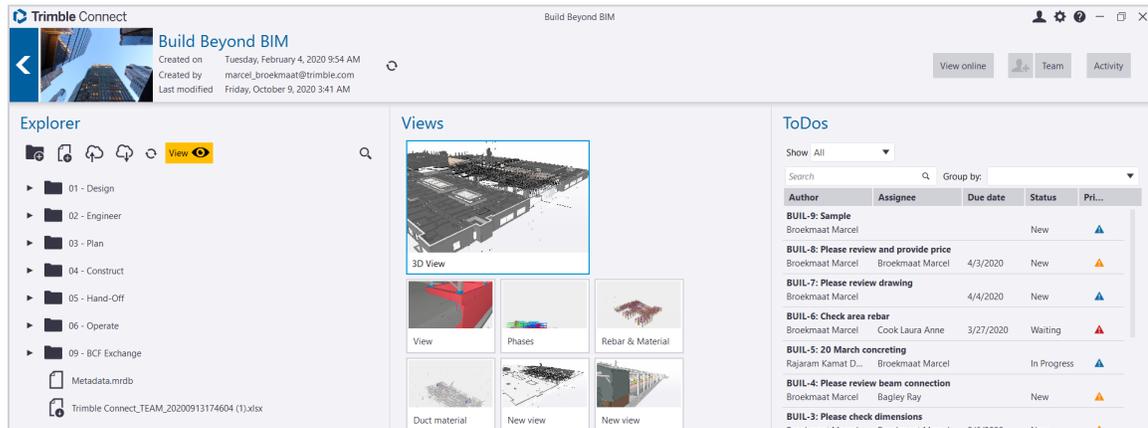
	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
Milligram (mg)	✓	✓	✓	✓
Gram (g)	✓	✓	✓	✓
Kilogram (kg)	✓	✓	✓	✓
Tonne (t)	✓	✓	✓	✓
Ounce (oz)	✓	✓	✓	✓
Pound (lb)	✓	✓	✓	✓
Short ton (sh tn)	✗	✗	✓	✓
Ton (ton)	✓	✓	✗	✗

Angle

	BROWSER APP	3D VIEWER	MOBILE APP	WINDOWS APP
Degree (deg)	✓	✓	✓	✓
Radius (rad)	✓	✓	✓	✓

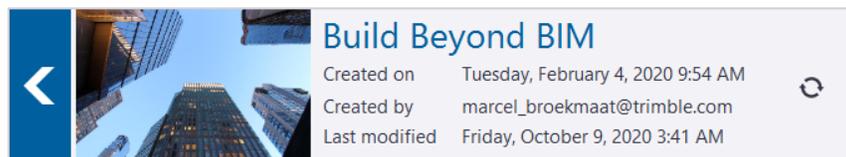
Data Tab

When double clicking a project, it will open, and Trimble Connect for Windows will automatically go to the Data Tab, where they will find the project information and project content.



From the Data Tab, users can manage the project files and folders. After the project synchronization is complete, the project and its content will also be available in other Trimble Connect applications.

Project Details



Project details such as date of creation, creator and when the project was last modified can be found in the project details pane. The project thumbnail is also shown there.

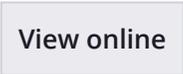
Note: The project name is only editable by a Project Admin.

OPTION	DESCRIPTION
	All project entities can be synchronized using the Synchronize button.
	To navigate back to the project library and close the project, click the back arrow found next to project details.

Other Project Functions

On the upper right side of the Data Tab are buttons that allow to open quickly the project in Trimble Connect for Browser.



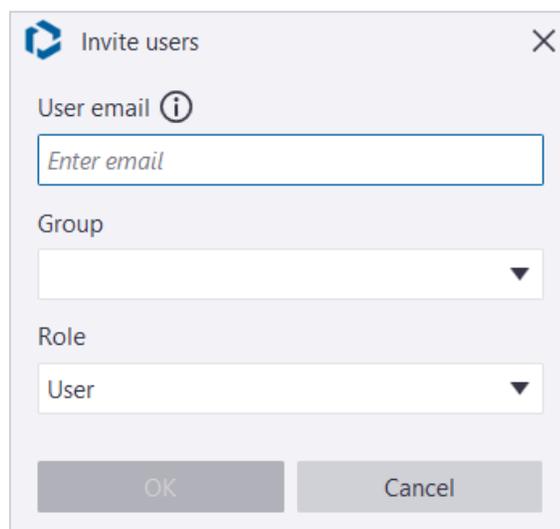
OPTION	DESCRIPTION
	View Online - Open the project Data Tab in the Trimble Connect for Browser application.
	Team button - Open the project Team tab in the Trimble Connect for Browser application.
	Activity button - Open the project Activity tab the Trimble Connect for Browser application. You can click the Activity tab in the project detail view to see all actions made since the project was created. For example, you can see when files have been attached or removed, or when users have been invited or have joined the project.
	Invite users to project - Invite new users to the project so that it is available for them in Trimble Connect. Some projects may require more strict control for inviting users into the project. A Project Administrator can select the option to allow all users to invite new project members or restrict project invitations to Project Administrators only for enhanced security. If a Project Administrator has restricted this functionality, the Invite user () button will be disabled.

Invite Users

You can invite users in Trimble Connect for Windows by using the **Invite user (👤+)** button found in the Data Tab and in other places in the application. If the invited user already has a Trimble Account, they will receive an email with the project link. Otherwise they are instructed to create a new account. When the users have joined, they can access the project and the folders and the files to which they have permissions.

To Invite:

1. Go to the **Data Tab** page.
2. Click the **Invite user (👤+)** button at the top of the page.
The Invite Users dialog box opens.



The screenshot shows a dialog box titled "Invite users" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- User email**: A text input field with an information icon (i) to its right and a placeholder text "Enter email".
- Group**: A dropdown menu with a downward arrow.
- Role**: A dropdown menu with "User" selected and a downward arrow.
- Buttons**: "OK" and "Cancel" buttons at the bottom.

3. Enter the email of the user.
You can enter multiple email addresses. Use semicolon (;) or comma (,) as a separator.
4. Select a Group and Role for the user.
The role can be either Admin or User.
5. To send the invite, click **Ok**.
The user receives an email with instructions on how to join the project.

Project Member Invitation Settings

Some projects may require more strict control for inviting users into the project. A Project Administrator can select the option to allow all users to invite new project members or restrict project invitations to Project Administrators only for enhanced security.

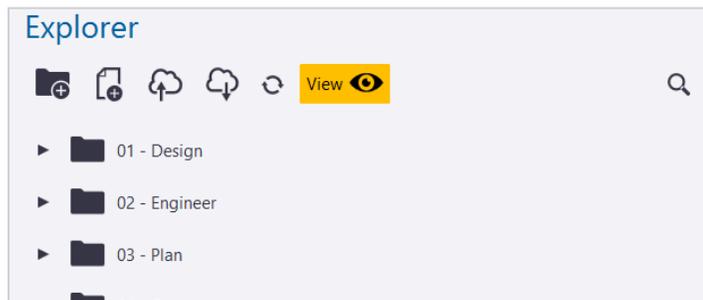
This setting can be accessed in the Trimble Connect for Browser application.

If a Project Administrator has restricted this functionality, the **Invite user (👤+)** button will be disabled/not work.

More information on team management can be found in the [Trimble Connect for Browser User Guide](#) ↓

Explorer Pane

Project content is added and managed through the File Explorer.

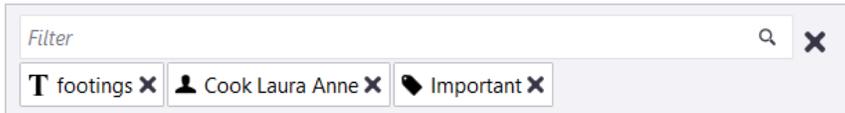


Search the File Explorer

The File Explorer can be searched by using **Search (Q)** located in the upper right corner.

When clicking **Search (Q)**, text can be entered. Pressing enter validates the entry, and File Explorer turns into a flat list, displaying only the folders/files corresponding to the applied filters.

Existing tags are also available in the search dropdown to be picked. A combination of users, texts and tags can be used to cross filter the list and display only the files/folders matching the search criteria.



The icon in front of the currently active entries indicates if it is a **text (T)**, **user (👤)** or a **tag (🏷)**, as seen above. Clicking **Remove (X)** on the end of the entry clears it. Clicking **Remove (X)** on the right side of the filter field clears all entries, and the File Explorer goes back to normal state.

When typing a new search, previously used text is proposed, so that it can be reused for subsequent searches.

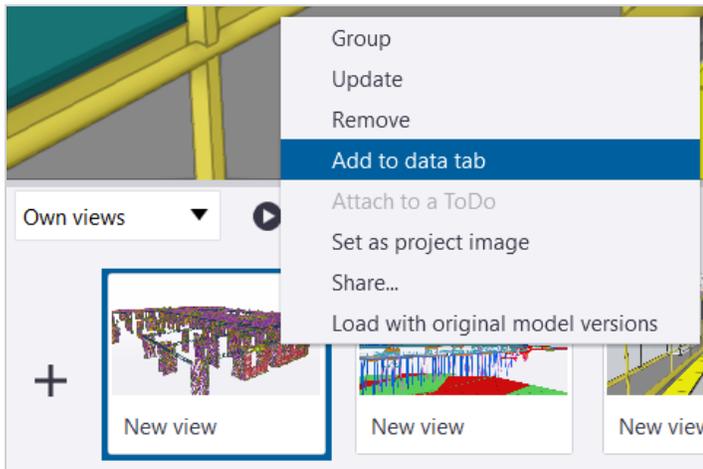
Views Pane

When switching back from 3D to Data Tab, last view settings are saved and a View is automatically created in the Views pane. That View will be shown there until the user reopens the 3D Viewer. Clicking this view allows you to quickly go back to the last used 3D Viewer in order to be able to continue working where one left off.



Add Views to the Views Pane

Users can decide to also add some existing Views from the Views Strip added to the Views pane. Existing Views can be added to the Data Tab using the context menu, **Add to Data Tab**.



Open a Model 3D View

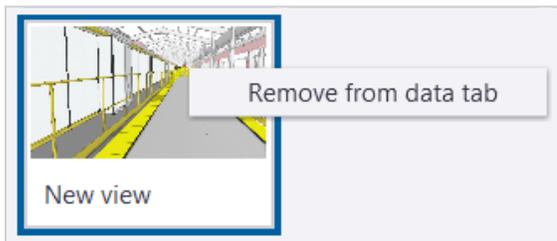
You can open the 3D Viewer with any of the Views shown in the Views pane.

1. On the start page, click a project to open the project detail view.
2. **Double click on a View** listed in the View pane.
3. You will be taken into the 3D View with the View loaded.

Remove a View from the Views Pane

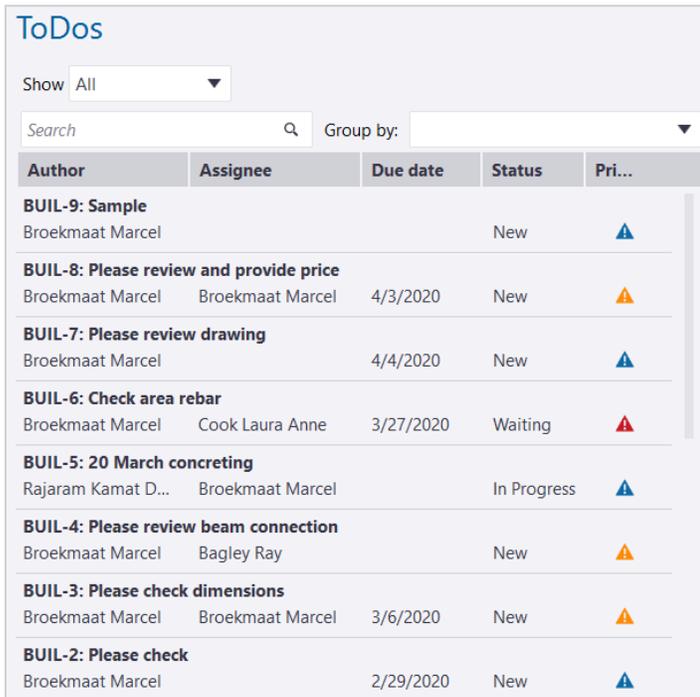
Views can be removed from the Views pane by right clicking on a View and then selecting **Remove from Data Tab** from the context menu.

The View will be removed from the Data Tab, but it will still exist in the Views Strip.



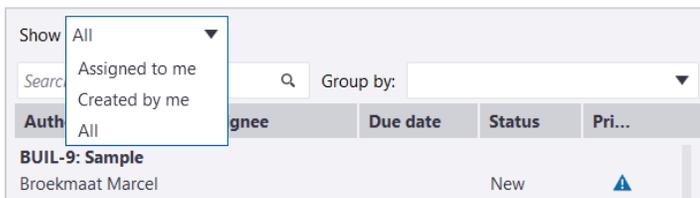
ToDo's Pane

ToDo's created from any of the Trimble Connect applications are also listed in the Data Tab.



Author	Assignee	Due date	Status	Pri...
BUIL-9: Sample				
Broekmaat Marcel			New	▲
BUIL-8: Please review and provide price				
Broekmaat Marcel	Broekmaat Marcel	4/3/2020	New	▲
BUIL-7: Please review drawing				
Broekmaat Marcel		4/4/2020	New	▲
BUIL-6: Check area rebar				
Broekmaat Marcel	Cook Laura Anne	3/27/2020	Waiting	▲
BUIL-5: 20 March concreting				
Rajaram Kamat D...	Broekmaat Marcel		In Progress	▲
BUIL-4: Please review beam connection				
Broekmaat Marcel	Bagley Ray		New	▲
BUIL-3: Please check dimensions				
Broekmaat Marcel	Broekmaat Marcel	3/6/2020	New	▲
BUIL-2: Please check				
Broekmaat Marcel		2/29/2020	New	▲

By default, the ToDos pane is filtered to only show the ToDos that are assigned to you. If needed, this can be changed using the **Show** dropdown, and the user can decide to change also only ToDos he created, or all ToDos in the project.



Author	Assignee	Due date	Status	Pri...
BUIL-9: Sample				
Broekmaat Marcel			New	▲

See "[Working in 3D: ToDos](#)" on page 124 for more information on using and creating ToDos in the Trimble Connect for Windows application.

ToDo Visibility

ToDos can be made private or public to all users in the project. By default, ToDos are visible for all users in the project.

If you are a Project Admin, you can change the privacy settings by going to the **Trimble Connect for Browser application > Settings > User Permissions** page.

Files & Folders

You can upload and download both 2D files and 3D models in Trimble Connect for Windows. 2D files can be photos, text files, excel sheets, documents, or other similar files.

Supported File Formats

For the full list of supported files - please see [Supported File Formats](#) ↓

Revit Importer

It is now possible to add Revit (.RVT) model files to the project and view them in 3D using the Connect for Windows application. Note that this feature is **not intended to replace the Trimble Connect for Revit Add-On** which gives you the most control over choosing which Views get uploaded along with other upload settings. This feature offers a quick, but less controlled, way of getting Revit models into Connect without having to install the **Trimble Connect for Revit Add-On**.

File & Folder Naming Conventions

All file & folders stored in Trimble Connect use the concept of files and directories to access data stored on a disk, device or server.

Due to certain operating system **(OS) file name restrictions**, do not use the following characters in file names:

- < (less than)
- > (greater than)
- : (colon)
- " (citation mark)
- / (forward slash)
- \ (backslash)
- | (vertical bar or pipe)
- ? (question mark)
- CHAR. (Characters followed by dot)
- * (asterisk)
- .. (double dot)

Add Local Files

Files can be added to the project by selecting a folder and clicking **Add File** ().

- If no folder is selected, the file will be added to the root level of the project.
- If a file is selected, the file will be added in the same folder/level as the selected file.

To add 2D files and 3D models to a project:

1. On the start page, click a project to open the project detail view.
2. If you want to add the file into a specific folder in the project, in the Explorer side pane, select the folder.
3. Click **Add File** ().
4. Browse to find and select the file that you want to upload.
5. Click **Open**.
6. **Alternatively:** You can also drag and drop files from Windows Explorer to the Explorer side pane.
7. The file will be added to your project.

File Statuses

STATE	DESCRIPTION
	The file is synchronized between your computer and the server, and is up to date.
	If a file exists on the server but not locally, or a new version is available from the server, it will have a download icon. Clicking the icon will download the latest version of the file to your computer.
	If the file only exists locally, it will be shown with an upload icon. Clicking the icon will upload the file to the server.
	If the file has been deleted from the server but still exists locally, it is shown with a file removed icon. Clicking the icon will remove it from your computer.

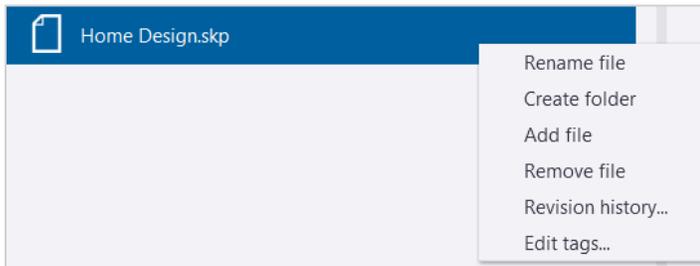
File Interactions & Controls

Double clicking a file has different behaviors based on the file type & status:

- Double clicking a file will download the file from the server if it hasn't been downloaded yet.
- If the file is a model readable in Trimble Connect for Windows, it will open the context menu (double tap opens the file in the 3D Viewer).
- If it is a 2D file, it will be opened with the associated default software.

File Controls

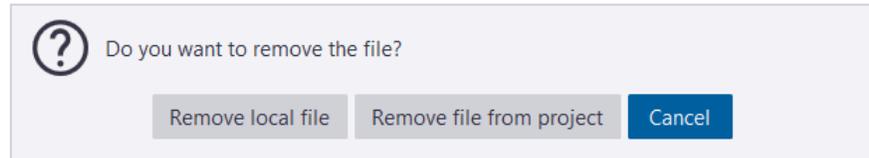
Once a file has been added, you will have access to different controls accessed through the context menu when right-clicking a file.



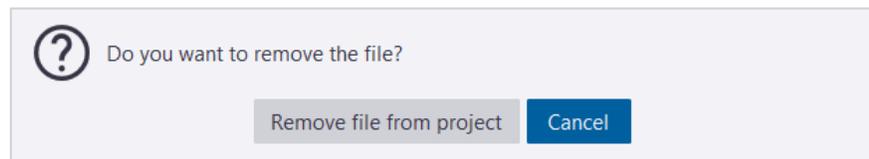
OPTION	DESCRIPTION
Rename File	<p>Opens the Rename file dialog.</p> <p>The Invalid Name Warning will show if you try to rename a file with the same name as another file or if the name contains a special character listed under "File & Folder Naming Conventions" on page 45.</p> <div data-bbox="565 1451 1430 1646"><p>Warning</p><p>You entered an invalid name. Please try again.</p><p>OK</p></div>
Create Folder	<p>This option will create a folder at the same level as the selected file.</p>
Add File	<p>This option will open the Windows Explorer Window and allows you to add files at the same level as the selected file.</p>

OPTION**DESCRIPTION****Remove File**

When removing a file, a dialog will ask you if you want to remove the file locally or remove from a project completely.



If a file does not exist locally, you can still remove it from the project.



Remove Local File: the file will be removed from your computer, but it will still be available from the server. The file will still be shown in the File Explorer as available for download (📄).

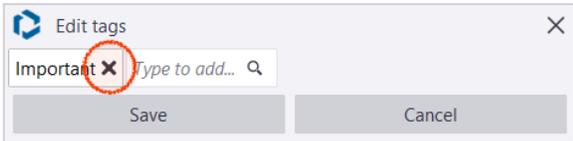
Remove File from Project: When choosing to remove from the project, the file is removed locally and from the server.

Note: Removed files can be restored by a Project Admin. For more information, see the [Trimble Connect for Browser User Guide](#) ↓

Revision History

This option opens the file's revision history. This allows you to see who and when the different versions of this file have been uploaded to the project.

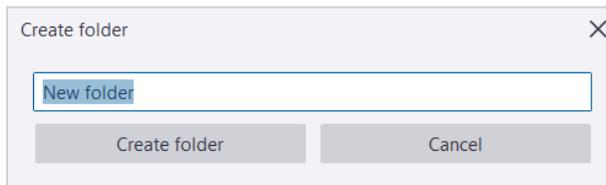


OPTION	DESCRIPTION
Edit Tags	<p>This option opens the Edit tags dialog. This allows you to create or remove tags associated with the file.</p> <p>Tags can be added by simply clicking in the type field, writing the tag and pressing ENTER. Once a tag has been created, it can be reused across the whole project, for other files, or in Todos.</p>  <p>Clicking Remove (X) on the right side of the tag will remove the tag after saving the changes.</p>  <p>Note: Once a tag has been created it cannot be removed from the project.</p>

Add Folders

You can create folders to organize the files and models within a project.

1. On the start page, click a project to open the project detail view.
2. If you want to add the new folder under a specific folder in the project, in the Explorer side pane, select the folder.
3. Click **Add folder** (📁)
4. Users can give a name to the folder and create it. Folders are called New folder by default if the user doesn't change the name.

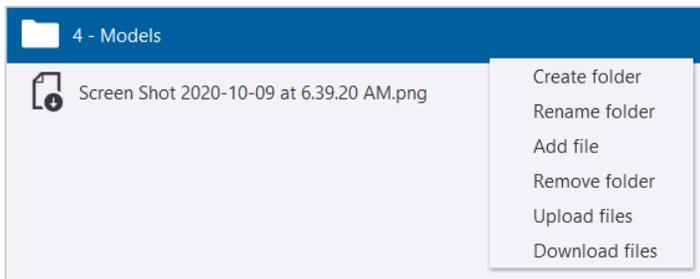


5. Click **Create folder**.
6. The folder is added to the open project.

To control who in the project can access a folder, you can set folder permissions to users or user groups. For more information, see the [Trimble Connect for Browser User Guide](#) [↓](#).

Folder Controls

Once a folder has been created, you will have access to different controls accessed through the context menu when right-clicking a folder.



OPTION	DESCRIPTION
Create Folder	Create folder creates a new folder nested inside a selected folder. This can also be done by selecting a folder and clicking Add folder (📁+).
Rename Folder	Opens the Rename folder dialog.
Add File	Opens the Windows File Explorer dialog so you can add files to the folder. This can also be done by selecting a folder and clicking Add File (📁📎).

OPTION	DESCRIPTION
Remove Folder	<p>When removing a folder, a dialog will ask you if you want to remove the folder locally or from a project completely.</p> <p>Remove Locally: the folder and its contents will be removed from your computer, but it will still be available from the server. The folder and its contents will still be shown in the File Explorer as available for download.</p> <p>Remove from Project: When choosing to remove from the project, the folder and its contents are removed locally and from the server.</p> <p>Note: Removed files and folders can be restored by a Project Admin.</p> <p>See Trimble Connect for Browser User Guide ↓ for more information</p>
Download models	<p>All models a folder contains can be downloaded at once by clicking Download models. This is especially useful when a folder contains a large amount of models.</p>

Managing Folder Permissions

With folder permissions, visibility of folders can be restricted based on user groups, individual users or can be specified as a default setting to be applied to all users in the project. Folder permissions are managed in the Trimble Connect for Browser application. This is a function only available to Project Admins.

If you have limited access rights to a particular folder, buttons in that folder are grayed out, and dragging and dropping does not work.

For more information, see the [Trimble Connect for Browser User Guide](#) ↓.

File Versions & Revision History

Add a New File Version

When trying to add a file that already exists in the project a dialog will open, asking if you want to replace the file or keep the original. When you click **OK** the file will be added as a new revision. Previous file revisions can be accessed through the File Revision History dialog.

Download a New Revision

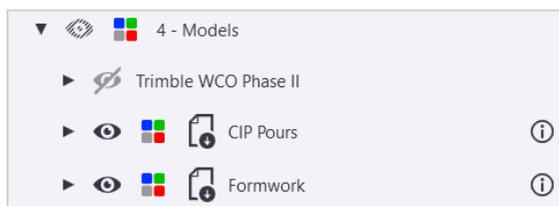
Download Revisions from the Explorer Pane

When there is a new revision of a model file available on the server, you can download it by clicking the **download file** (📄) icon in the Data Tab. If you click the **View** button while the file is still downloading, you will be taken into the 3D View where the file will be loaded once the downloading progress is complete.



Download Revisions from the 3D View > Models Tab

If the user is in 3D Viewer and a new revision of model has been added to the project, the Models Tab will show the file with a **download icon** (📄), indicating that there is a new version available. **The new version of the file will not be downloaded until the user explicitly downloads the file.**

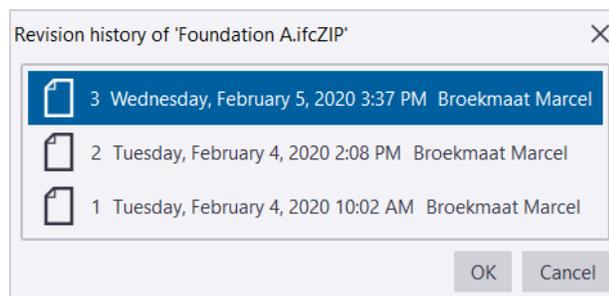


View File Revision History

1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, right-click the file whose revision history you want to view.
3. Select **Revision history...**
4. In the Revision history dialog box, view the revisions made to the file.

Viewing Previous File Versions in 3D

1. Open a file in **Trimble Connect for Window's 3D Viewer**.
2. To open the Model Details Tab, **double click** on the model listed in the Models Tab, or click the **model details icon** (i).
3. The currently loaded version is shown in the Model Details Tab.
4. Click **Select version...**
5. The **Revision History** dialog will open.



6. **Double click on the desired version** you want to view.
7. The file will be downloaded and then loaded in the 3D View.

Upload Files & Folders

All data that exists locally in the project can be uploaded by clicking **Upload all files to the server** (🔄).

1. On the start page, click a project to open the project detail view
2. In the Explorer side pane, click **Upload all files to the server** (🔄).
3. Once the upload is complete, the files and folders will be available in any of the Trimble Connect applications.

Alternatively, you can upload all files within a folder to the server. To do so, right-click the folder and select **Upload files**.

Download Files & Folders

All project files and folders existing on the server can be downloaded by clicking **Download all files from server** (📄).

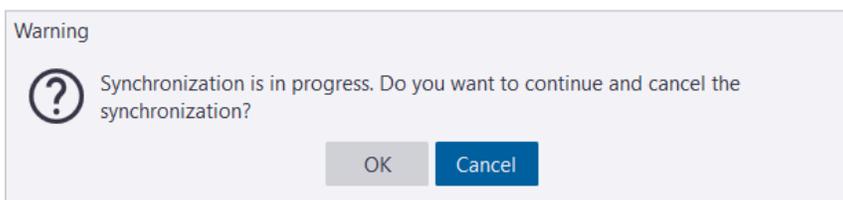
1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, click **Download all files from server** (📄).

Canceling an Upload or Download Operation

When the download or upload process has started, a synchronization icon replaces the file icon (🔄). To cancel, click ✕.

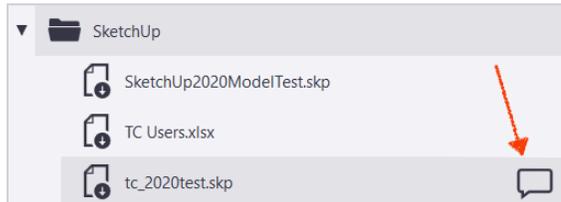


If uploads or downloads are in progress, and you decide to close Trimble Connect for Windows, a dialog will open indicating synchronization is still in progress. If you decide to exit, all upload or download operations will be canceled.



Comment on Files & Folders

It is possible to comment on files or folders, by hovering over the file or folder and clicking the **Comment** (🗨️) icon that appears next to it. Comments are visible for all users in the project.



Clicking the icon will open the **Create Comment** dialog, from which a comment can be added. Comment and comment attachments will be accessible from the **Model Details Tab** in the 3D Viewer.

Once at least one comment has been created for a file, the number of comments can be seen in the File Explorer.



For more information on, see the [Trimble Connect for Browser User Guide](#) ↓

Move Files & Folders

Folders can also be dragged and dropped to be moved between other folders. Files can also be dragged and dropped to be moved between folders. Files or folders can't be drag & dropped on the same folder containing items with the same name.

1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, drag and drop the file or folder to a new location.

Rename Files & Folders

1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, right-click the file or folder that you want to rename.
3. Select **Rename file** or **Rename folder** from the context menu.
4. Type a new name for the file or folder.
5. Click **Rename**.

Remove Files & Folders

1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, right-click the file or folder that you want to remove.
3. Select **Remove file** or **Remove folder** from the context menu..
4. Select if you want to **remove the local file from your computer** or **remove the file from the project**.

Viewing 2D Files

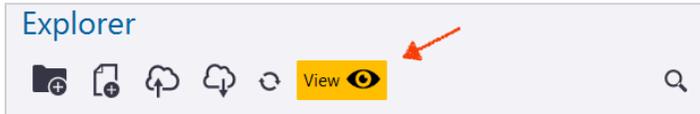
With Trimble Connect, you can view both 2D files and 3D models locally on your computer.

To view a 2D file, such as a photo, a document, or a PDF file:

1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, double-click the file.
3. The file will open in another application.

View Files & Folders in 3D

Clicking the **View** button has different behaviors based on what is selected in the Data Tab.



To view a 3D file:

1. On the start page, click a project to open the project detail view.
2. In the Explorer side pane, **double-tap** on the file or select the file and click **View**.
3. The file will open in the 3D Viewer.

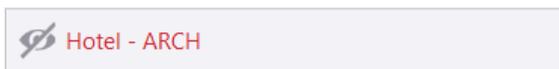
TO...	DO THIS...
View the project in 3D	To open the entire project folder structure in the 3D Viewer, click on the View button. Be sure there are no folders or files selected.
View all models in a folder	If a folder is selected, clicking View will open the 3D Viewer with the folder and it's models listed in the Models Tab.

Note

The first time loading a model might be slow. After that, the files are loaded from the existing cache, which makes it faster. Loading progress is shown when the file is loading. Icon tooltip gives additional information about loading progress.



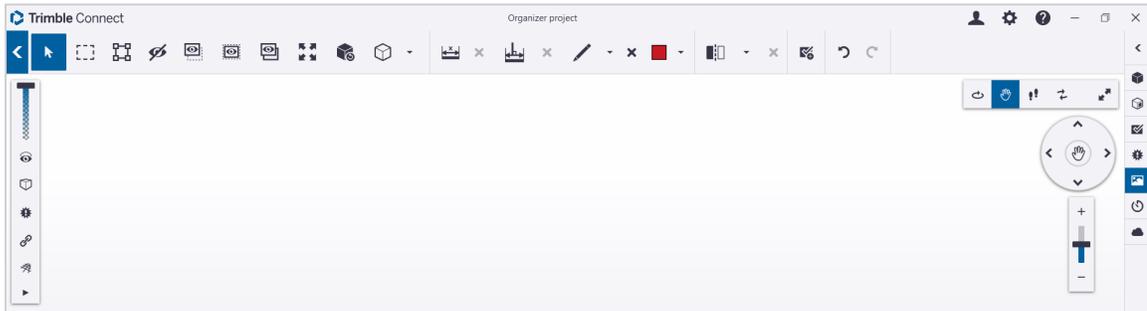
If a corrupted model is added to the project, Trimble Connect for Windows will still try to load it into 3D view. When reading the model fails, it can't be loaded and it appears as red in the Models Tab.



Working in 3D

Reference Guide

You can perform several different tasks while working in the 3D Viewer. Below is a reference guide which shows the icons used in the 3D View and which page you can go to learn more about it.



ICON	NAME	CROSS REFERENCE
	Exit 3D View	--
	Single Object/Part Sector	"Select Single Objects" on page 71
	Area Selector	"Making Selections" on page 70
	Assembly Selector	"Making Selections" on page 70
	Hide Selection	"Visibility Tools" on page 73
	Hide Others	"Visibility Tools" on page 73
	Show Only	"Visibility Tools" on page 73
	Show All	"Visibility Tools" on page 73

ICON	NAME	CROSS REFERENCE
	Fit to View	"Adjust the 3D View" on page 76
	Reset Model	"Adjust the 3D View" on page 76
	Model Views	"Adjust the 3D View" on page 76
	Distance Measure	"Distance Measure" on page 59
	Vertical/Horizontal Shortest Distance Measure	"Vertical or Horizontal Distance Measurements" on page 84
	Markup	"Markups" on page 86
	Color Selector	"Coloring Measurements & Markups" on page 92
	Clip Plane	"Clip Planes" on page 93
	Add ToDo	"Working in 3D: ToDos" on page 124
	Undo	--
	Redo	--
	Model Transparency	"Visibility Tools" on page 73
	Ghost Mode	"Visibility Tools" on page 73
	Orthogonal / Perspective View	"Adjust the 3D View" on page 76

ICON	NAME	CROSS REFERENCE
	Show or Hide Clashes	"Visibility Tools" on page 73 "Working in 3D: Clashes" on page 138
	Show/Hide Object Attachments	"Visibility Tools" on page 73 "Object Attachments" on page 119
	Show/Hide Grids	"Model Grids Updated" on page 107
	Grid Selector	"Model Grids Updated" on page 107
	Rotate Camera	"Rotate the Model" on page 66
	Pan Camera	"Pan the Model" on page 67
	Walk Around Camera	"Walk Around the Model" on page 68
	Look Around Camera	"Look Around the Model" on page 69
	Enter/Exit Fullscreen Mode	"Adjust the 3D View" on page 76
	Navigation Wheel	"Navigation & Controls" on page 64
	Zoom In/Out	"Adjust the 3D View" on page 76
	Open/Close Tabs	--
	Models Tab	"Working in 3D: Models" on page 98

ICON	NAME	CROSS REFERENCE
	Objects Tab	"Working in 3D: Objects" on page 111
	ToDo Tab	"Working in 3D: ToDos" on page 124
	Clashes Tab	"Working in 3D: Clashes" on page 138
	Views Tab	"Working in 3D: Views" on page 151
	Sequence Tab	"Working in 3D: Sequences" on page 163
	Point Cloud Tab	"Working in 3D: Point Clouds" on page 170

Keyboard Shortcuts

General Shortcuts

RESULT	SHORTCUT
Undo last action.	CTRL + Z
Redo last action.	CTRL + Y
End an operation	ESC
Open the context menu	Right clicking an object opens its context menu.

Camera Shortcuts

RESULT	SHORTCUT
Fit to view selected objects.	SPACEBAR
Fit to View	Double clicking an object fits the object to view, and highlights it in the Objects Tab.
Orthogonal mode for a surface	ALT + double click a surface
Switch to Rotate around mode.	CTRL + U
Switch to Pan mode.	CTRL + I
Switch to Walk around mode.	CTRL + O
Switch to Look around mode.	CTRL + P
Switch between normal/ fullscreen.	F11

Selection Shortcuts

RESULT	SHORTCUT
Add to Selection	Hold down CTRL and select objects and add them to the selection.
Add/Remove from Selection	Hold down SHIFT and select objects Adds/Removes them from the selection.
Hide others.	SHIFT + BACKSPACE
Hide selected.	BACKSPACE
Open Detail Tab	Select an object and press ENTER opens its details tab.
Remove from Selection	Hold down CTRL + SHIFT and select objects removes them from the selection.
Reverse the selection mode.	Hold ALT while selecting objects/assemblies
Unselect all objects.	ESC

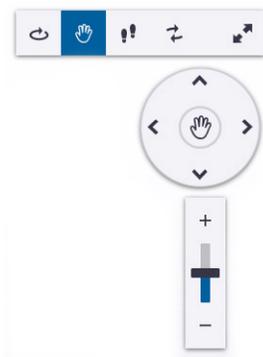
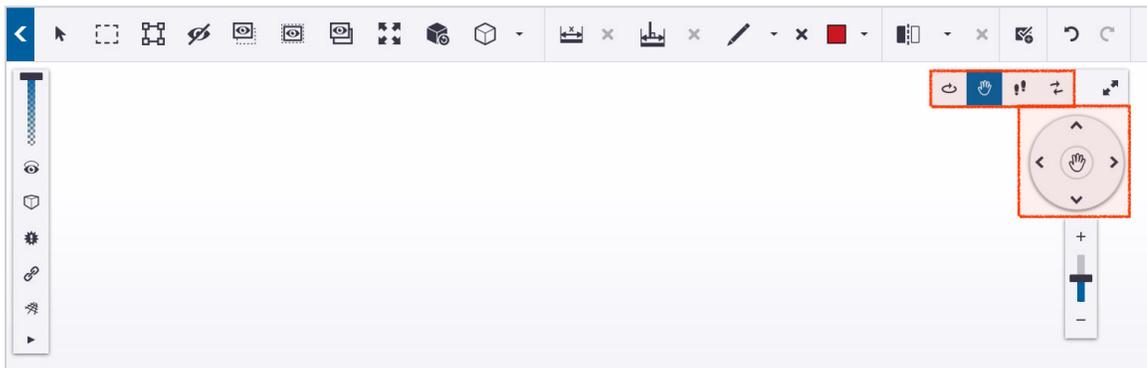
Views Shortcuts

RESULT	SHORTCUT
Creates a new view.	CTRL + N
Loads the previous view.	CTRL + Q
Loads the next view.	CTRL + W

Working in 3D: Navigation & Tools

Navigation & Controls

Navigating the model in the 3D Viewer is done through the mouse or trackpad. The default camera and navigation mode is Rotate mode.



The top toolbar above the navigation wheel allows you to change the navigation mode, and also to switch to fullscreen (most right button). The active navigation mode is highlighted in blue in the top toolbar, and also shown in the middle of the wheel.

The navigation can also be done through the navigation wheel. Arrows have the same behavior as pressing the arrow keys on the keyboard. The zooming can be done by clicking the + and - buttons, or drag the slider up and down.

Navigation Wheel

TOOL	BEHAVIOR
	Shows the active Camera/Navigation Mode. To show or hide the Navigation Mode Toolbar clicking the center of the wheel.
	
	The 3D Viewer has four navigation modes:
	<ol style="list-style-type: none">1. Rotate (↻)2. Pan (👉)3. Walk Around (👤)4. Look Around (👁️)
^	Tilts the camera upwards
>	Turns the camera to the right
∨	Tilts the camera downwards
<	Turns the camera to the left

Rotate the Model

1. If the Navigation Toolbar is hidden, click the middle of the Navigation Wheel.



2. The **Navigation Toolbar** will appear above the Navigation Wheel.



3. If it is not already selected on the toolbar, select **Rotate** (↻).
4. Pick a point in the model and hold down the left mouse button.
5. Move the mouse as needed to rotate the model around the point you picked.

Mouse Behaviors

MOUSE CLICK/INTERACTION	BEHAVIOR
Arrow keys/Left mouse drag	Rotate around point
Middle mouse button drag	Pan
Right mouse button drag	Rotate in position
Scroll mouse	Zoom in/out
Hold down left mouse button (0.5sec)	Area selection

Pan the Model

1. If the Navigation Toolbar is hidden, click the middle of the Navigation Wheel.



2. The **Navigation Toolbar** will appear above the Navigation Wheel.



3. On the toolbar, select **Pan** ().
4. Pick a point in the model and hold down the left mouse button.
5. Move the mouse to move the model.

Mouse Behaviors

MOUSE CLICK/INTERACTION	BEHAVIOR
Arrow keys/Left mouse drag	Pan
Middle mouse button drag	Pan
Right mouse button drag	Rotate in position
Scroll mouse	Zoom in/out
Hold down left mouse button (0.5sec)	Area selection

Walk Around the Model

1. If the Navigation Toolbar is hidden, click the middle of the Navigation Wheel.



2. The **Navigation Toolbar** will appear above the Navigation Wheel.



3. On the toolbar, select **Walk (👤!)**.
4. Pick a point in the model and hold down the left mouse button.
5. Move the mouse to the walking direction.

Mouse Behaviors

MOUSE CLICK/INTERACTION	BEHAVIOR
Arrow keys/Left mouse drag	Zoom and rotate in position
Middle mouse button drag	Pan
Right mouse button drag	Rotate in position
Scroll mouse	Zoom in/out
Hold down left mouse button (0.5sec)	Area selection

Look Around the Model

1. If the Navigation Toolbar is hidden, click the middle of the Navigation Wheel.



2. The **Navigation Toolbar** will appear above the Navigation Wheel.



3. On the toolbar, select **Turn Head** (↻).
4. Pick a point in the model and hold down the left mouse button.
5. Move the mouse to the walking direction.

Mouse Behaviors

MOUSE CLICK/INTERACTION	BEHAVIOR
Arrow keys/Left mouse drag	Zoom and rotate in position
Middle mouse button drag	Pan
Right mouse button drag	Rotate in position
Scroll mouse	Zoom in/out
Hold down left mouse button (0.5sec)	Area selection

Making Selections



There are several modes that you can use to select objects in 3D. These are:

- Single Selection Mode
- Area Selection Mode
- Assembly Selection Mode

The default selection mode is Single Selection Mode. This mode is on by default and cannot be explicitly disabled.

TOOL	BEHAVIOR
	<p>Single Selection Mode. This is the default selection mode. Objects can be picked in 3D view.</p> <p>When activating one of the following tools, the default mode is disabled:</p> <ul style="list-style-type: none">• Area selection• Measurements• Markups• Clip planes• Model relocation tools• Point picker via the API <p>When some tool is deactivated explicitly (by pressing the button or pressing ESC or pressing close in model relocation tools), the default picking mode is automatically activated.</p>
	<p>Area Selection Mode. This does exactly the same as holding the left mouse button for 0.5 seconds and dragging and dropping the cursor.</p>
	<p>Single Assembly Selection Mode enabled.</p> <p>When Assembly Selection is enabled, selection is applied to highest level assemblies or systems if applicable. If the object does not belong to either one, the single object is selected instead.</p>
	<p>Area Assembly Selection Mode enabled.</p>

Select Single Objects

1. Ensure that **Single Selection Mode** () is selected on the toolbar, or select it.
2. Click an object in the model to select it.
 - a. If you want to select multiple objects separately, hold down **SHIFT** and pick the objects.
 - b. If you want to remove single objects from your selection, hold down **CTRL** and pick the objects.

Select All Objects in a Particular Area

1. On the toolbar, select **Area Selection** ().
2. **To select the objects entirely within the area**
 - a. Hold down the left mouse button.
 - b. Drag the mouse from left to right to create a rectangle around the desired area.
 - c. Release the left mouse button.
3. **To select the objects entirely and partly within the area**
 - a. Pick a point in the model, and hold down the left mouse button.
 - b. Drag the mouse from right to left to create a rectangle around the desired area.
 - c. Release the left mouse button.

Assembly Selection Mode

When the Assembly Selection Mode is activated, selecting an object automatically selects the assembly that the object belongs to. Note that this only applies if the object belongs to an assembly. Otherwise, the object itself is selected.

Modifier key Alt reverses the selection mode. The selection mode setting is remembered between user sessions. The Objects Tab content is also filtered based on the selection mode.

- When **Assembly Selection Mode** is enabled, the content is filtered to show only assemblies/systems and/or objects if they do not belong to either one.
- When **Object Selection Mode** is enabled, both assemblies and single objects they contain are shown in the objects list.

To select single assemblies

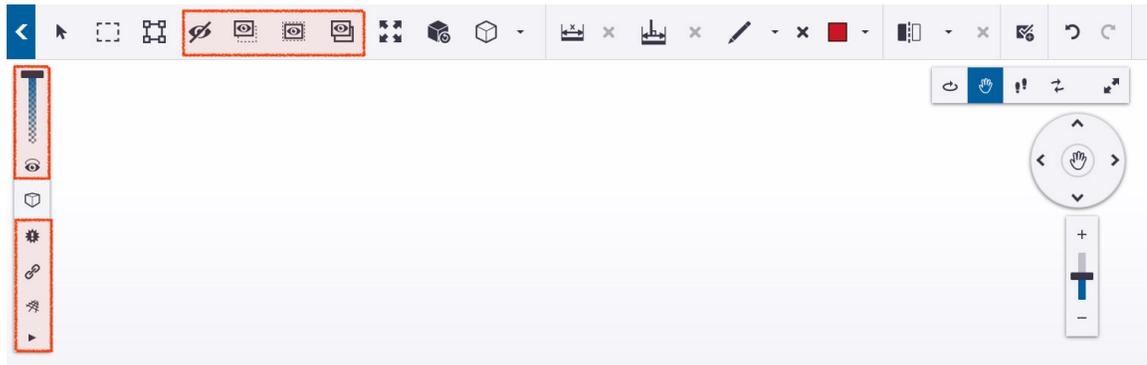
1. Ensure that **Single Selection Mode** () is selected on the toolbar, or select it.
2. On the toolbar, enable **Assembly Selection Mode** ().
3. Select an object in the model.
4. If there is an assembly present in the model, it will be selected, otherwise the part will be selected.

To select all assemblies in an area

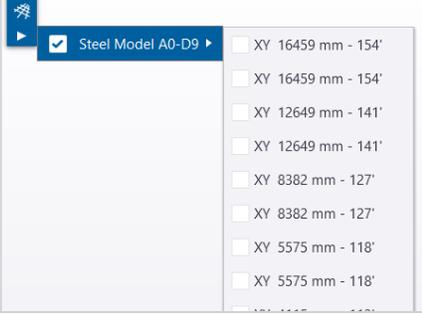
1. Ensure that **Area Selection** () is selected on the toolbar, or select it.
2. On the toolbar, enable **Assembly Selection Mode** ().
3. Hold down the left mouse button.
4. Drag the mouse from left to right to create a rectangle around the desired area.
5. Release the left mouse button.
6. If there is an assembly present in the model, it will be selected, otherwise the part will be selected.

Visibility Tools

In the upper left corner of the 3D view can be found the visibility tools, which allows you to control objects and models visibility.



TOOL	DESCRIPTION
	Hide Selected Hide the selected objects.
	Hide Others Hide all but selected objects.
	Show Only Show only the selected objects.
	Show All Show all objects in the project.
	Transparency slider Allows to change the transparency for all objects in the project.
	Ghost Mode In ghost mode, hidden objects are shown with high transparency and cannot be selected.
	Toggle on/off clash flags. See " Clashes in 3D " on page 149 for details.

TOOL	DESCRIPTION
	<p>Toggle on/off files/ToDo's link icons. See "Object Attachments" on page 119 for details.</p>
	<p>Toggle on/off model grids. See "Model Grids Updated" on page 107 for details.</p>
	<p>Grid Selection To select the grids that you want to show, click the arrow (►) below , and select the checkbox next to the grids that you want to show.</p>  <p>See "Model Grids Updated" on page 107 for details.</p>

Hide a Selection

If you want to hide a selection:

1. **Select the objects** that you want to hide.
2. On the toolbar, click **Hide Selected** (.
3. Your selection will be hidden.
4. You can revert by selecting **Show All** (.

Show Only the Selected Objects

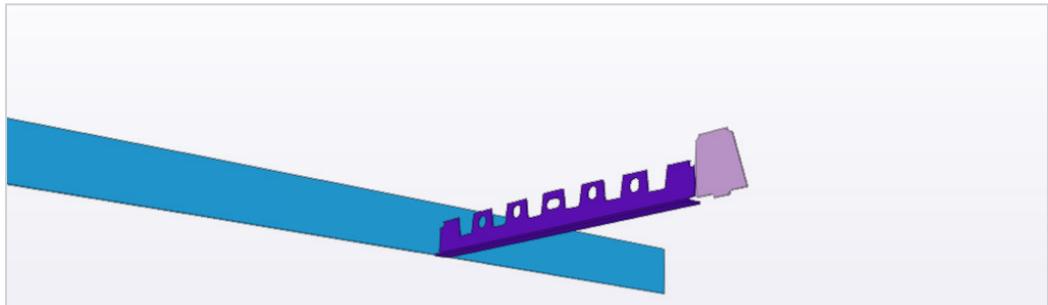
If you want to show only the selected objects:

1. **Select the objects** that you want to show only.
2. On the toolbar, click **Show Only** ().
3. All other objects and models will be hidden.
4. You can revert by selecting **Show All** (.

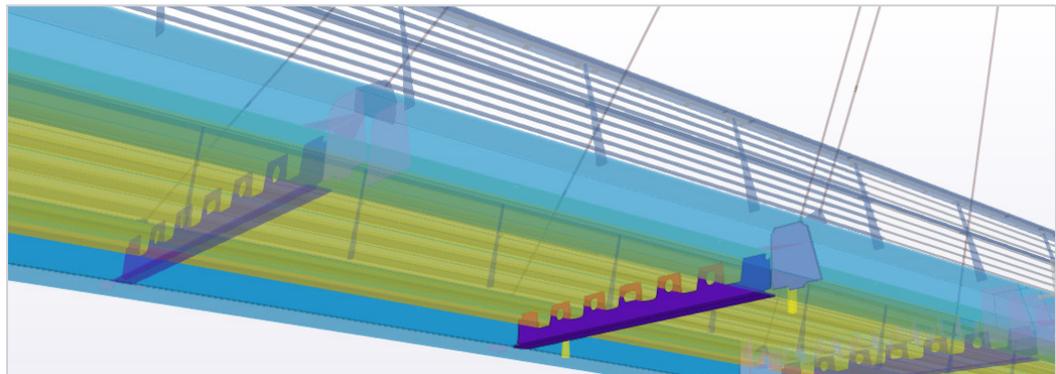
Using Ghost Mode

Ghost mode is great when you are trying to give context to the visible objects.

1. To start, select some objects and use either **Hide Selected** () or **Show Only** () to have some objects visible and others hidden.

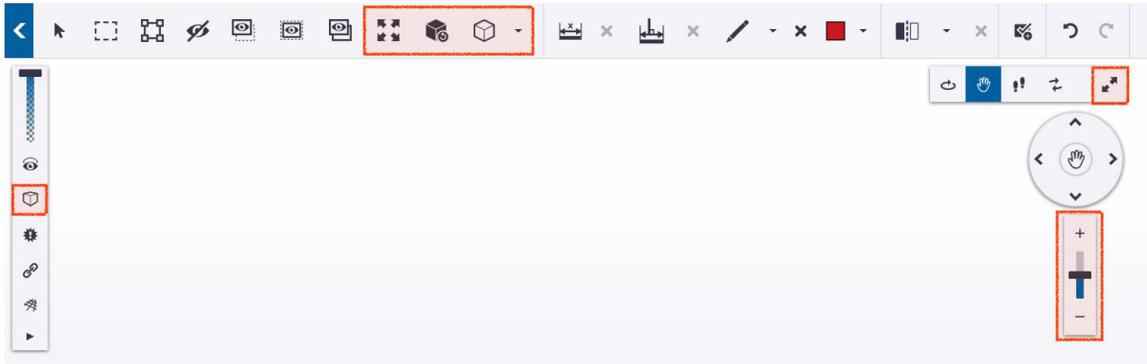


2. Turn on **Ghost Mode** () located in the **Visibility Toolbar**.
3. The hidden objects will be shown with a high transparency but *cannot* be selected.



Adjust the 3D View

When you are working in Trimble Connect for Windows, you can adjust how 3D models are shown. You can either fit models or objects to the 3D View, change the perspective of the 3D View, or reset all selections, markups, clip planes and measurements in the 3D View.



TOOL	BEHAVIOR
	Fit to view. Fit to view the selected objects.
	Reset model. Reset all object colors and visibility, and set the camera back to Axon view.
	Model Views. Set the predefined view to be shown in 3D view. The different predefined Views available are the following ones: <ul style="list-style-type: none"> Default (Axon) view Top view Front view Left view Back view Right view Bottom view

TOOL	BEHAVIOR
	<p>Switch between perspective/orthogonal mode.</p> <ul style="list-style-type: none"> In perspective distant objects appear smaller than close ones. In orthogonal, the object's size is retained independently of the distance to the view point. You cannot navigate through objects in the orthogonal mode.
	<p>Toggle full screen mode</p>
	<p>Zoom In</p>
	<p>Zoom slider. Drag the slider to zoom in or out of the model view</p>
	<p>Zoom Out</p>

Switch to Fullscreen Mode

1. If the Navigation Toolbar is hidden, click the middle of the Navigation Wheel.



2. The **Navigation Toolbar** will appear above the Navigation Wheel.



3. On the toolbar, select **Fullscreen Mode** ()
4. To exit full screen mode, click **Fullscreen Mode** () again.

Fit Models or Objects to the 3D View

If you want to fit the view to particular objects, in the 3D View:

1. Select the objects that you want to zoom to.
2. On the toolbar, select **Fit to View** ()

Change the Model Perspective

1. On the toolbar, open the **Model Views** () menu
2. In the list, select a View angle:
 - a.  Default (Axon) view
 - b.  Top view
 - c.  Front view
 - d.  Left view
 - e.  Back view
 - f.  Right view
 - g.  Bottom view

Reset the 3D View

To reset all selections, object colors, visibility, markups, clip planes and measurements:

1. On the toolbar, click **Reset Model** ()
2. The model will be reset to its original state.

Working in 3D: Markups, Measurements & Clip Planes

Trimble Connect for Windows provides several markups that can be used in 3D and saved as Views in order to add useful information.

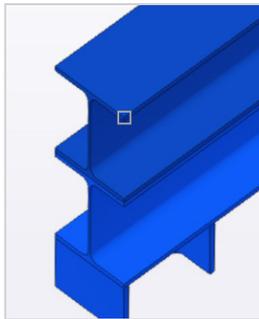


Snapping

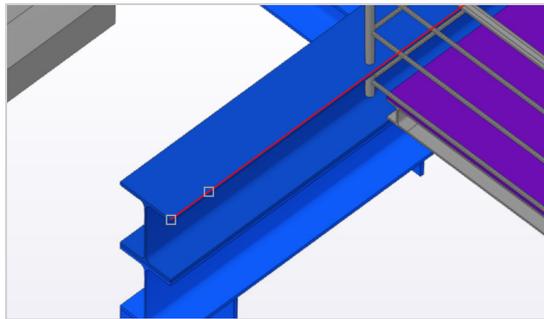
Snapping in 3D indicates which point, edge or surface is going to be picked.

The available snap points are dependent on which tool (Measurement, Markup or Clip Plane) you are using.

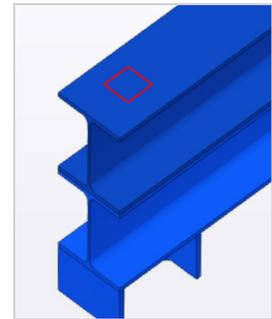
CORNER SNAPPING



EDGE SNAPPING

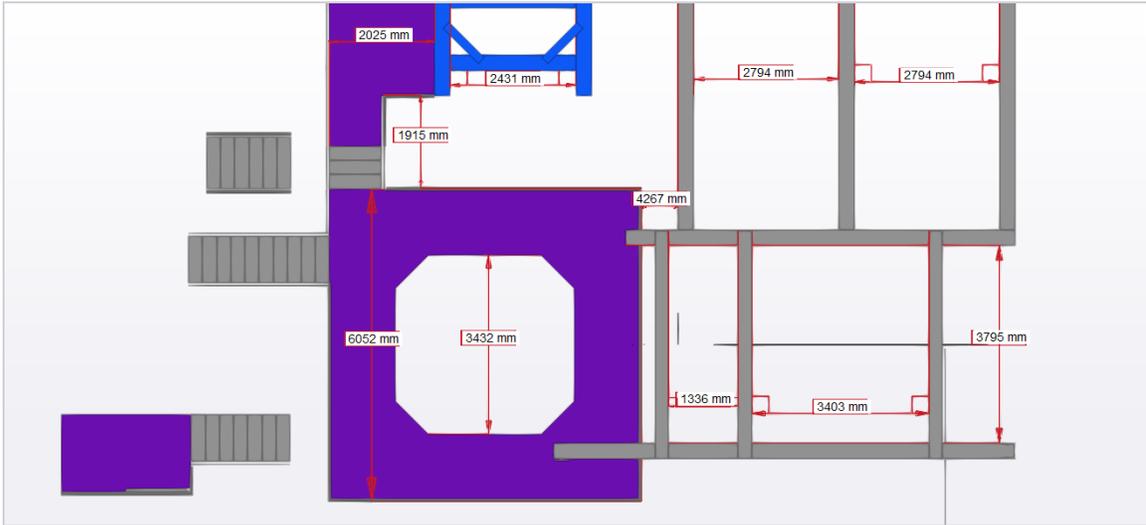


FACE SNAPPING



Measuring Distances

You can use the measuring commands in Trimble Connect for Windows to measure distances between points in the 3D View. You can measure the distance between two points, or the shortest vertical or horizontal distance from a point, face, or edge to another object.

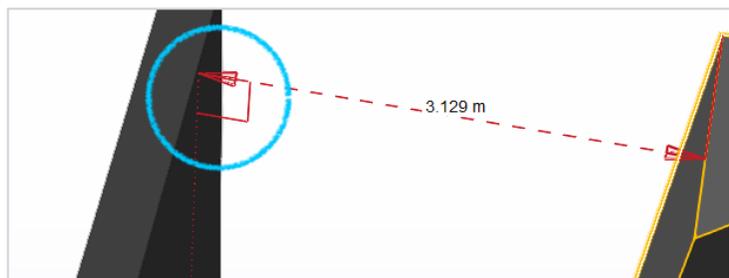


Measurement's unit and precision is defined from the **Project Settings Dialog**. Please see "[Project Settings](#)" on page 34 for more detailed information.

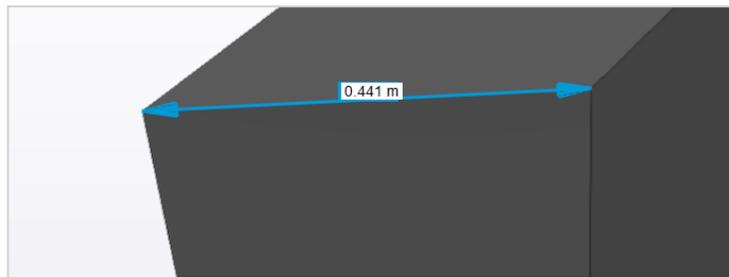
At measurement creation, the set unit and precision will be used. Measurements are not updated when changing the unit settings, which means that measurement with different units and/or precision can be saved in the same view.

Visualizations

Perpendicular Measurements Perpendicular measurements can be identified by the right angle indicator shown at the start or endpoint of a measurement.

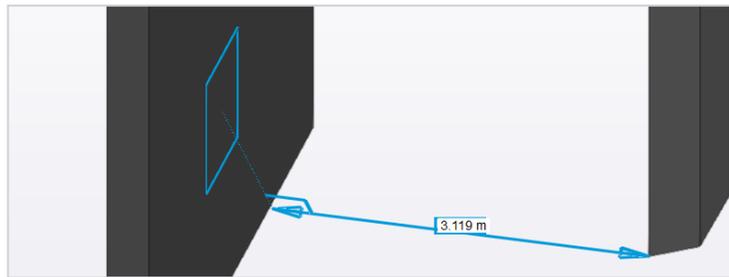


Point to Point



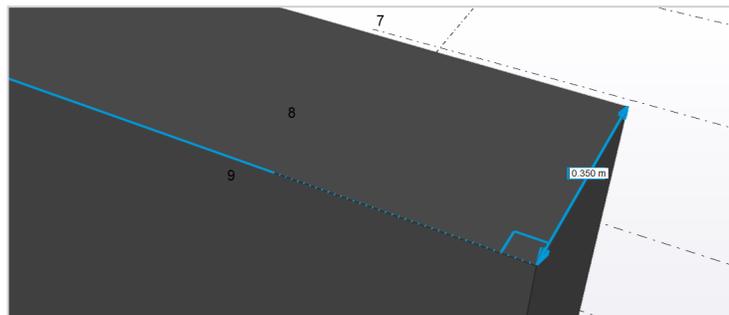
Arrows point to the corner points that the start and endpoint was snapped to.

Point to Face



A square is drawn on the object to indicate the face which the endpoint was snapped to.

Point to Line



A line will be drawn on the object to indicate the line which the endpoint was snapped to.

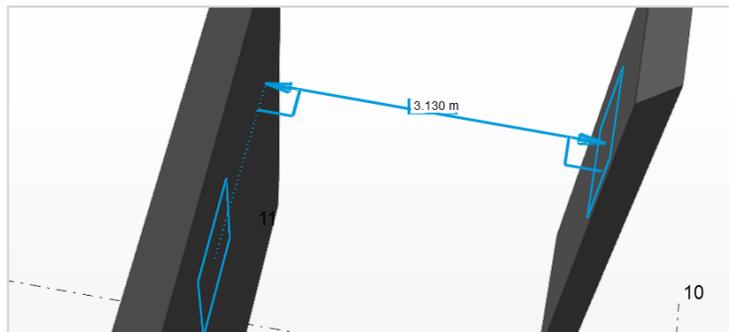
Line to Line



Line to Face



Face to Face



Create a Distance Measurement

1. On the toolbar, click **Distance Measure** ()
2. Pick the point, edge or face from which you want to start measuring.
3. Pick the point, edge or face of the object from to which you want to measure.
4. A label appears, showing the measurement between the selected points.

Exit the Distance Measurement Mode

Measurement mode is continuous. It will stay active even after a measurement is placed. As long as the tool is active, the measurement button is highlighted in blue.

To exit measurement mode:

- Press the Escape key (ESC).
- Click **Distance Measure** () again to deactivate the tool.

Removing Distance Measurements

Remove a Single Measurement

Measurements can also be removed one by one by selecting them and:

- Pressing the **DELETE** key
- Use the **right click context menu** and click **Remove**.

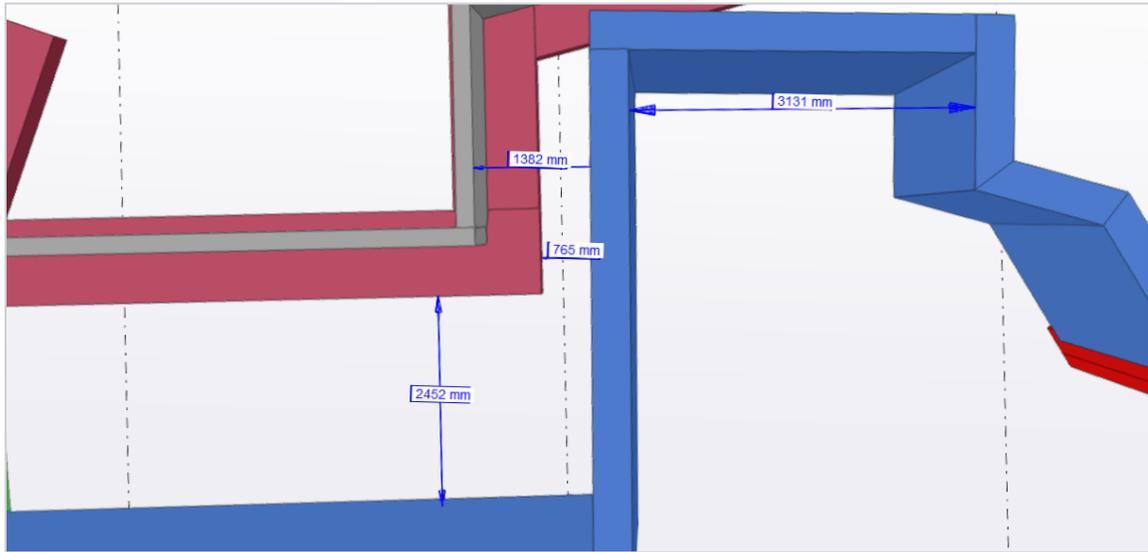
Remove All Measurements

If no measurements have been created yet, the measurement removal tool is disabled (grayed out), but it is enabled as soon as a measurement is created. Clicking **Clear All Normal Measurements** () will remove all measurements from the 3D View.



Vertical or Horizontal Distance Measurements

The Horizontal/Vertical measurements tool allows you to create an horizontal or vertical measurement between two objects.



To create a horizontal or vertical measurement, the user needs to activate the tool from the toolbar.



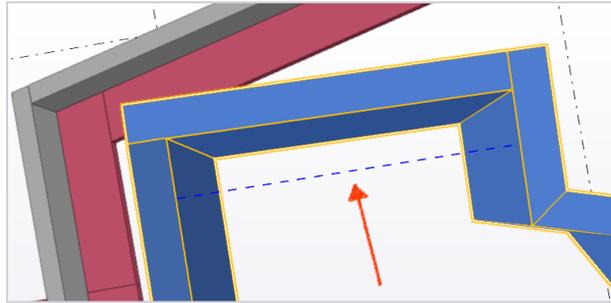
Once the tool is active you will first pick a point, edge or face of an object. **For the second point, users can only pick objects perpendicular to the first picked point.**

The measurement created will then represent the shortest distance between the point, edge or surface, and the picked object. Distance measurements are shown red, horizontal or vertical measurements are blue.

Horizontal or Vertical measurement units and precision are defined from the same **Project Settings** dialog as other measurements. Please see "[Project Settings](#)" on page 34 for more detailed information.

Measure the Shortest Vertical or Horizontal Distance

1. On the toolbar, click **Vertical or Horizontal Shortest Distance** (📏)
2. **Pick a point, face, or edge** from which you want to start measuring.
3. **Pick an object perpendicular** to the first point that you want to measure.



A dotted blue line will appear when you are hovering over an object that is perpendicular to your first picked point.

4. **Select the object.** A label will appear, showing the measurement between the selected point and the object.

Exit the Measurement Mode

Measurement mode is continuous. It will stay active even after a measurement is placed. As long as the tool is active, the measurement button is highlighted in blue.

To Exit Vertical or Horizontal Shortest Distance Measurement Mode:

- Press the Escape key (ESC).
- Click **Vertical or Horizontal Shortest Distance** () again to deactivate the tool.

Removing Vertical or Horizontal Distance Measurements

Remove a Single Measurement

Measurements can also be removed one by one by selecting them and:

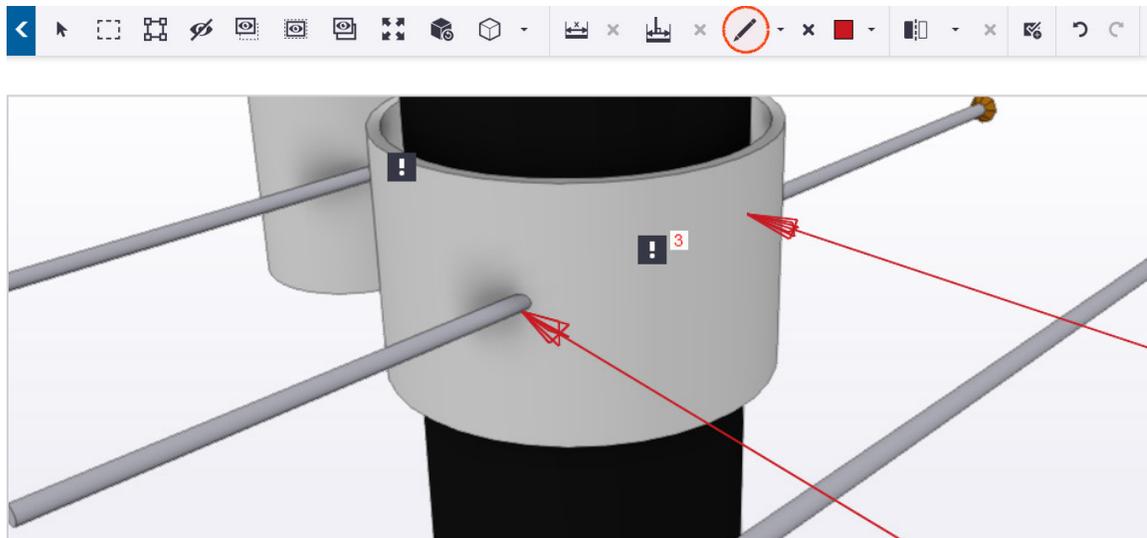
- Pressing the **DELETE** key
- Use the **right click context menu** and click **Remove**.

Remove All Measurements

If no measurements have been created yet, the measurement removal tool is disabled (grayed out), but it is enabled as soon as a measurement is created. Clicking **Clear All Vertical or Horizontal Measurements** () will remove all measurements from the 3D View.



Markups

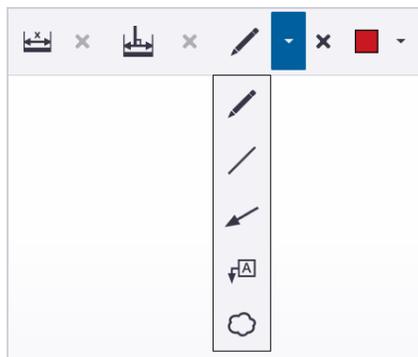


Use markups to highlight objects and parts in the 3D View. You can also add text to comment on the model. Markups will be saved locally.

There are 5 types of markup available:

- **Freehand Markups** (✍) are markups that you can draw by hand.
- **Line Markups** (↗) draw a line between two points that you pick.
- **Arrow Markups** (↖) draw an arrow between two points that you pick.
- **Text Markups** (↵) allow you to type text in the model.
- **Cloud Markups** (☁) draw a cloud in the model.

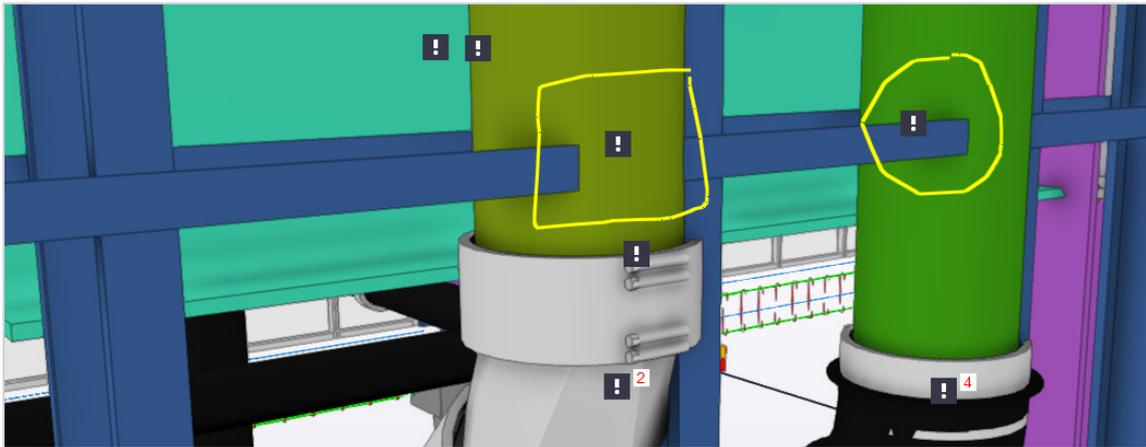
To switch between markups, use the arrow next to the Freehand markup.



Freehand Markups

Freehand markups are used to draw on object surfaces to add information to a View. By default, the markup dropdown shows that tool. Create a View to share the markup with others.

- The placement of the freehand markup cannot be edited after creation.
- Freehand markup color can be changed after creation.
- Freehand markup selected state is blue.



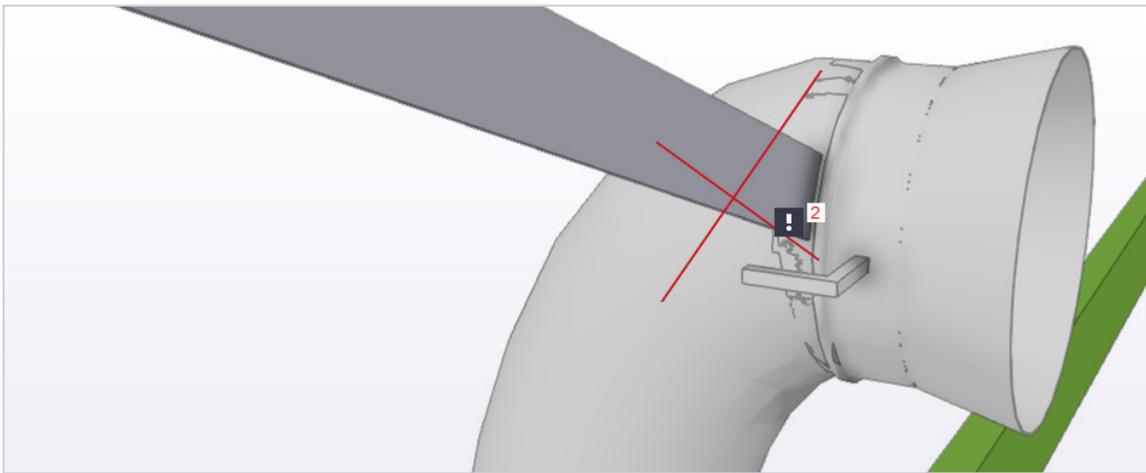
Add a Freehand Markup

1. On the toolbar, click **Freehand Markup** (✍️).
2. Pick the point where you want to place the markup and hold down the left mouse button.
3. Drag the mouse to draw the markup.
4. Release the left mouse button.

Line Markups

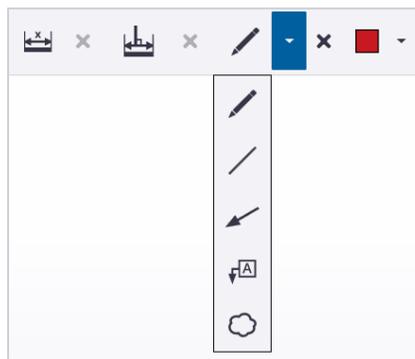
Line markups are used to draw lines on object surfaces to add information to a View. Create a View to share the markup with others.

- The placement of the line markup cannot be edited after creation.
- Line markup color can be changed after creation.
- Line markup selected state is blue.



Add a Line Markup

1. On the toolbar, open the **Markup Menu** by clicking **Select Markup Tool** (▾) next to the **Freehand Markup** (✎) tool.

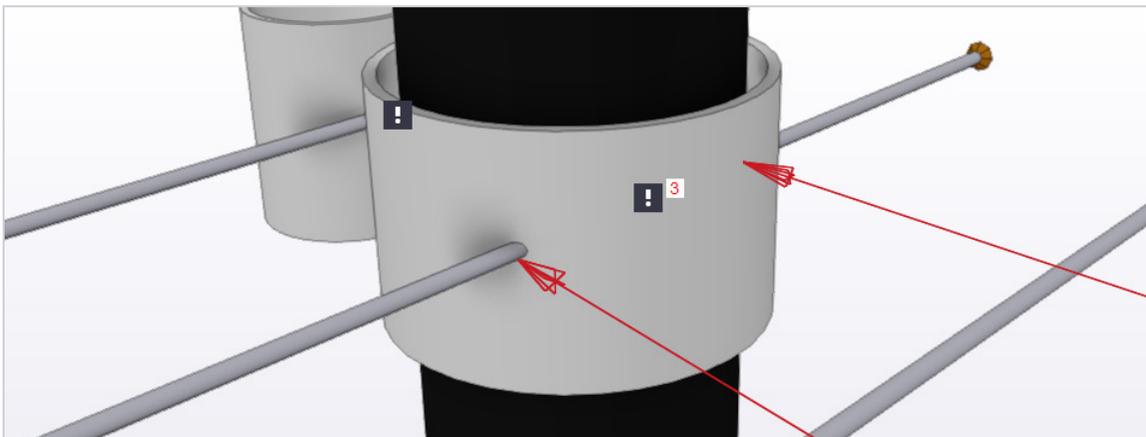


2. Activate the **Line Markup** (/) tool.
3. Pick the start point of the line by picking an object face, edge, or corner.
4. Pick the end point of the line by picking an object face, edge, or corner.

Arrow Markups

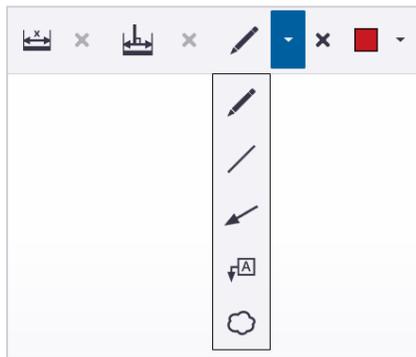
Arrow markups are used to draw pointers on object surfaces to add information to a View. Create a View to share the markup with others.

- The placement of the arrow markup cannot be edited after creation.
- Arrow markup color can be changed after creation.
- Arrow markup selected state is blue.
- The First point defines where the arrow is going to point to.



Add an Arrow Markup

1. On the toolbar, open the **Markup Menu** by clicking **Select Markup Tool (▾)** next to the **Freehand Markup (✎)** tool.

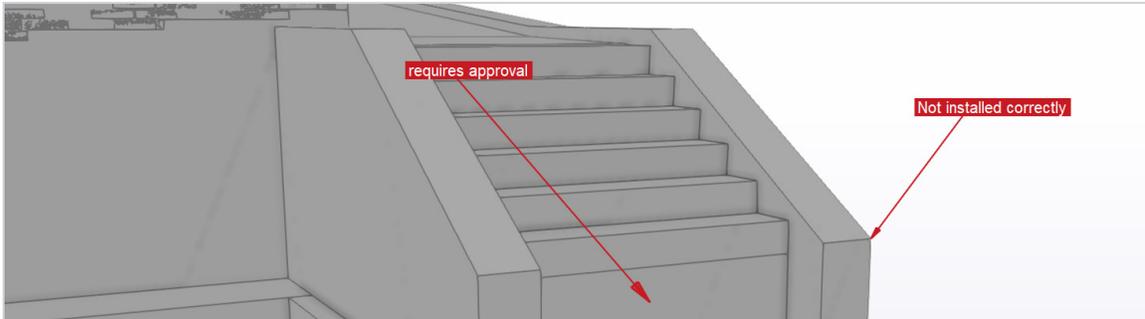


2. Activate the **Arrow Markup (↗)** tool.
3. Pick the start point of the arrow by picking an object face.
4. Pick the end point of the arrow.

Text markup

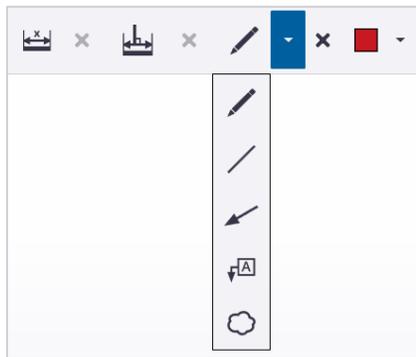
Text markups are used to write on object surfaces to add information to a View.

- The text cannot be edited after creation.
- The placement of the text box can be moved after creation, but the location of the arrow cannot be changed after creation.
- Text markup color can be changed after creation.
- The text will be moved, and an arrow indicates where the text was first created.



Add a Text Markup

1. On the toolbar, open the **Markup Menu** by clicking **Select Markup Tool** (▾) next to the **Freehand Markup** (✎) tool.

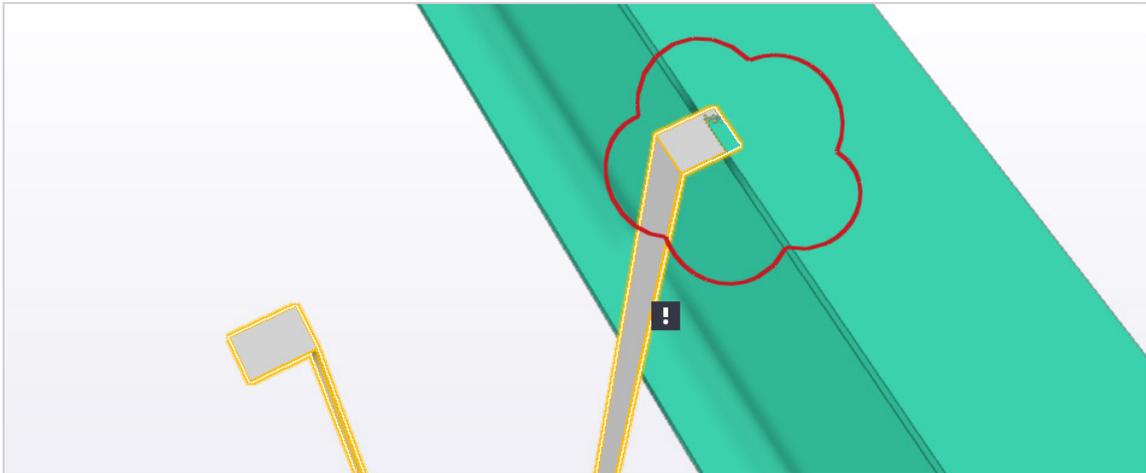


2. Activate the **Text Markup** (A) tool.
3. Pick the point where you want to add the text markup.
4. Type the desired text in the text box.
5. To save the text markup, press Enter on the keyboard.
6. Press the **ESC** key and exit the Markup mode.
7. To move the text, select the markup, and drag and drop it somewhere else.
8. An arrow points to the area where the markup was first created.

Cloud Markups

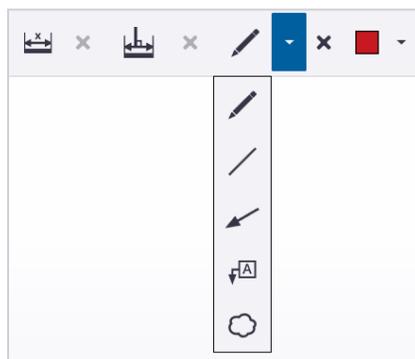
Cloud markups are used to draw on object surfaces to add information to a View.

- Cloud markup can be edited after creation.
- Cloud markup selected state is blue.
- Using a mouse wheel or track pad scales the markup.
- Cloud markup can also be moved by drag and dropping it.



Add a Cloud Markup

1. On the toolbar, open the **Markup Menu** by clicking **Select Markup Tool** (▾) next to the **Freehand Markup** (✎) tool.



2. Activate the **Cloud Markup** (☁) tool.
3. Pick the plane where you want to add the cloud markup.
4. If necessary, re-size the cloud markup by scrolling forward or backward with the middle mouse button.

Removing Markups

Remove a Single Markup

Markups can also be removed one by one by selecting them and:

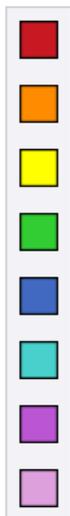
- Pressing the **DELETE** key
- Use the **right click context menu** and click **Remove**.

Remove All Markups

If no markup is created in the view, the markup removal tool is disabled (grayed out), but it is enabled as soon as a markup is created. Clicking **Clear All Markups (X)** will remove all measurements from the 3D View.



Coloring Measurements & Markups



Measurements and markups can be colored using one of the colors available in Trimble Connect for Windows. The different available colors are shown on the left. To create a measurement/markup with another color, simply choose the wanted color, and then create the measurement/markup.

The chosen color is then displayed in the toolbar to indicate what will be the color used from now on.



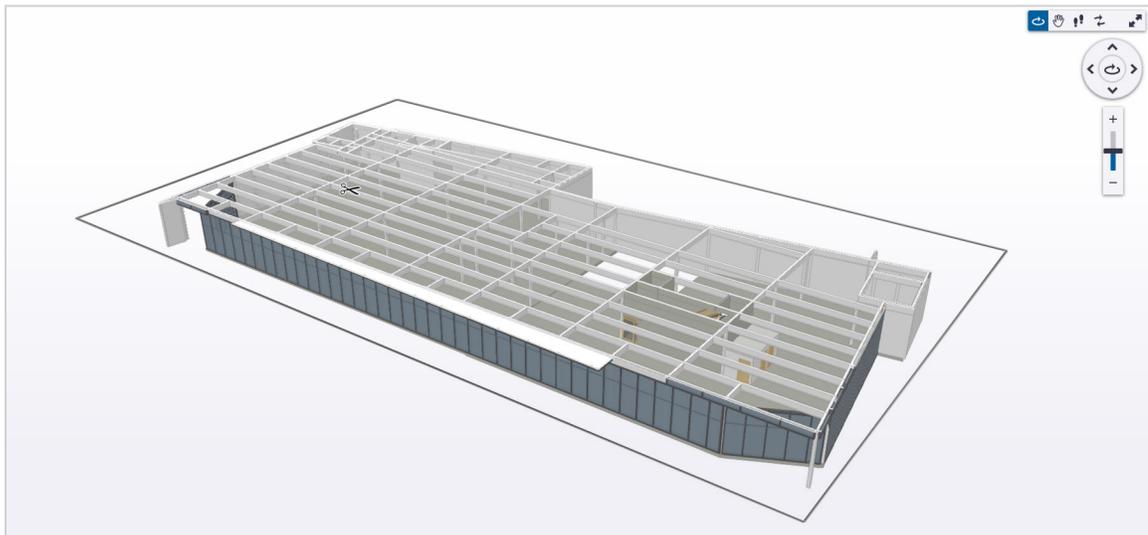
Users can also change the color of an already existing measurement/markup if they want, by selecting the measurement/markup and changing the color. Colors are saved in Views.

Working with Clip Planes

Use clip planes to create cross-sectional Views of 3D models. You can create clip planes both vertically and horizontally. Once the desired cross section has been created, it can be saved as a View or a ToDo and shared with various team members.

Clip Planes

Clip planes are used to clip objects in the view and create for example section Views.



- There can be up to 8 clip planes at the same time in the view.
- Clip planes can be placed along an object face or edge line.
- When creating a clip plane by snapping to an edge line, the clip plane is created in the plane perpendicular to it.

Add a Clip Plane

1. On the toolbar, click **Add Clip Plane** (■□).
2. Place the clip plane along the axis that you want to use to slice the model.
3. The **clip plane icon** (✂) appears on the clip plane.

Use Clip Planes to Create Elevation Measurements

- Objects clipped points and edges can now be used as picking points and edges for measurement creation.
- When the clip plane is removed, the associated measurements are removed too. Other measurements existing in the view are untouched.
- Measurements cannot be created between clipped points or edges and non-clipped points, edges or surfaces.

Vertical Clip Planes

The Vertical Clip Plane tool can be used to force the direction of a clip plane to always be vertical.



Add a Vertical Clip Plane

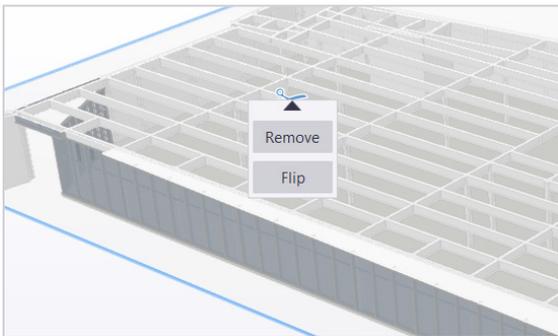
1. On the toolbar, open the **Clip Plane Menu** by clicking **Select Clip Plan Tool (▾)** next to the **Add Clip Plane (■□)** tool
2. Activate the **Add Vertical Clip Plane (■□)** tool.
3. Place the clip plane along the axis that you want to use, to slice the model.
4. The **clip plane icon (✂)** appears on the clip plane.

Move a Clip Plane

1. Click the **clip plane icon** (✂) on an existing clip plane.
2. The icon and clip plane edges will turn blue.
3. **Hold down the left mouse button** and **drag the clip plane** to a new place.
4. When the clip plane is placed correctly, **release the left mouse button**.

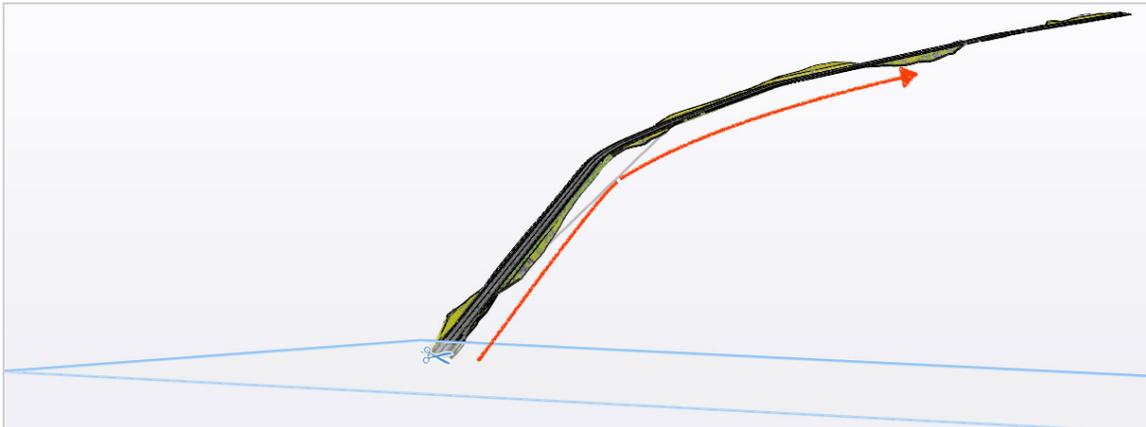
Flip a Clip Plane

Clip planes can be now flipped to the opposite direction. Select a clip plane and then right click, the option to **Flip** is in the context menu.

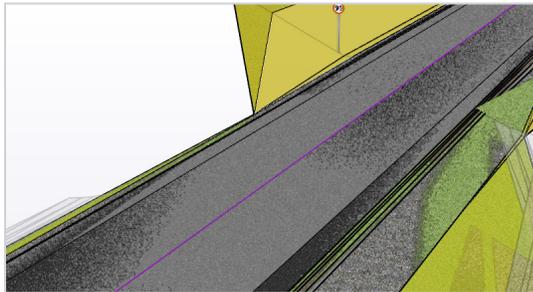


Clip on a Path

Advanced clip planes can be created by using wires as input. When creating a clip plane on a wire, it can then be moved along the wire. This feature works for both normal and vertical clip planes.



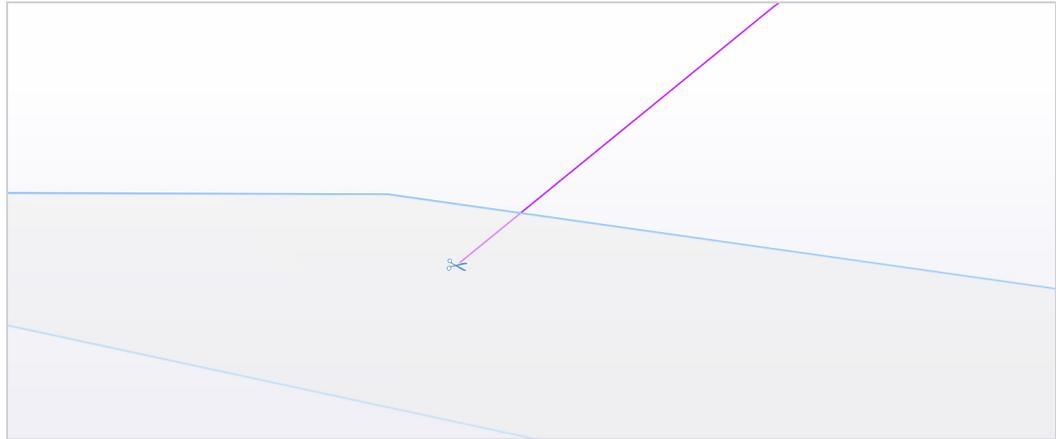
1. To start, **select the wire** (it will highlight in purple) that you want to clip along.



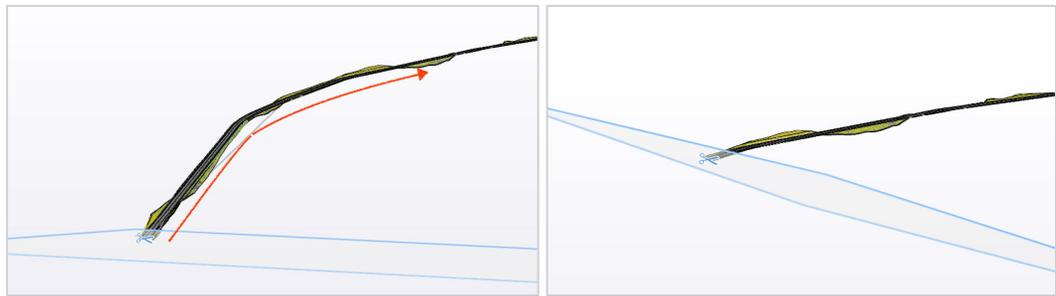
2. Isolate the wire by clicking **Show Only** (👁️) on the toolbar.



3. On the toolbar, **activate the Clip plane tool** (📏 or 📐) you want to use.
4. **Place the clip plane** on the wire.



5. The **clip plane icon** (✂) appears on the clip plane.
6. You can now move the clip plane along the wire.



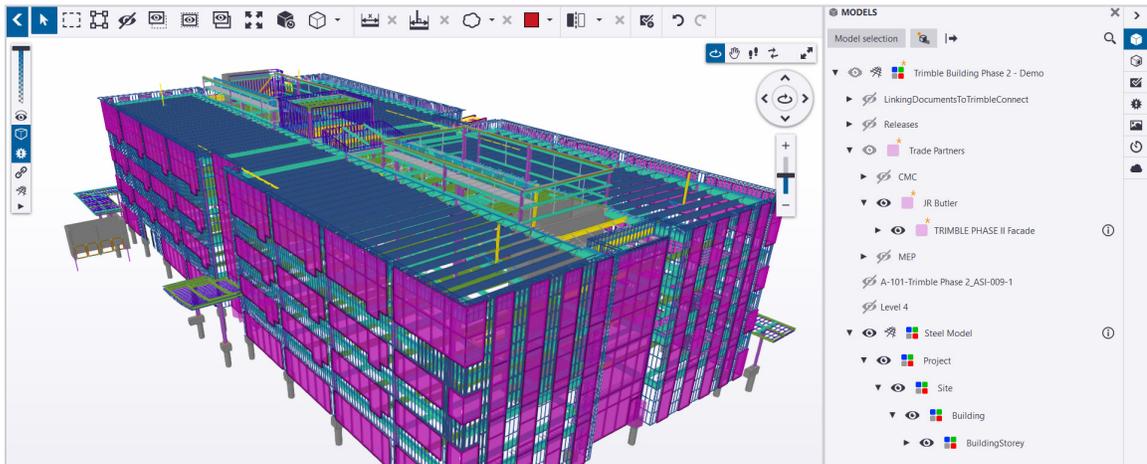
Remove a Clip Plane

Clip planes can also be removed one by one by selecting them and:

- Pressing the **DELETE** key
- Use the **right click context menu** and click **Remove**.

Working in 3D: Models

The Models Tab contains all models in the project that have been downloaded and can be read in Trimble Connect for Windows.



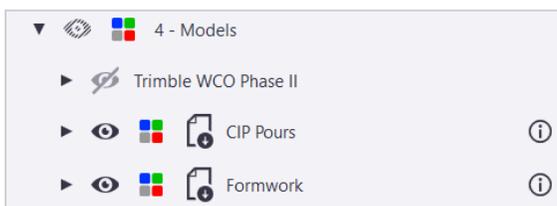
Manage Models

All readable models that have already been downloaded in the project can be shown in the Models Tab.

Local model files can also be directly added to the 3D view by using the **Add model** (📎) button in **Model Selection** dialog. Please see the next section for details.

If a model has been updated on the server side, an **update icon** (🔄) will appear next to that model in the Models Tab. Clicking the **update icon** (🔄) will download the new version of the model and load it into the 3D view automatically.

The new version of the file will not be downloaded until the user explicitly downloads the file.



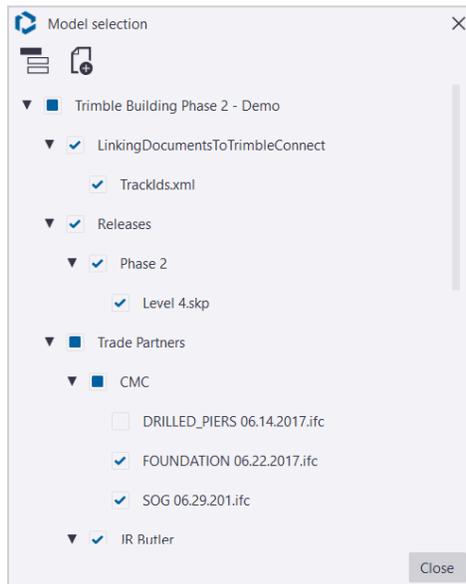
When selecting a model from the Models Tab, it also gets selected in 3D. However, hovering over a model will not highlight it in 3D view, so that browsing the Models Tab remains smooth.

Add Models to the 3D Viewer

Models can be loaded by clicking the model selection button, which opens the model selection dialog, where the entire project hierarchy can be found.

To Load More Models

1. Click the **Model Selection** button.
2. The Model Selection dialog will open.



3. Click the **checkbox next to the model or folder** you want to add.
4. The selection will be added to the Models Tab.
5. Click **Close** to complete the operation.

ICON	DESCRIPTION
	Expand or Collapse Folder Structure The list can be expanded/collapsed using the Expand/Collapse all folders button.
	Add File Users can also add local files from that dialog.

Remove or Unload Models

Model loading can be managed from Models Tab through by right clicking a model or model group to open the context menu and selecting **Unload**. Unloaded models are still shown in the Models Tab, but their color indicator is removed, and their visibility indicator is set as hidden.



Models can also be unloaded by using the **Model Selection Dialog**. To do so, click the **Model selection** button, which opens the **Model Selection Dialog**. When un-checking models in this dialog, they will be removed from the Models Tab immediately.

Model & Folder Visibility

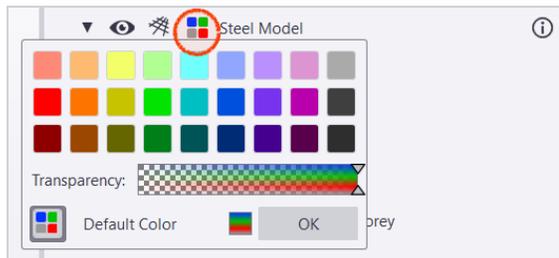
Model visibility and colors can be changed from the Models Tab. Changes are applied to all objects the model contains.

ICON	DESCRIPTION
	Visible The Models or folders can be hidden/shown by clicking the visibility icon. Changing the visibility has no effect on model loading if the model is already loaded in 3D (hidden models are still loaded in 3D view).
	Partial Visibility When a model folder, a model or an assembly contains both hidden and shown objects, the visibility symbol looks like this.
	Hidden When a model folder, or a model is hidden, the visibility symbol looks like this.

Change the Model Color

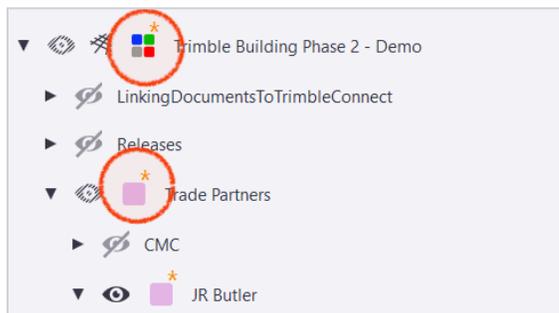
Model color and transparency can be changed using the **color icon** (). If the model contains objects of different colors, the multicolor icon is used. If all objects in the model have the same color, the color indicator will use that color. The transparency is always 0% by default.

Color and transparency are set from the **Color Customization dialog**, which opens when clicking the **color icon** ().



Once color and transparency have been changed, they are reflected by the color indicator. The entire model color and transparency will be updated accordingly.

If the model color or transparency has been changed from the default, an asterisk (*) is placed above the color icon to indicate a custom setting has been applied.



Model Details

The **Model Details Tab** opens when double clicking a model, or by clicking the **model details icon** (i).

Name	TRIMBLE PHASE II Facade.ifc
Added by	Snyder Lee
Date added	Friday, June 1, 2018 10:15 AM
Size	240 MB
Version	1

Select version...

Position X	0 mm
Position Y	0 mm
Elevation	-30500 mm
Scale	100
Rotation X	0.0
Rotation Y	0.0
Rotation Z	0.0

Reset Placement

Move Rotate Align

Comments

The Model Details Tab contains:

- Model Information
- Version
- Model Position
- Comments

Model Versions

The currently loaded version is shown in the model details tab. To load a previous version click the **Select version** button.

Name	Foundation A.ifcZIP
Added by	Broekmaat Marcel
Date added	Wednesday, February 5, 2020 3:37
Size	3.92 MB
Version	3

Select version...

This opens the revision history for the model, from which the currently used version of the file in the project can be switched as needed, by double clicking a version in the list.

Revision history of 'Foundation A.ifcZIP' X

3	Wednesday, February 5, 2020 3:37 PM	Broekmaat Marcel
2	Tuesday, February 4, 2020 2:08 PM	Broekmaat Marcel
1	Tuesday, February 4, 2020 10:02 AM	Broekmaat Marcel

OK Cancel

Model Positioning

Model positioning can be changed from the from the Model Details Tab. You have several options to reposition a model:

- Models can be re-positioned by entering directly X,Y and Z positions/rotations.
- Models can be re-positioned by using the three commands (**Move**, **Rotate** and **Align**) found in the bottom of the Model Details Tab.

Position X	<input type="text" value="0 mm"/>
Position Y	<input type="text" value="0 mm"/>
Elevation	<input type="text" value="-30500 mm"/>
Scale	<input type="text" value="100"/>
Rotation X	<input type="text" value="0.0"/>
Rotation Y	<input type="text" value="0.0"/>
Rotation Z	<input type="text" value="0.0"/>
<input type="button" value="Reset Placement"/>	
<input type="button" value="Move"/> <input type="button" value="Rotate"/> <input type="button" value="Align"/>	

OPTION	DESCRIPTION
Position X or Y	Models can be relocated by entering directly X and Y positions.
Elevation	Models can be relocated by changing their elevation.
Scale	Models can also be scaled using the scale field. Scale is always set to 100 by default. The scale is just a visual factor, and doesn't affect the object properties in any way.
Rotation X, Y or Z	Models can be relocated by entering directly X,Y and Z rotation.
<input type="button" value="Move"/>	Move the model by picking points in the 3D view. User needs to pick a start and end point.
<input type="button" value="Rotate"/>	Rotation axis (X, Y or Z) needs to be picked first. Rotate the model by picking points in the 3D view. User needs to pick two points to define the reference line, and pick a third point to define the rotation.
<input type="button" value="Align"/>	Align the model with another model by picking points in the 3D view. User needs to pick the start and end point for the first line, and then for the second line. The angle formed between the two lines is the rotation angle.
<input type="button" value="Reset Placement"/>	Model location and scale can be reset back to the origin (and scaled back to 100) by clicking the Reset Placement button.

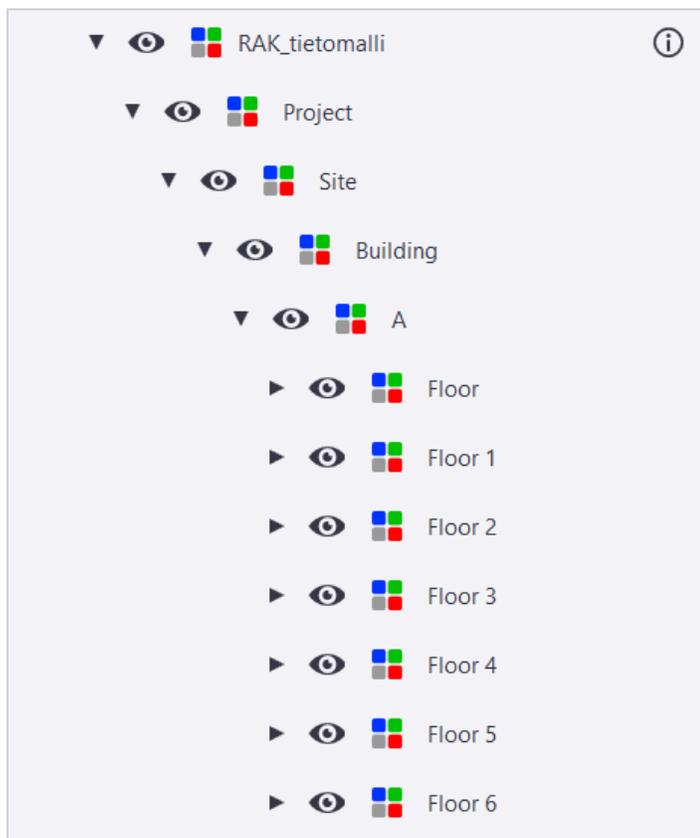
Model Groups

The model listed in the Models Tab follows the project hierarchy created in the Data Tab. All models are found under a main group (root folder), which has the project name. All folders in the project are also represented in the Models Tab as **Model Groups**.

Users cannot create new model groups from the Models Tab. That being said, every change done from the Data Tab is reflected right away in the Models Tab (folder hierarchy and name, files location and name, etc...).

Model Hierarchy

When a model contains a hierarchy, an arrow will be shown before the visibility control so you can expand or collapse the hierarchy.



Model objects' visibility and color can be customized from any level of a hierarchy the same way you can for the model itself, by using the **Visibility** (👁) and **Color** (🎨) icons.

Hierarchy support is provided for IFC, Sketchup and LandXML files.

Search the Models Tab

The Models Tab can be searched by using **Search (Q)**, located in the upper right corner.

When clicking **Search (Q)**, text can be entered. Pressing **ENTER** validates the entry, and the Models Tab turns into a flat list, displaying only the model groups/models corresponding to the applied filters.

Existing tags are also available in the search dropdown to be picked. List is also filtered accordingly. Combination of texts and tags can be used to cross filter the list and display only the model groups/models matching all search entries.



The icon in front of the currently active entries indicates if it is a **text (T)**, user (👤) or a **tag (🏷️)**, as seen above. Clicking the Remove button on the end of the entry clears it. Clicking the Remove button on the right side of the filter field clears all entries, and the File Explorer goes back to normal state.

When typing a new search, previously used text is proposed, so that they can be reused for subsequent searches.

Double clicking a model after filtering the Models Tab opens that model property tab. Double clicking a model group turns the Models Tab back to normal display with the related group open.

Export as TrimBIM

TrimBIM (.trb) is Trimble's proprietary 3D model file format.

You can now export a View as 3D .trb model:

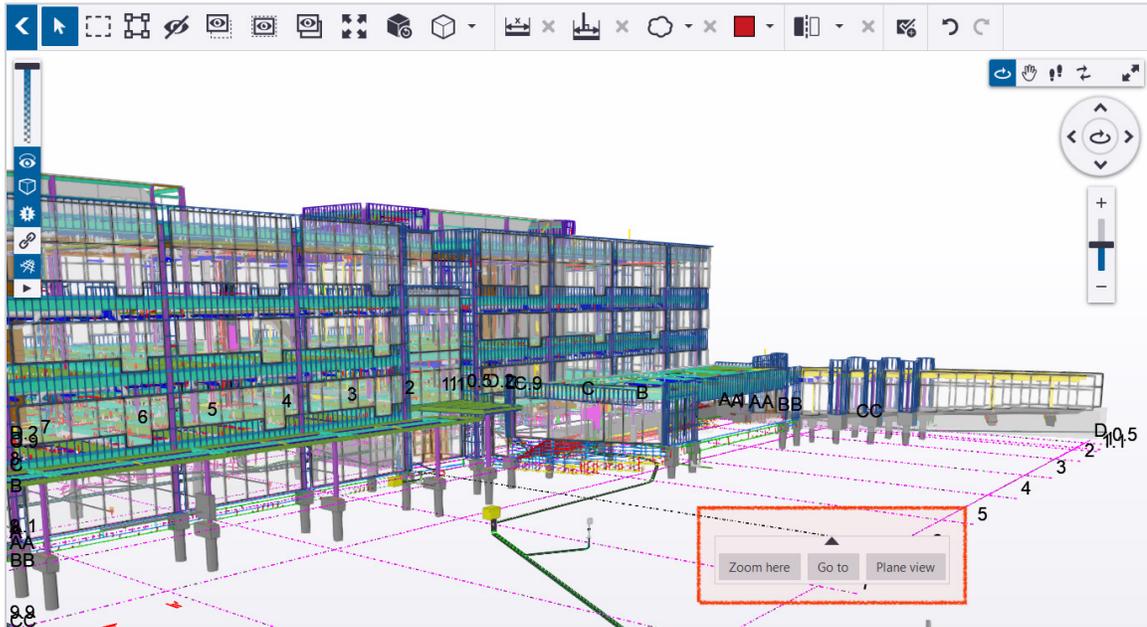
1. Adjust the 3D View according to your needs.
2. On the left side pane, click to open the Models list.
3. Click **Export as trb (|➡)** at the top of the Models list.
4. Browse to the location where you want to save the TrimBIM model.
5. Name the TrimBIM model.
6. Click **Save**.

Model Grids Updated

Grids can be contained in ifc models, or can be a model by themselves. They are slightly different than other models and Trimble Connect for Windows provides controls specifically for grids.

Context Menu Functions

On top of all other features provided for all models, grids also have special controls, available through the context menu.



OPTION	DESCRIPTION
Zoom Here	Zoom here zooms the 3D view towards the grid.
Go To	Go to is only available in perspective mode. This zooms towards the grid and changes the camera angle so that the appearance is the same as standing next to the grid.
Plane View	Plane view turns the camera orthogonally to the grid and fits it to view. ALT + double clicking the grid has the same effect.

Zoom In on A Grid Line **New**

1. Move the pointer over a point where you want to zoom in on a grid line.
The grid line is highlighted.
2. Right-click and select **Zoom here**.

Go To a Grid Line **New**

You can use the Go to command to go to the selected point on the grid line and align the view parallel to the grid plane. The command is not available in orthogonal mode.

1. Move the pointer over a point where you want to go to.
The grid line is highlighted.
2. Right-click and select **Go to**.
You can use the Go to command to go to a grid intersection.

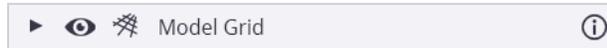
Turn a View Perpendicular to a Grid Plane **New**

Right-click the grid and select **Plane view** from the context menu.

Grid Visibility

When adding a grid or a model containing a grid to the project, the grid button is shown next to the model in the Models Tab. That button allows to enable/disable the grid in the 3D view.

- If the grid is a full model, the only control available in the Models Tab is the grid visibility button.



- Otherwise, all controls are available on top of grid controls for models also containing objects.



- The model group containing the grid also allows to control visibility for all grids in the group.



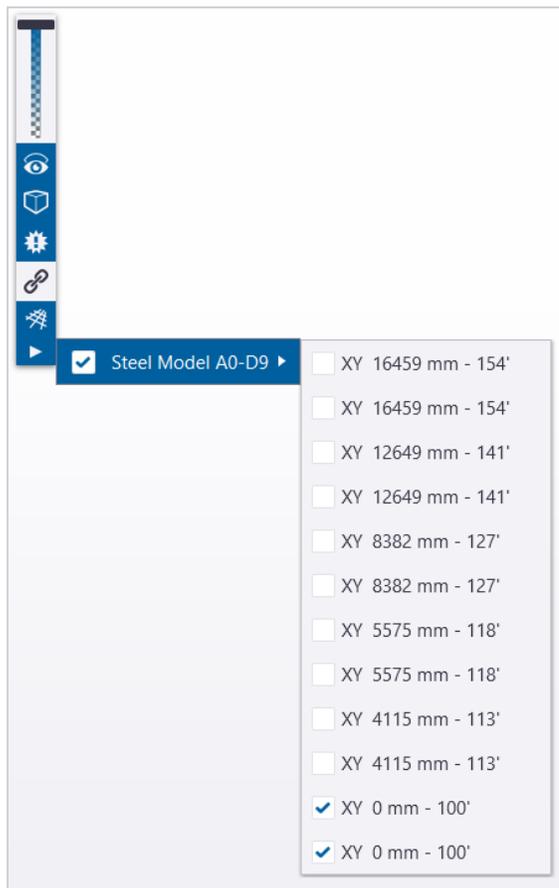
- Clicking the grid visibility button hide enables/disables the grid in the 3D view. Grids are enabled by default when adding a grid model into the project.
 -  **Grid visibility enabled.** Clicking the button will disable the grid.
 -  **Grid visibility disabled.** Clicking the button will enable the grid.

Working with Multiple Grids

On top of regular controls, grid visibility can also be adjusted, if the user wants to display only some grid levels in 3D view.

Grid visibility can be controlled by the grid visibility button in the left toolbar.

This button is shown only if there is at least one grid enabled in the 3D. If all grids are disabled, that button will be disabled too. Clicking the arrow opens the grid level menu. From there, users can choose which grid levels are shown. By default, only the elevation 0 is shown.



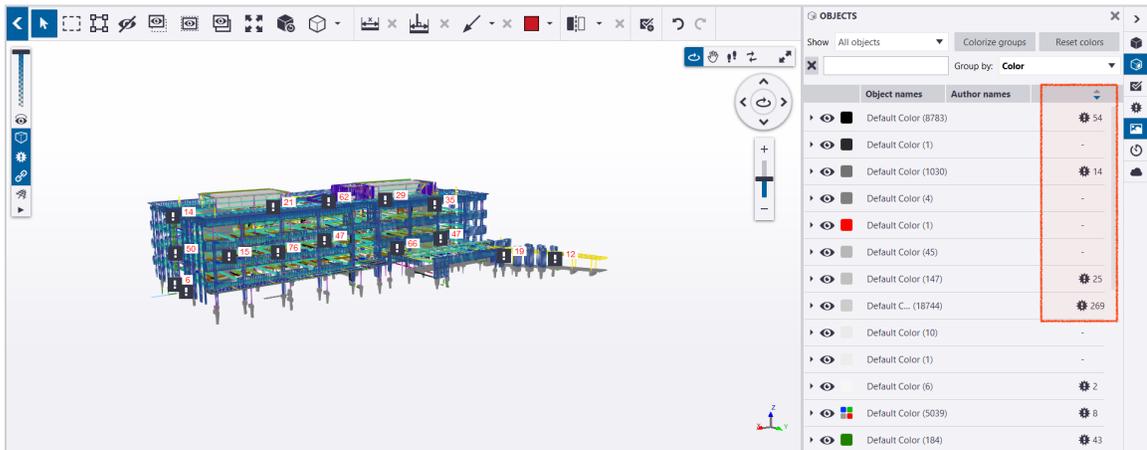
Checking the different grid levels makes them visible in the 3D, un-checking hides them. All visibility settings done to grids can be saved as part of a View.

Note

If a grid is disabled in the Models Tab, it won't appear in the list.

Working in 3D: Objects

The Objects Tab is a tool that allows to colorize, sort, order and filter objects based on object attributes.



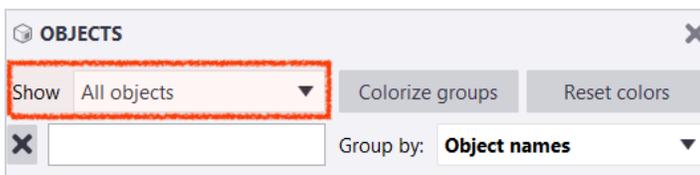
Using the Objects Tab with the 3D View

The Objects Tab can be used to interact with the model objects shown in the 3D view.

- When objects/object groups are selected in the Objects Tab, objects get also selected in the 3D view.
- When hovering over objects/object groups, objects will be highlighted in the 3D view.
- Right clicking objects or object groups will select them and open the context menu.

Choosing Objects to Display in the Tab

You have several options to decide which objects are shown in the Objects Tab. There are three different options available through the **Show** dropdown: All objects, visible objects, or objects in view.



OPTION	DESCRIPTION
All objects	All objects are shown in the Objects Tab, independently of their visibility in 3d view.
Visible objects	Only the visible objects are shown in the tab. When hiding an object, it will disappear from the tab.
Objects in view	<p>Only the objects that are actually shown entirely or partially in the current 3D view are found in the Objects Tab.</p> <p>This means that when navigating the 3D view, the content of the Objects Tab will change accordingly. A red dot can be seen next to the dropdown when navigating, indicating that the object list will be updated. Once the dot disappears, the list is updated.</p> <p>Any hidden objects will not be listed.</p>

Visibility & Color

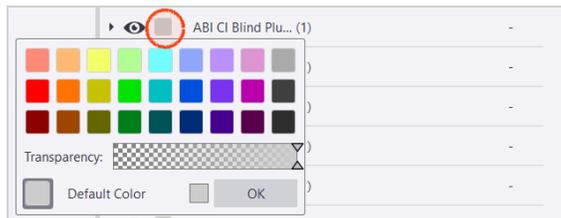
The Objects Tab enables you to change the object's visibility and colors. By default, all objects from the currently loaded model(s) are shown in the Objects Tab, and they are grouped by Object names.

Visibility Controls

OPTION	DESCRIPTION
	Object groups and objects can be hidden/shown by clicking the visibility icon. Changing objects visibility has no effect on model loading (hidden objects are still loaded in 3D view). Loading cannot be controlled from the Objects Tab.
	Model color and transparency can be changed using the color icon. If an object group contains objects of different colors, the multicolor icon is used. If all objects in the group have the same color, the color indicator will use that color. The transparency is always 0% by default.

Change an Object or Object Group's Color

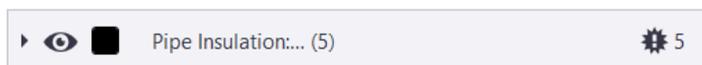
Color and transparency are set from the color customization dialog, which opens when clicking the color icon:



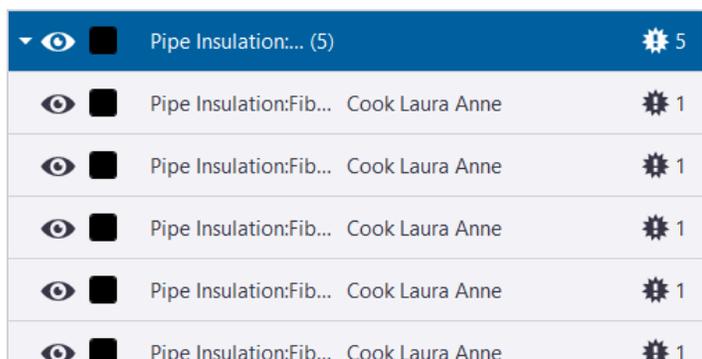
- Once color and transparency have been changed, they are reflected by the color indicator.
- When changing color and transparency for an object group, it is changed for all objects in the group accordingly.
- Multiple objects/object groups can be selected at once using **CTRL + click**.
- Changing color or visibility for several objects or object groups is done using the right-click context menu.

Working with Object Groups

For the object group, there is an arrow on the left side of the row, which allows you to expand or collapse the group when clicked. The number next to the object group name indicates how many objects are in the group.



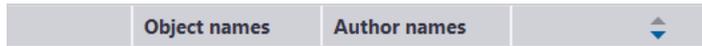
Once expanded, objects in the group are shown under the group.



The Objects Tab can also be used to colorize, group, sort and filter objects, and then work with objects based on that filtering.

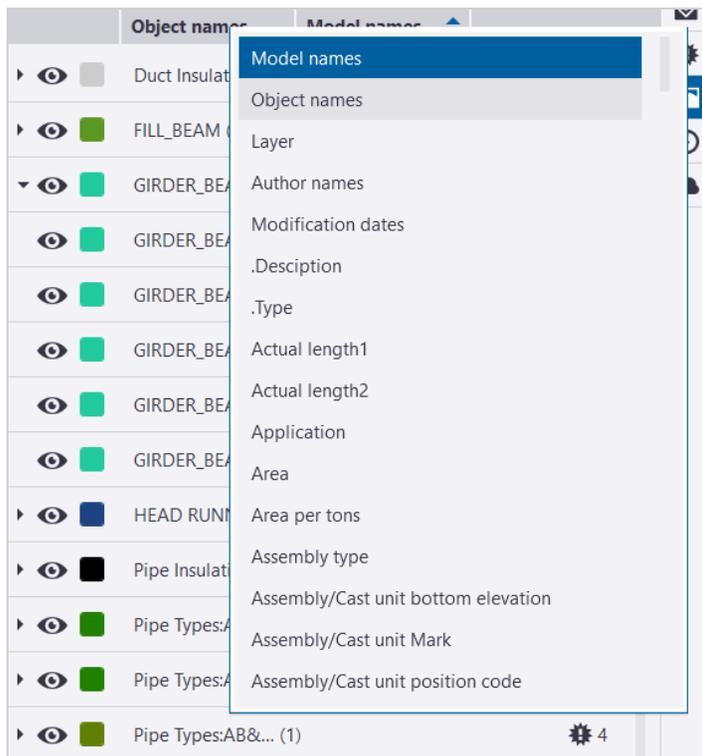
Changing the Column Content

Users can also change the column content by right clicking the column header. Only the two middle columns content can be changed.



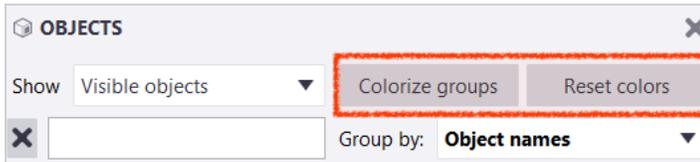
- **Column 1:** Shows the color and visibility,
- **Column 2:** The default is Object name, but this can be changed to show different content
- **Column 3:** The default is Author name, but this can be changed to show different content
- **Column 4:** Show clashes.

Once a user has chosen a new attribute to be used for sorting, the column will change accordingly. Next to group names will also be shown the sum of quantities for the chosen attribute, for all objects in the group. This sum is calculated using the original accuracy of values.



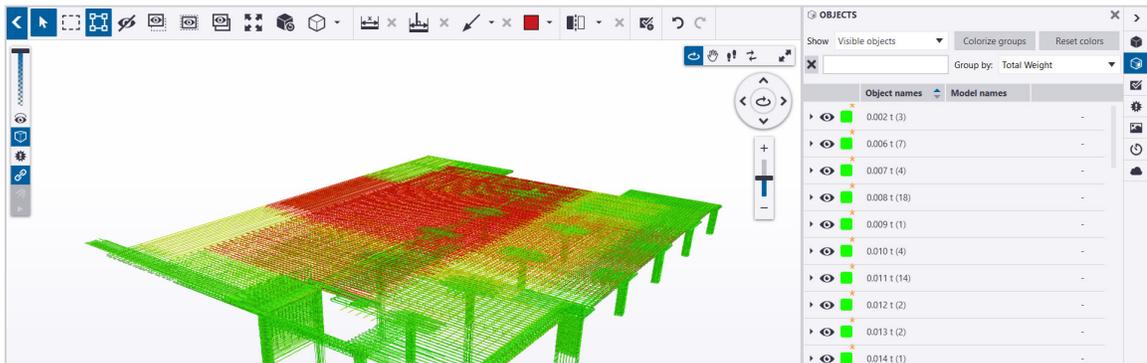
Colorize Object Groups

Objects can be colored from the Objects Tab using the Colorize groups button. Objects are colored according to the current grouping.



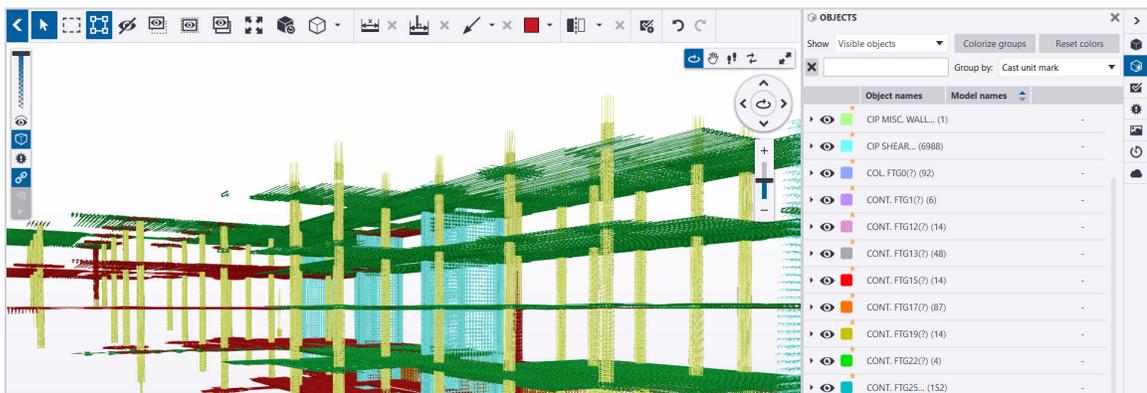
Colorize by Quantities

If the grouping is done using quantities (weight, elevation, etc...), colors are applied gradually for the groups, from green (#12FF00) to red (#FE0000).



Colorize by Text Based Properties

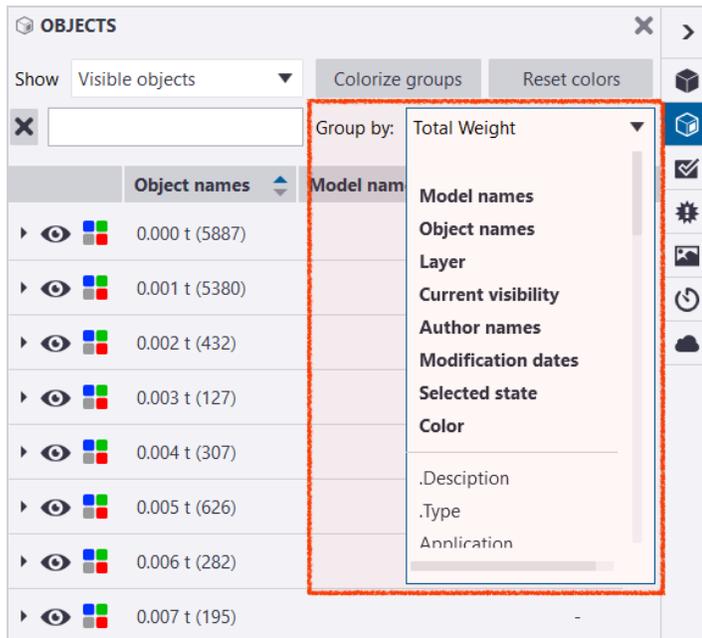
If the grouping is done using text (object name, assembly mark, etc...), then the colors from the default palette are applied, and cycles through them. Once reaching the last color, the first color from the palette is applied again.



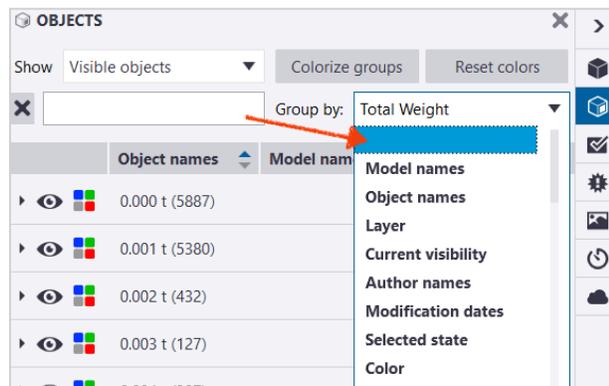
The **Reset colors** button can be then used to get back to default color for all objects in the project.

Change Object Grouping

Use the **Group by** feature to group objects by any attribute existing in the project. Grouping is done through a dropdown menu in the top right part of the Objects Tab.

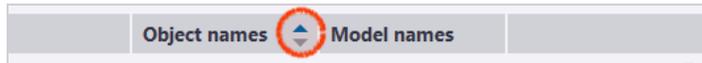


- By default, objects are grouped by Object names.
- To remove object grouping select the empty option from the dropdown menu.



Sorting Object Groups

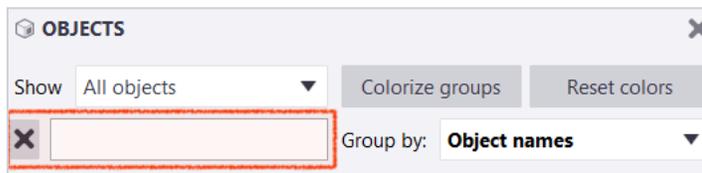
Sorting can be ascending or descending. This is indicated by the blue arrows next to the column used to do the current sorting.



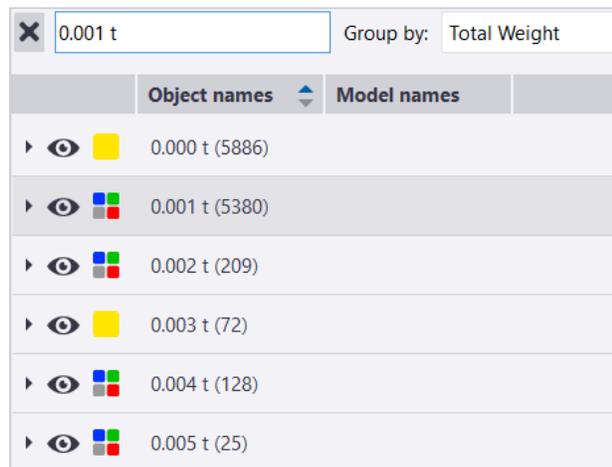
- Sorting can be done by clicking columns.
- Clicking the same column a second time will change the sorting order.
- Any object attribute existing in the project can be used to sort objects.

Search & Filter Objects

Objects can also be filtered by using the filter field. Only objects that are matching the search criteria will be shown in the Objects Tab.



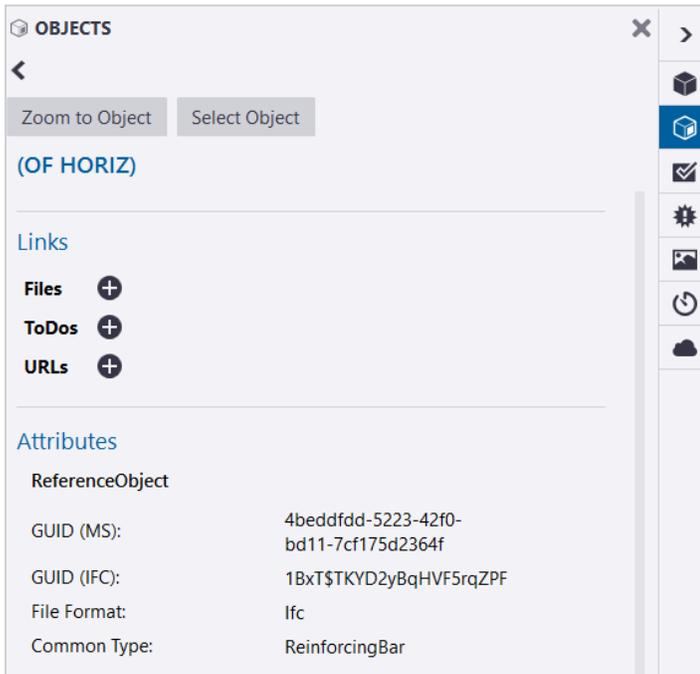
- The filter will search any of the object's attributes, not just the ones used to group or sort the objects.



- The filtering can be cleared by clicking the **Remove** button next to the filter field.
- Once the filter field is cleared, all objects are grouped and sorted as prior to filtering them.

Object Details & Properties

The Object Details Tab can be opened by double clicking an object, clicking the object name in the context menu, or by clicking the object and pressing the **ENTER** key.



All available details about the object can be found in the object's properties tab. For elevation, no unit will be applied, the value will be displayed as given in the ifc file.

If there are clashes associated with that object, they are also shown here. The list of associated clashes can also be expanded/collapsed by clicking the arrow next to it.

OPTION	DESCRIPTION
Zoom to object	Zooms to the selected object(s)
Select object	Selects the object(s) in the 3D view
Files 	Adds a File attachment

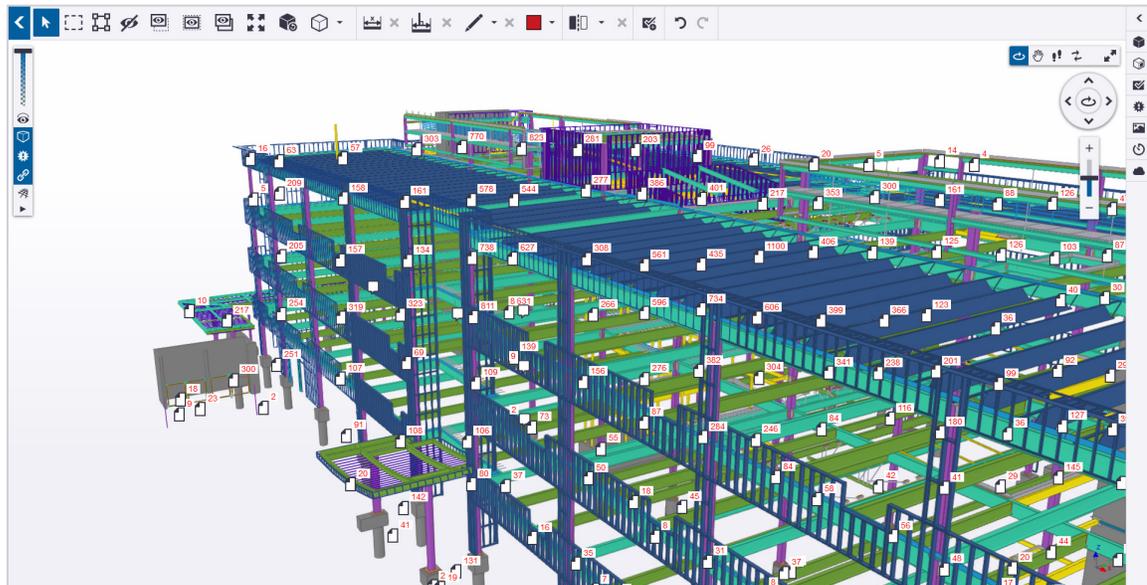
OPTION	DESCRIPTION
<div style="border: 1px solid #ccc; padding: 5px; display: inline-block; background-color: #f0f0f0;"> ToDo's + </div>	Links the selected object(s) to a ToDo
<div style="border: 1px solid #ccc; padding: 5px; display: inline-block; background-color: #f0f0f0;"> URLs + </div>	Adds a URL attachment

Quick Tip

Object properties can be copied and pasted by clicking any properties, **right click + Copy** or using **CTRL + C**.

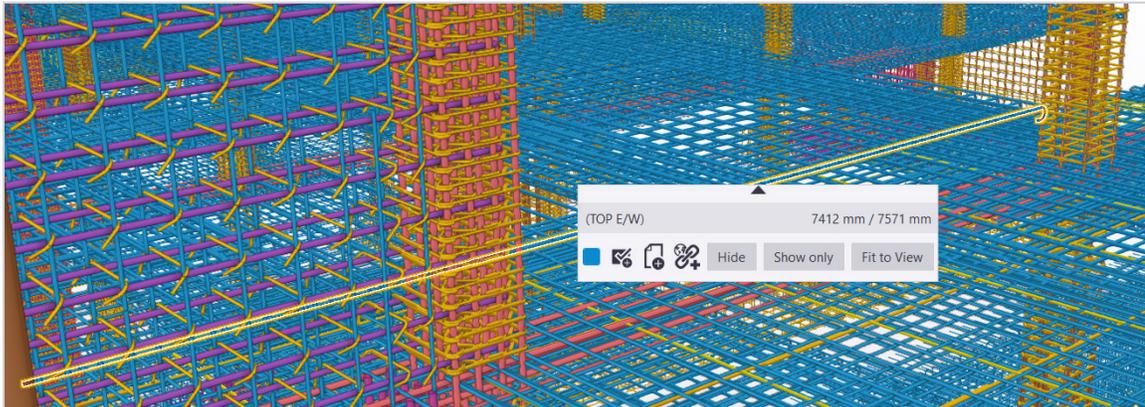
Object Attachments

Object attachments or object links are files, ToDo's, or URLs that have been specifically linked to a particular model object. They can provide specific instructions or important information related to that object.



Adding Object Attachments

Objects can be linked to files, ToDos, and URLs by selecting the object and right clicking to open the context menu.



OPTION	DESCRIPTION
--------	-------------

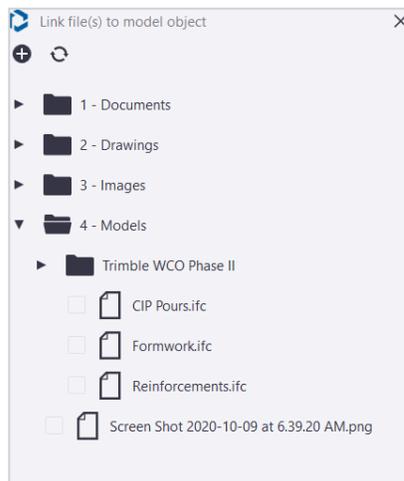


Add a ToDo to the selection



Add a file to the selection

When clicking the link file to the object button, a dialog opens to let the user choose which file he wants to link to the object or object group. Both files in the project or from the computer can be linked here.

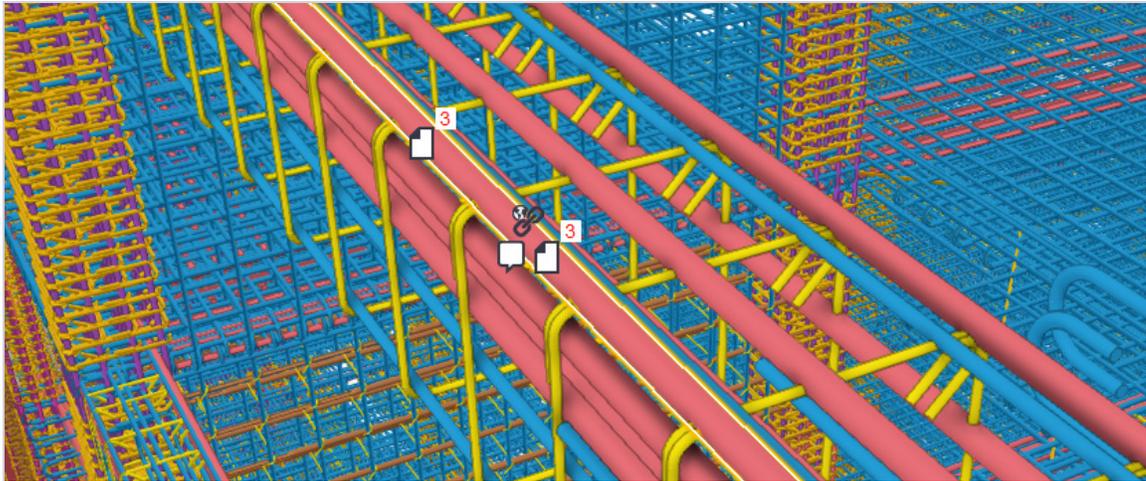


Add a URL link to the selection

View Object Attachments

View Attachments in the 3D View

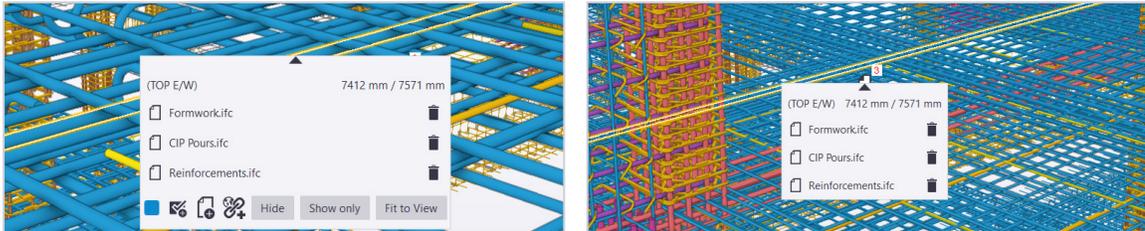
When linking objects to files, Todos or URLs, the corresponding icon is then shown on top of these objects in the 3D view.



OPTION	DESCRIPTION
	Once files to be linked are chosen, clicking OK will link them to the object or object group. Once an object is linked to a file, this icon is shown on top of the object in 3D view.
	When clicking the link Todos to the object button, the ToDo creation dialog opens and ToDo can be created as usual. Once the ToDo is saved, the object is linked to it, and this icon is shown on top of the object in 3D.
	When clicking the link URL to the object button, a dialog opens, asking the user to choose the URL and its name.

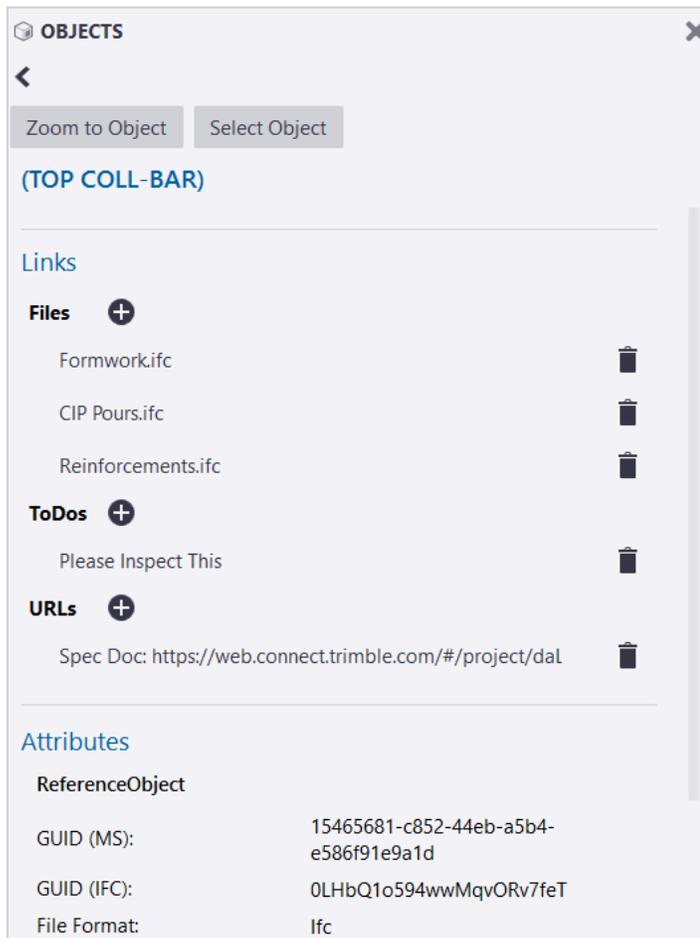
View Attachments in the Object Context Menu

Links are also visible from the object context menu, where related Todos and files are also shown. Links can be removed from the object using the contextual and by clicking the **Trash** () button.



View Attachments in the Object Detail Tab

Attachments are visible from the Object Details Tab. From there, the user can access the related ToDo by clicking it. Files, Todos and URLs links can also be added/removed using the corresponding **Trash** () buttons.

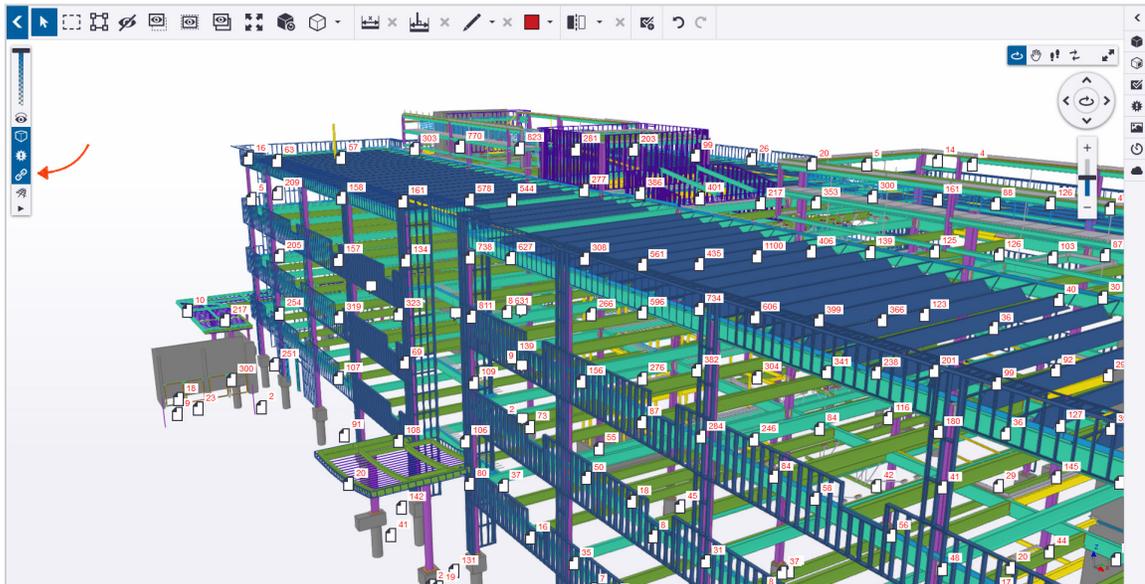


Object Attachment Permissions

Only the user who added the attachment, or the Project Admin, can remove an attachment in Trimble Connect for Windows.

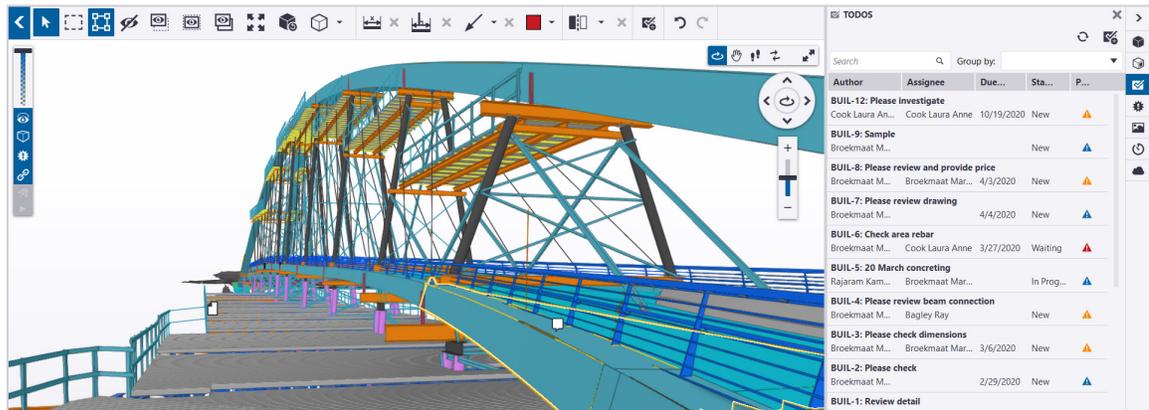
Change Object Attachment Visibility

Links icons in 3D can be shown/hidden from the visibility toolbar on top of the 3D view, by using the **Object Links** button.



Working in 3D: Todos

The Todos tab is used to create and manage Todos to communicate information with all stakeholders throughout the project.



The Todos list displays the Todos added to the project. You can add Todos and collaborate with other project members. Todos are shared to all project members by default, but you can select a user or a user group to assign the Todo with a due date when it needs to be resolved.

You can dock or undock the Todos list, and move it around the 3D view.

Creating a Todo

Todos can be created by clicking Create a Todo from the toolbar in the 3D view or from the Todo Tab.

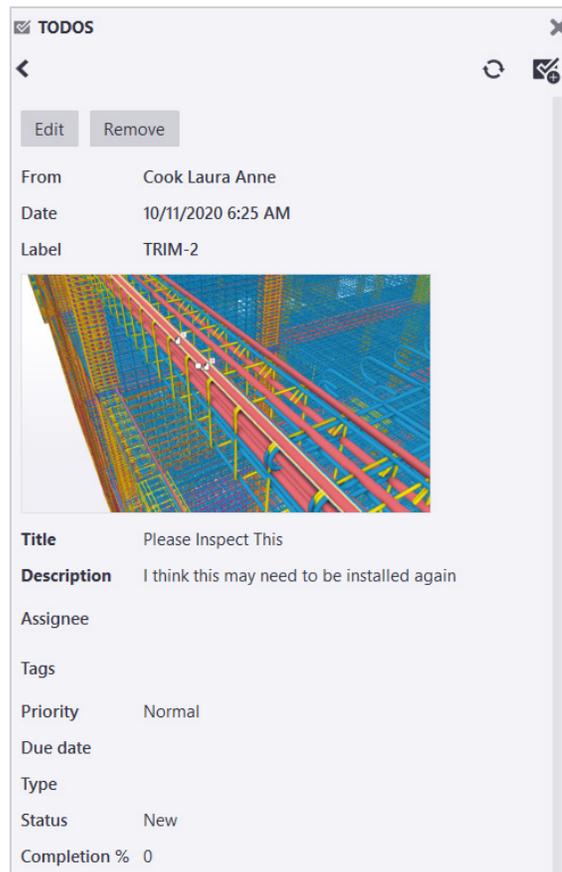


To Create a Todo:

1. Click the **Create a Todo** (📌) button.
2. The **ToDo Creation Tab** opens.
3. The current 3D view is added to the Todo by default as attachment.
4. Enter the required information: **Title and Description**
5. Add the optional information, such as, Priority, Type, Status and Due Date.
6. Click **Submit**.

Embedded Views

By default when creating a ToDo, the current 3D view is added to the ToDo as an embedded view. For the embedded view, the number of models shown when creating the ToDo is given next to the view in the ToDo.



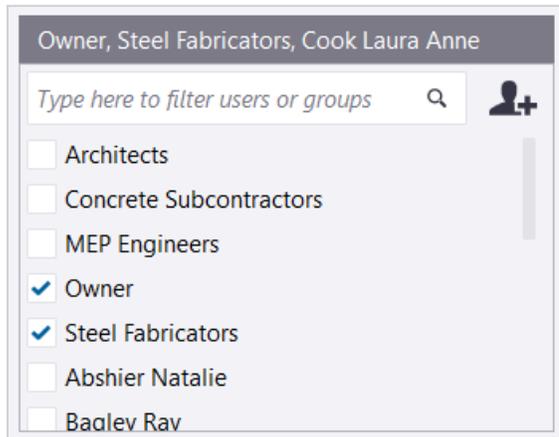
ToDo Labels

ToDo label is created automatically, and has always the same format: four first letters of the project and its number; i.e. if the project is called Tekla House, the first ToDo label will be TEKL-1. If the name of the project is changed later on, the four first letters used are still the original name ones.

Assigning ToDos

You can only assign the ToDo if you are the administrator of the project, or if you have created the ToDo.

ToDos can be assigned to multiple users at once, and to user groups. All project members are listed in the dropdown, in alphabetical order, surname first. If there is no assignee, the field is left empty, which is the default option.



Hovering over project members' names in the list shows their email address as tooltip.

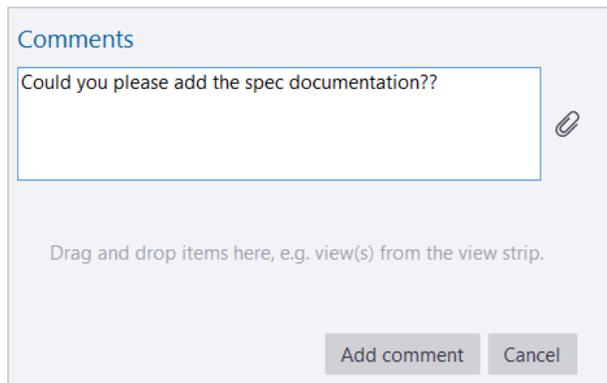
To Assign a ToDo:

1. In the ToDos list, double-click the ToDo you want to assign
2. Click the **Edit** button.
3. Click the **Assignee box** and select the project member or user group in the list.
4. You can also start typing the name of the user or user group to filter the user list.
5. Click the calendar on the right side of the Due date box, and select the due date on the calendar.
6. Set the priority and the status of the ToDo, if needed.
7. Click **Save** to save the changes.

Commenting on Todos

Add a Comment to a ToDo

1. Open the ToDo and click the Comment field in the bottom of the ToDo.
2. Write a comment
3. The Add comment and Cancel buttons appear.



Comments

Could you please add the spec documentation??

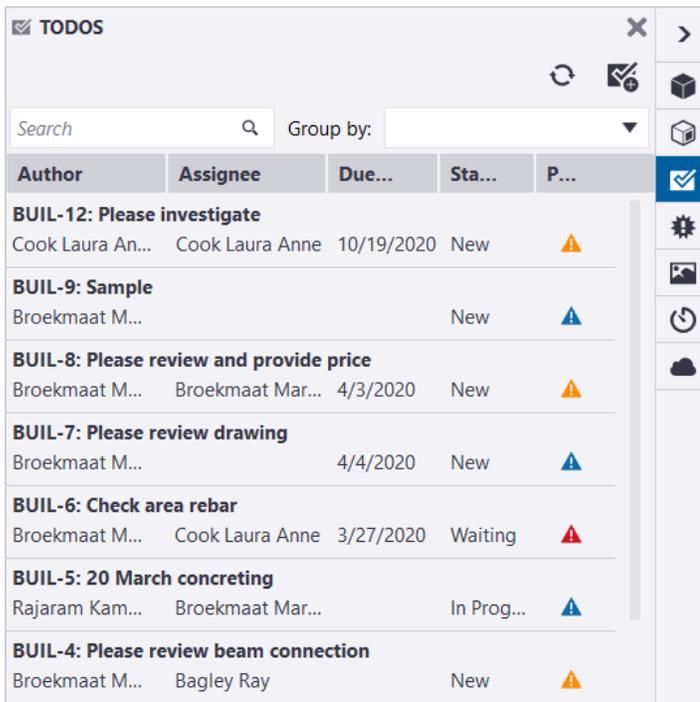
Drag and drop items here, e.g. view(s) from the view strip.

Add comment Cancel

4. Click **Add comment** to save the comment
5. Views and files can also be added to comments, in the exact same manner as ToDo attachments.

More information on Comments can be found in the [Trimble Connect for Browser User Guide](#) ↓

ToDos Tab



Author	Assignee	Due...	Sta...	P...
BUIL-12: Please investigate				
Cook Laura An...	Cook Laura Anne	10/19/2020	New	⚠
BUIL-9: Sample				
Broekmaat M...			New	⚠
BUIL-8: Please review and provide price				
Broekmaat M...	Broekmaat Mar...	4/3/2020	New	⚠
BUIL-7: Please review drawing				
Broekmaat M...		4/4/2020	New	⚠
BUIL-6: Check area rebar				
Broekmaat M...	Cook Laura Anne	3/27/2020	Waiting	⚠
BUIL-5: 20 March concreting				
Rajaram Kam...	Broekmaat Mar...		In Prog...	⚠
BUIL-4: Please review beam connection				
Broekmaat M...	Bagley Ray		New	⚠

Understanding the ToDo Listing

ToDos information are shown as follows:



TRIM-1: Please check the formwork (2)				
Cook Laura	Cook Laura Anne	10/16/2020	In Progr...	⚠

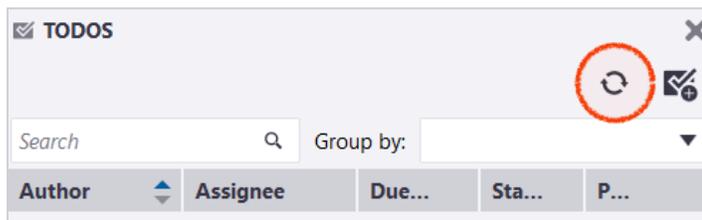
- First row
 - ToDo label
 - ToDo title
 - Total number of comments in the ToDo, shown between brackets
- Second row
 - Author
 - Assignee
 - Due Date
 - Status
 - Priority

Quick Tip

- Hovering over the title/description to see the full text
- Hover over the author or assignee to see the email address

Synchronizes ToDos from the Cloud

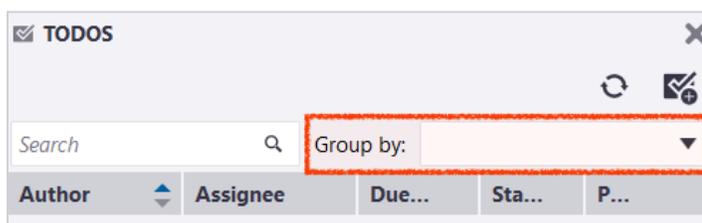
ToDos tab can be synchronized on demand by clicking the Synchronize button, to make sure the latest ToDos are shown in the ToDos tab, and are up to date.



Group ToDos

Grouping is done through a dropdown menu in the top right part of the ToDos tab. ToDos aren't grouped by default. Grouping options are:

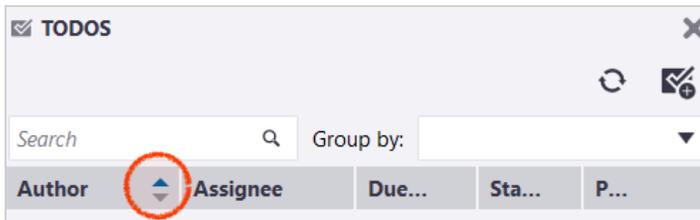
- Author
- Status
- Priority
- Type
- Tag
- Creation date
- Last modified date



Sort ToDos List

All columns can be used to sort the ToDos. By default, ToDos are sorted by Creation date (latest ToDo on top).

Sorting can be ascending or descending. This is indicated by the blue arrows next to the column used to do the current sorting.

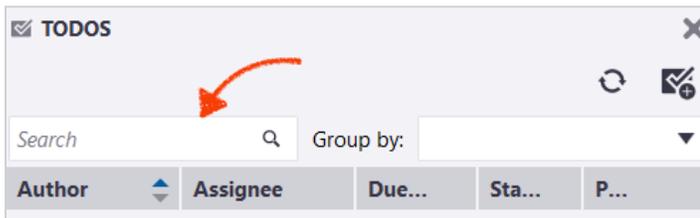


Search ToDos

ToDos can also be filtered by using the search field. Only ToDos that are matching the search will be shown in the ToDos Tab.

Search by

- Description
- Author
- Tags
- Assignee

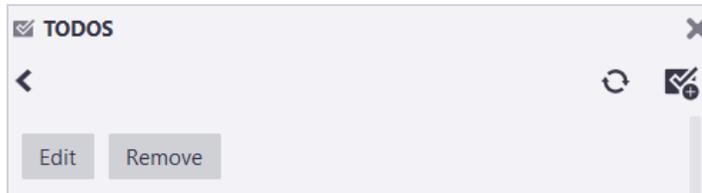


More information on ToDos can be found in the [Trimble Connect for Browser User Guide](#) ↓

Managing ToDos

When opening a ToDo, and depending on user rights, ToDo can be edited. Admin users can edit and remove any ToDo in the project. The ToDo creator can edit and remove its own ToDos. ToDos assignee can only edit the ToDos assignee field.

Depending on the user permissions, the **Edit** and **Remove** buttons will be shown.



Edit a ToDo

1. Open the ToDo Tab.
2. Double click the ToDo.
3. Click **Edit**.
4. The ToDo creation tab switches to editing mode, where editing of all fields is enabled for admin and ToDo creator.
5. After the changes have been made click **Save**.

Note: Views cannot be edited within ToDo, they can only be removed/added.

Delete a ToDo

1. Open the ToDo Tab.
2. Double click the ToDo.
3. Click **Remove**.

Note: The ToDo will be permanently deleted (this cannot be undone).

ToDo Attachments

ToDos support 5 attachment types, and depending on the type of attachment and depending on your role and the project permissions, different functions will be available for each.

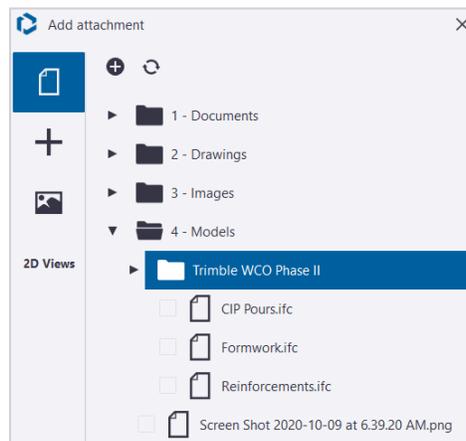
Attachment types:

- Project Files
- Local Files
- 3D Views
- 2D Views
- Clashes

Add Attachments

Attach Project Files

1. Open a ToDo and click **Edit**.
2. Click **Add attachment...** (📎).
3. This opens the **Add Attachment Dialog**, which displays the project File Explorer.

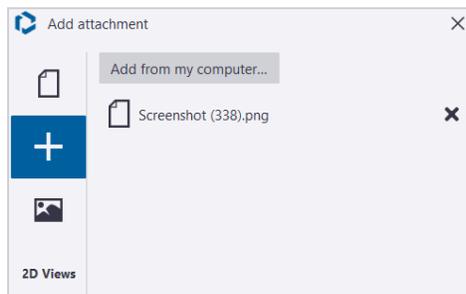


4. **Select the file** to be attached.
5. Click **OK**.

Attach Local Files

Using the Attachment Dialog

1. Open a ToDo and click **Edit**.
2. Click **Add attachment...** (📎).
3. The **Add Attachment Dialog** will open.
4. Click the **2nd tab (+)** in the same dialog.



5. Click **Add from my computer...**
6. The Windows Explorer opens.
7. Files can be chosen from there and will be added as attachment to the ToDo after you click **OK**.

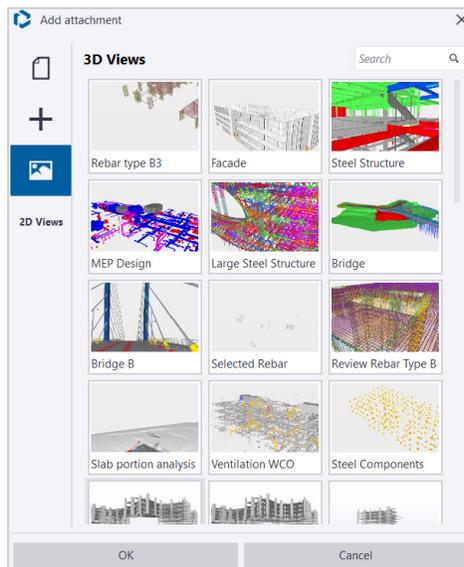
Drag & drop

Files can also be now dragged and dropped from the computer directly to the ToDo (while it is in editing mode).

Attach 3D Views

Using the Attachment Dialog

1. Open a ToDo and click **Edit**.
2. Click **Add attachment...** (📎).
3. The **Add Attachment Dialog** will open.
4. Click the **3rd tab** (🖼️) in the dialog.



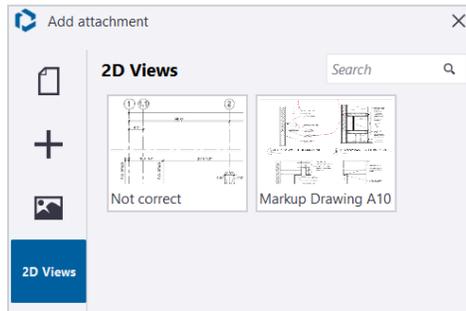
5. All Views that you have access to will be shown.
6. **Select the Views.**
7. Click **Ok**.

Drag & drop

Views from the Views Strip can be also attached to the ToDo by dragging and dropping them from the Views Strip into the ToDo.

Attach 2D Views

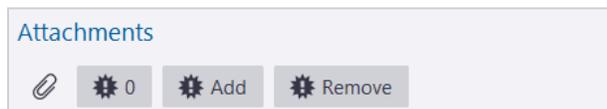
1. Open a ToDo and click **Edit**.
2. Click **Add attachment...** (📎).
3. The **Add Attachment Dialog** will open.
4. Click **2D Views** in the dialog.



5. All 2D Views that you have access to will be shown.
6. **Select the 2D Views.**
7. Click **Ok**.

Attach Clashes

1. Open a ToDo and click **Edit**
2. **Select the clashes** in the 3D view
3. Click the **✖ Add Clash** button.



4. The number of attached clashes is shown next to these buttons.

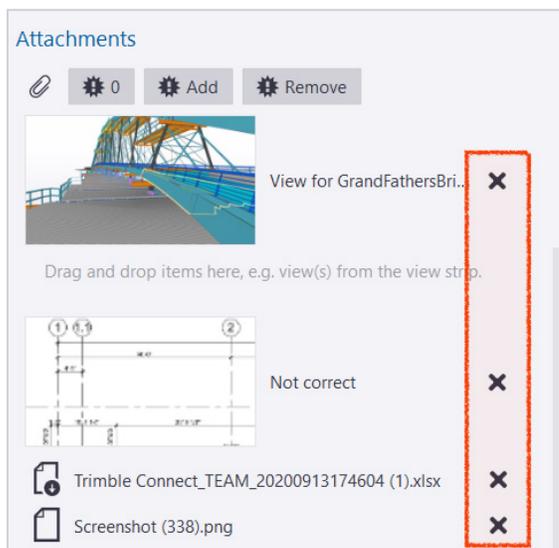
Working with Attachments

- Double clicking the file will download it to the project if it was on the cloud only.
- If the file has already been downloaded already, it will be open in 3D if it is a model, or with default software if it isn't.
- The file attachment is actually a link between the Todos and the chosen file, which means that if the file is updated, it will be updated in the ToDo as well.
- Double clicking a View will load the view in 3D.

Remove Attachments

Remove Attached File or Views

Files and Views attached to ToDo can be removed by clicking **Remove the attachment (X)** on the right side of the view when in editing mode.



Remove Clash Attachments

1. Open a ToDo and click **Edit**
2. **Select the clashes** in the 3D view
3. Click **Remove Clash** button.

Link Model Objects to a ToDo

If a ToDo is relevant to a particular model object or objects, you can associate the object(s) to a ToDo.



Link Objects to a ToDo

1. Open a ToDo and click **Edit**.
2. **Select the objects** in the 3D view.
3. Click **Link selected objects**.

The total number of linked objects can be seen in the View linked objects button.

Remove Linked Objects

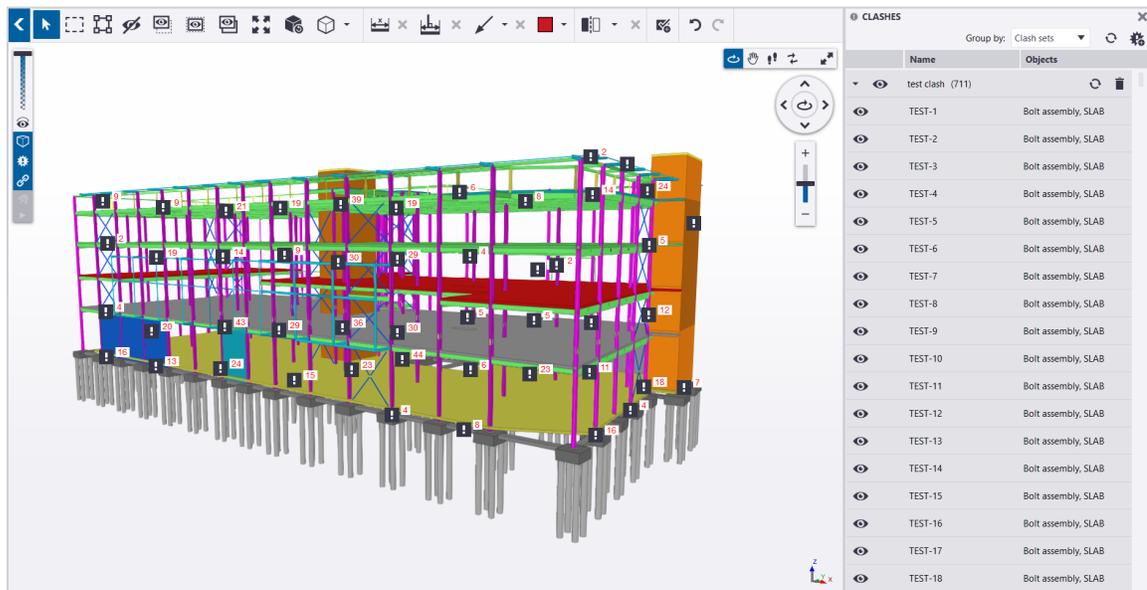
1. Open a ToDo and click **Edit**.
2. **Select the objects** in the 3D view
3. Click **Unlink selected objects**.

View Linked Objects in 3D

Linked objects can be shown in 3D by clicking the **View linked objects** button. This will select and fit to view the linked objects.

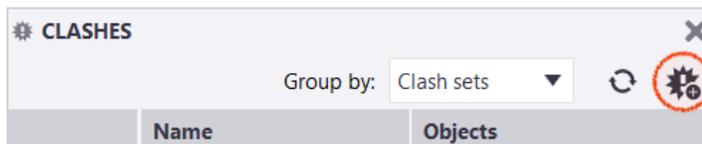
Working in 3D: Clashes

A clash is a structural conflict within a 3D model. Clash reports provide detailed Views of the clashes in the 3D model, showing a clearance as a positive measurement and a clash as a negative measurement.



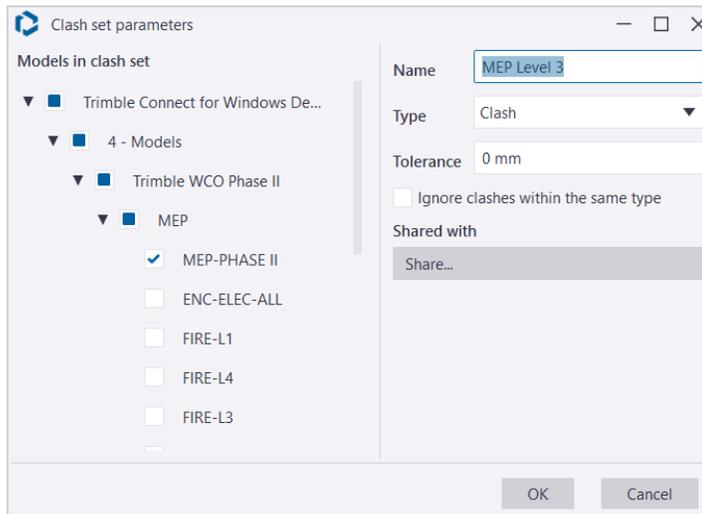
Clash Sets

Clash sets can be created in Trimble Connect for Windows by clicking **Add new clash set** (), found in the upper right corner of the clashes tab.



Clash Set Parameters

Clicking **Add new clash set** () opens the parameters dialog, allowing you to define the parameters for the clash set.



OPTION	DESCRIPTION
Models in clash set	<p>From that dialog, models to be used for the clash set can be picked. Because the clash processing engine is cloud based, only models that are stored in the cloud (pushed to the server) are shown in the list and can be used for creating a clash set.</p> <p>If a model isn't pushed yet, it is shown in red in the list. The tooltip indicates the user what to do in order to be able to use that model in a clash set.</p>
Name	<p>Name for the clash set is mandatory and needs to be defined before the clash set can be created. Once a name has been defined, the OK button will be enabled.</p>
Clash type	<p>There are two types of clash sets: Clash and Clearance.</p> <p>Clash: Use this option to find objects that collide or interfere with other objects with a specified tolerance.</p> <p>Clearance: Use this option to find objects that are within a specified distance of one another.</p>
Tolerance	<p>Tolerance is either the conflicting or clearance distance between objects, depending on which clash set type has been chosen.</p>
Ignore clashes within the same file	<p>Checking this option will disregard any clashes that exist in the same file.</p>

OPTION	DESCRIPTION
Ignore clashes within the same type	Checking this option will disregard any clashes of the same object type. This can be useful when you are detecting a clash between two trades or disciplines.
Shared with	Users the clash set will be shared to can also be defined here, by clicking the Share dropdown and checking the user from the list.

Create a Clash Set

1. In the side pane, click **Clashes (✖)** to open the **Clashes Tab**.
2. In the upper-right corner of the Clashes tab, click **Add new clash set (✖)**.
3. In the Clash set parameters dialog box, type the clash set name.
4. In the **Models in the clash set** section, **select at least 2 models** in which you want to detect clashes.
5. Select the **clash type**.
6. Specify the **clearance** or **tolerance**.
7. To leave out clashes within the same object type or element type, select the **Ignore clashes within the same type** checkbox.
8. In the **Shared with** list, find and select the users and user groups with whom you want to share the clash set.
9. Click **OK**.

The new clash set will be added to the Clashes side pane. Trimble Connect for Windows ensures that the model has been converted to a TrimBIM model, and then, runs the clash check.

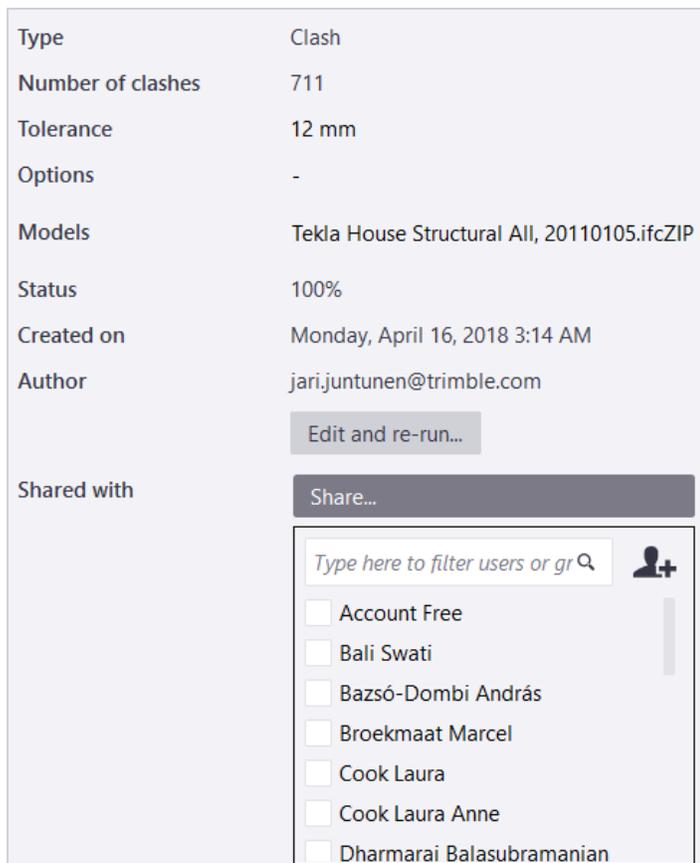
Clash check status is now shown with a circle progress indicator, with progress percentage in the tooltip. During clash check run the manual clash sync button is disabled because accelerated clash sync is carried out in the background to give almost real-time progress info.



Sharing a Clash Set

Clash sets are not shared by default when creating them. If the clash set wasn't shared at creation, one needs to open the Clash Details Tab, click the sharing dropdown, and then check users in the list.

All users checked in the list will see the clash set and related clashes appear in their project soon after it has been shared with them. The sharing list works in the same way than any other sharing list in the application. This can also be done by editing the clash set.



The screenshot shows the 'Clash Details' interface. It includes the following information:

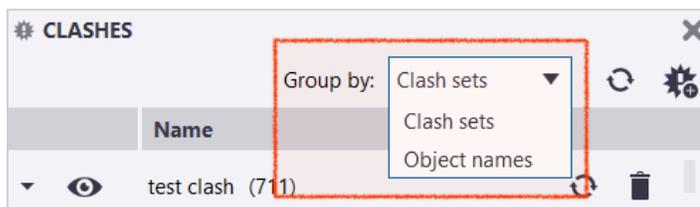
- Type: Clash
- Number of clashes: 711
- Tolerance: 12 mm
- Options: -
- Models: Tekla House Structural All, 20110105.ifcZIP
- Status: 100%
- Created on: Monday, April 16, 2018 3:14 AM
- Author: jari.juntunen@trimble.com

Below this information is an 'Edit and re-run...' button. Underneath is the 'Shared with' section, which contains a 'Share...' button and a list of users with checkboxes for selection:

- Account Free
- Bali Swati
- Bazsó-Dombi András
- Broekmaat Marcel
- Cook Laura
- Cook Laura Anne
- Dharmarai Balasubramanian

Clash Set Grouping

When grouping the clashes by clash sets, each group represents a clash set. The clash set contains all clashes found when running it, and can be expanded/collapsed as needed.



The screenshot shows the 'CLASHES' panel in the application. The 'Group by:' dropdown menu is open, showing three options: 'Clash sets', 'Clash sets', and 'Object names'. The first two options are highlighted with a red box. The panel also shows a table with a column 'Name' and a row 'test clash (711)'.

Clash Sets & Model Versions

If one or more of the models that was used when running a clash set has been updated (ie. a new version is available), the related clashes are shown in red in the clashes tab (and are removed from the 3D View anymore), indicating that models have been updated, and that clash set needs to be rerun.

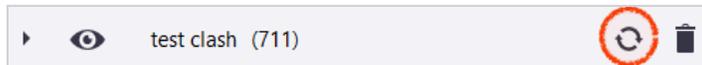
	Name	Objects
	Electric vs Structure (295)	
	MEP Level 3 (500)	

Quick Tip

If you load the previous model versions that were used in the clash set, the icons will be shown in 3D.

Re-run a Clash Set

Clash sets can also be re-run and updated from Trimble Connect for Windows, by clicking **Re-run clash set** ()



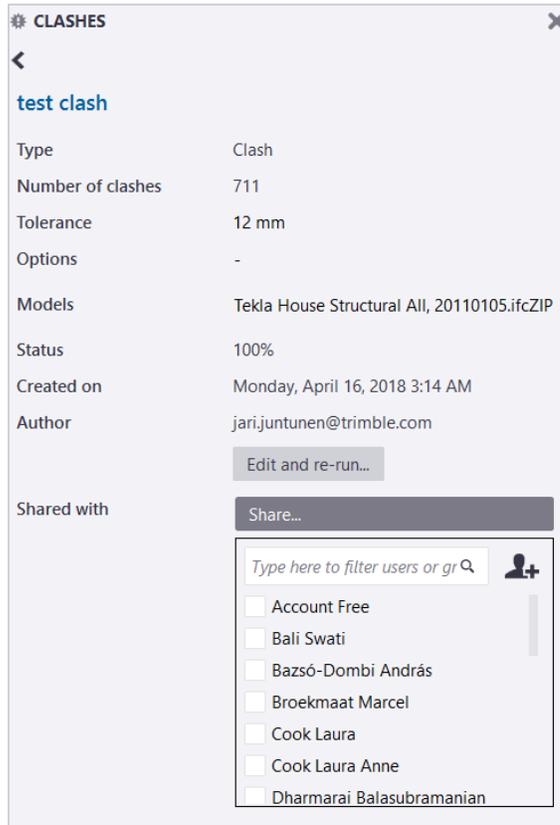
To re-run a clash test without changing the clash set parameters:

1. In the Clashes side pane, click **Re-run clash set** () on the right side of the clash report.
2. Click **Ok**.

When clicking **Re-run clash set** () , the same clash parameter dialog opens. New settings can be defined, in the same manner than at clash set creation. Once the settings have been updated, clicking OK will re-run the clash test with the new settings and report the results accordingly shortly after.

Clash Set Details Tab

Double-clicking a clash set in the list opens the Clash Set Details Tab. It contains all the details available for the rule set.



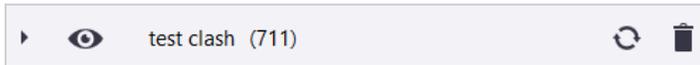
In the Clash Set Details Tab, details such as clash set name, number of found clashes, tolerance and clearance distance used when running the clash set are found. It also includes the creator name, date of creation, and who the clash set has been shared with is shown. Users can control who the clash is shared with from here.

Edit & Re-Run a Clash Set

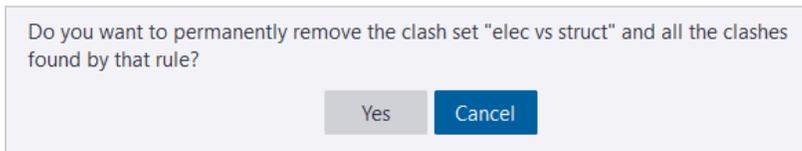
1. In the Clashes side pane, double-click the name of a clash set.
2. The **Clash Set Detail Tab** will open.
3. To change or edit the clash set properties, click **Edit and re-run...**
4. In the Clash set parameters dialog box, modify the clash set properties according to your needs.
5. Click **OK** to save the changes and re-run the clash or clearance detection.

Delete a Clash Set

It is possible to remove the clash set through contextual right-click menu, or by using the **Trash** () button.



A dialog asks removal confirmation from the user before the clash set is deleted.



When deleting a clash set, it is deleted permanently including all clashes it contained, and for all users it was shared with.

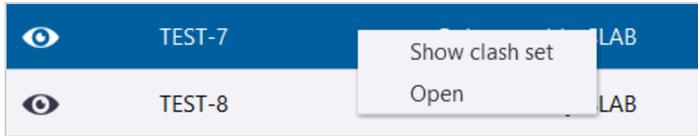
Clashes

Each clash is shown in a row, and there are only two columns shown in the clashes tab. The format for the clash's name is **Clash-XXX**, where **XXX** represents the running number. Objects column shows the clashing object names.

When selecting a clash in the list, the corresponding flag and the related clashing objects are selected in the 3D view. If the user selects a clash and then uses Show only from the toolbar, only the objects involved in the clash will be shown in the 3D view.

- Clashes can be grouped by using the grouping dropdown.
- There are only two grouping options available at the moment: by clash sets or by object names.
- Clashes are grouped by clash sets by default.
- Sorting or filtering isn't available in clashes tab.

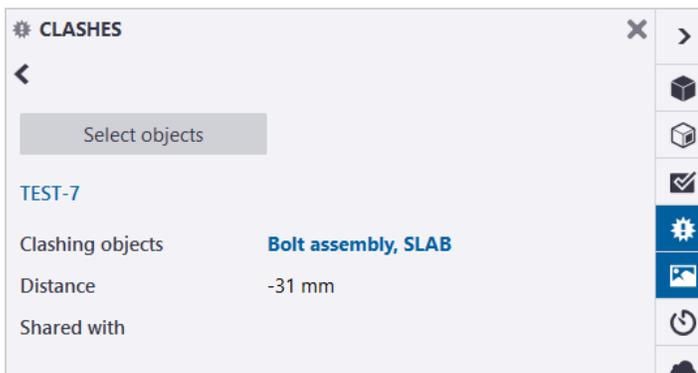
Clash Context Menu Functions



OPTION	DESCRIPTION
Show clash set	Opens the related Clash Set Details Tab
Open	Opens the actual Clash Details Tab.

Clash Details Tab

The Clash Details Tab gives you more information about a specific clash.



OPTION	DESCRIPTION
Select Objects	All related objects can also be selected from the details tab by clicking the Select Objects button.
Clashing objects	Clashing object names are actually buttons, which when clicked, select the related object and fit it to view. This doesn't affect objects visibility.
Distance between objects	Physical distance between objects

OPTION	DESCRIPTION
Shared with	Who this specific clash is shared with are found. Note: Sharing cannot be changed from there though, it needs to be done at the clash set level.

View Clash Details

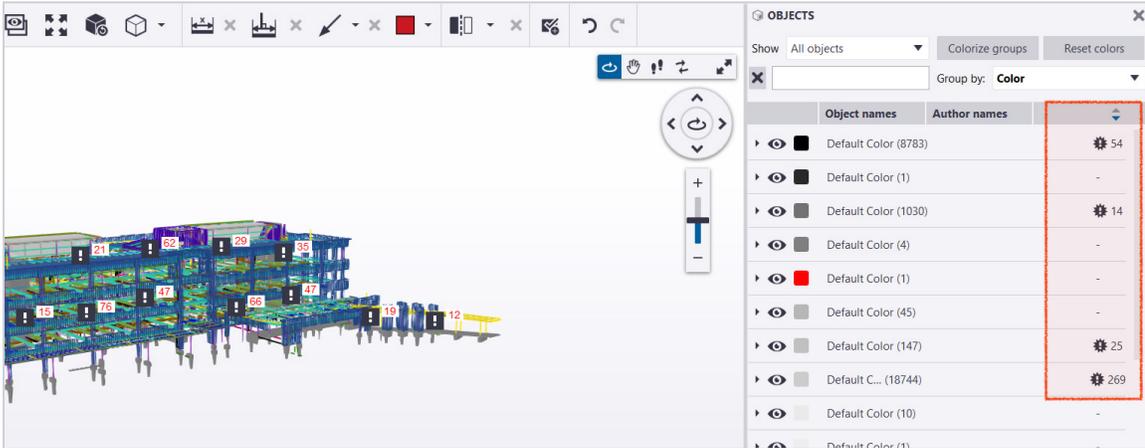
1. To view all clashes in a clash report, **click the arrow** (▾) on the left side of a **clash set**.

	Name	Objects
▾ 👁	test clash (711)	🔄 🗑
👁	TEST-1	Bolt assembly, SLAB
👁	TEST-2	Bolt assembly, SLAB
👁	TEST-3	Bolt assembly, SLAB
👁	TEST-4	Bolt assembly, SLAB

2. Find and **double-click a clash** whose details you want to see.
3. The clashing objects, distance, and sharing information is shown.
4. To select the clashing objects in the 3D view, click **Select objects**.
5. When navigating back to the clashes tab, the clash will still be selected in the list.

Clashes in the Objects Tab

In the Objects Tab, the most right column displays the number of clashes related to an object. The number next to the clash symbol indicates how many clashes are associated with the object.



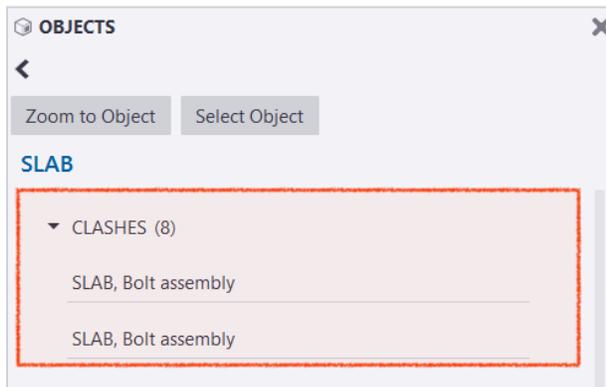
- If only one clash is associated with the object, clicking the clash symbol will directly open the Clash Details Tab.



- If there are several clashes, it will then open the list of associated clashes. Clicking one of them in the list will open the related Clash Details Tab.



- The list of clashes associated with an object is also displayed in the Object Details Tab. Please see Object Details & Properties for more detailed information.



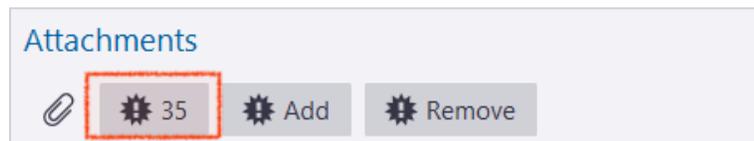
Clashes & Todos

Another way to share clashes is to attach clashes to Todos. However, corresponding clash sets need to be shared first in order for the clash to appear in other users' 3D View.

When editing Todos, clashes can be added as attachments from the attachments section.

Attach a Clash to a ToDo

1. Open the **ToDo Detail Tab**
2. Click **Edit**.
3. **Select the clash** in 3D.
4. Click the **Add** button.
5. Once attached, the number of attached clashes is also shown.



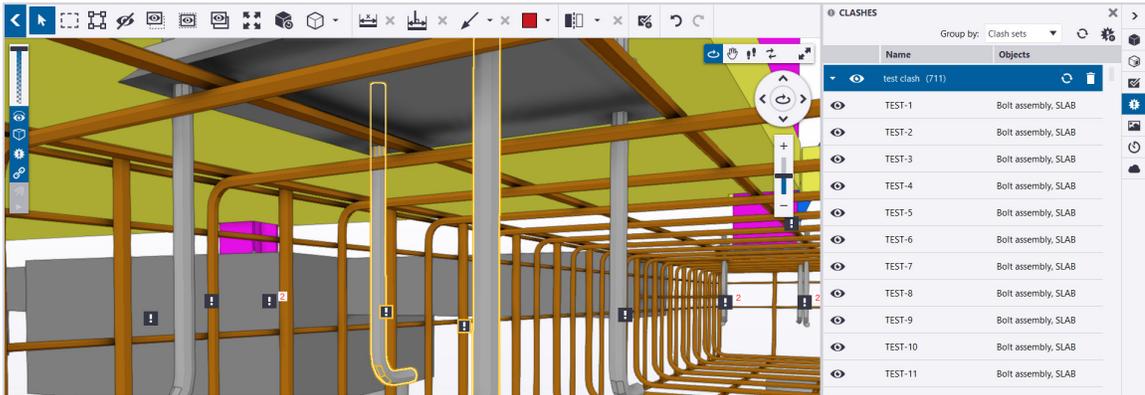
Remove a Clash from a ToDo

1. Open the **ToDo Detail Tab**.
2. Click **Edit**.
3. **Select the clash** in 3D.
4. Click **Remove**.
5. The clash will be removed from the ToDo.
6. The number of attached clashes will be updated accordingly.

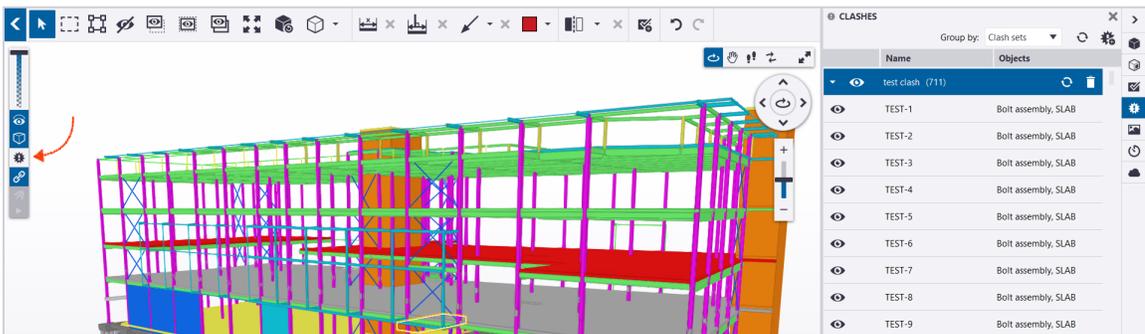
Please see "[Working in 3D: Todos](#)" on page 124 for more information on Todos.

Clashes in 3D

Once a clash set has been created and finished processing, clash flags are shown in the 3D View.



You can control the Clash flag visibility by toggling this option from the left side toolbar. This will show or hide all clashes at once. Clash are visible by default.



Clash Flag States

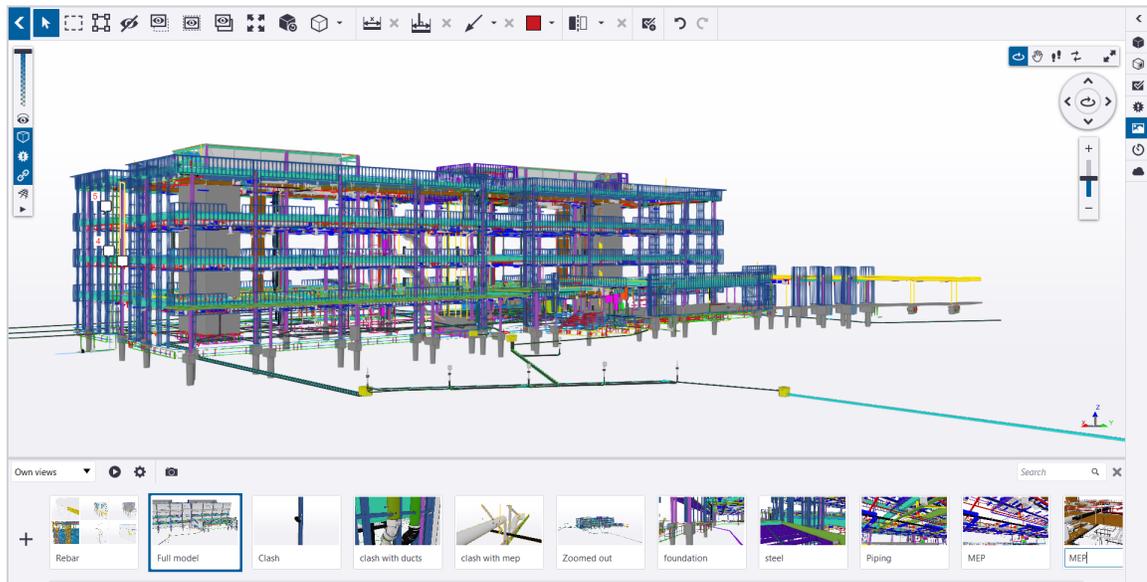
ICON	DESCRIPTION
	Full Opacity Both objects related to a clash are visible in 3D.
	Semi-transparent Only one of the objects related to the clash is visible.
	Selected state

Single Flag vs. Clusters

ICON	DESCRIPTION
	<h3>Single Clash Found</h3> <p>When only one clash is found in a certain area (based on the current camera position and zooming in 3D view), a single clash symbol is shown. In that case, here are the different options:</p> <ul style="list-style-type: none">• Clicking the clash symbol selects the associated clash in the clashes tab and the related objects in the 3D view.• Double clicking the clash opens the Clash Details Tab and fits the related objects to view.• Right clicking opens the context menu (Open), from which Clash Details Tab can be opened.
	<h3>Many Clashes Found</h3> <p>If there are many clashes found in a certain area (based on the current camera position and zooming in 3D view), a cluster flag is shown.</p> <p>This flag actually represents several clashes. This number indicates how many clashes are represented by that cluster flag. Selection states are the same as for single clash flags.</p> <p>Cluster flags are updated while navigating, without interrupting the navigation.</p> <p>In case of cluster flag, the different options are as follow:</p> <ul style="list-style-type: none">• Clicking a cluster will zoom in and split the cluster into several flags/ cluster flags depending on the size of the cluster. All objects related to flash in the cluster are selected.• If several clashes are found exactly at the same place, clicking the symbol on 3D opens a list of clustered clashes. Clicking then one of the clashes in the list opens the related Clash Details Tab. Next can be seen the list that opens when clicking a cluster for which clashes are at the exact same place.• Double-click has the same effect as a single click.• Right click behavior is disabled for clusters.

Working in 3D: Views

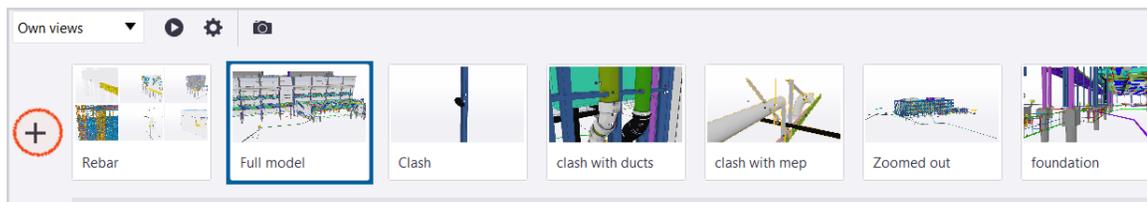
You can save model Views, or snapshots of the 3D View, and manage them in several ways using the Views list. For example, you can create a slideshow based on the existing model Views, save model Views on your computer as images, and set a model view as the project thumbnail.



The Views Strip is used to save Views of the models from different camera angles and with different colors, object visibility, and markings. These Views are saved and can be reused and shared with other members of the project.

Views

Views are created by using the **Create view** (+) button in the left side of the Views Strip.



- When a View is created, it appears as the last one on the right side of the Views Strip.
- If the Views Strip is full, it will scroll so that the newly created view is displayed.
- When creating a view, the view name field is selected and it can be renamed directly after creation.

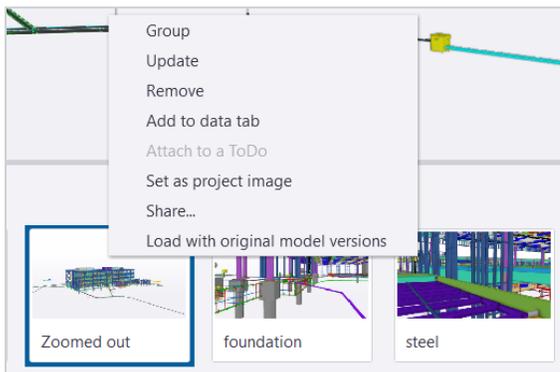
- The default view name is New View.
- The Views Strip can be reorganized if needed by drag and dropping Views. The view will move to where it is dropped.

When creating a View, the 3D view and its content is saved. This includes the following:

- Camera angle and zooming
- Color and transparency changes
- Object visibility changes
- Measurements
- Markups
- Clip planes
- Grid visibility
- Clashes visibility
- Ghost mode
- Orthogonal/Perspective mode

Views Context Menu Functions

Right clicking on a View exposes the context menu.



OPTION	DESCRIPTION
Group	Views can be grouped together.
Update	Views can be updated if needed by right clicking the view, and selecting Update. The current 3D view content will then overwrite what was previously saved in the view. The view snapshot is also updated accordingly.
Remove	Views can be removed by right clicking, Remove. A dialog asks the user to confirm the removal. Several Views can be removed at once.

OPTION	DESCRIPTION
Add to Data Tab	Views can be added to the Data Tab, by right clicking, Add to data tab. The view will then be available in the Data Tab when opening the project.
Attach to a ToDo	Views can be attached to a ToDo. This is available only if a ToDo is currently in editing mode in the ToDos tab. Once the view is added to the ToDo it also appears under the attachment section of the ToDo. When a View is shared through ToDos, it only appears in the related ToDo, not in the user Views Strip. Please see " ToDo Attachments " on page 132 for more information.
Set as project image	View can also be set as project thumbnail by right clicking, Set as project thumbnail. Project thumbnail is shown in both project library and Data Tab.
Share...	Views are by default private. For other project members to see the view it must be shared explicitly with them. For more information on View permissions see Trimble Connect for Browser User Guide .
Load with original model versions	Since there can be several versions of a model in the same project, there is also an option to load the view using the original model, meaning the model version used at view creation. Otherwise, the view will be loaded using the currently used version of the model.

Create a View

1. To open the Views Strip, click **Views** () in the side pane.
2. The Strip will appear at the bottom of the application.
3. Adjust the model to any position that you would like to capture a View of.
4. On the right side of the Views Strip, click **Create view (+)**.
5. The current 3D View is saved and added to the Views Strip.
6. In the box below the View, type a name for the View.

Loading a View

Double clicking a View will load the View in 3D.

- The View will have an active state to indicate which View is being shown in 3D
- If the models in the view are not loaded when double clicking a View, they will be loaded accordingly.
- Any extra models that aren't needed are just hidden, so that switching between remains smooth and doesn't always require the model to be loaded/unloaded.

Update a View

1. To open the Views Strip, click **Views** (🖼️) in the side pane.
2. In the Views Strip, right-click the View that you want to replace.
3. Select **Update**.

Note: Updating a saved View will replace the originally saved View with the current View.

Load a View with Original Models

1. To open the Views Strip, click **Views** (🖼️) in the side pane.
2. In the Views Strip, right-click the view that you want to load with previous models.
3. Select **Load with original model versions**.
4. The saved View is reverted to use the original model versions that were used to create the View.

Save a Model View as an Image

1. To open the Views Strip, click **Views** (🖼️) in the side pane.
2. In the Views Strip, **select the View** that you want to export as an image.
3. Click **Export current 3D view as image**.
4. In the **Save view as image** dialog box, type a name for the image.
5. In the Save as type list, **select the file format**.
6. You can also change the file type by typing another image file extension to the File name box.
7. Click **Save**.

Delete a Model View

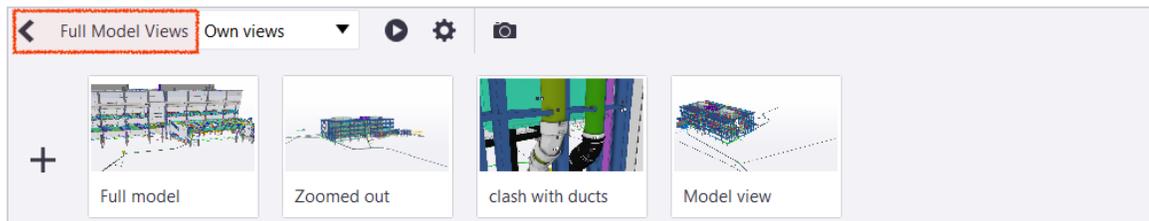
1. To open the Views Strip, click **Views** (🖼️) in the side pane.
2. In the Views Strip, **right-click** the View that you want to remove.
3. Select **Remove**.
4. Click **Yes to confirm**.

Note: The View will be deleted, including any user it had been previously shared with.

View Groups

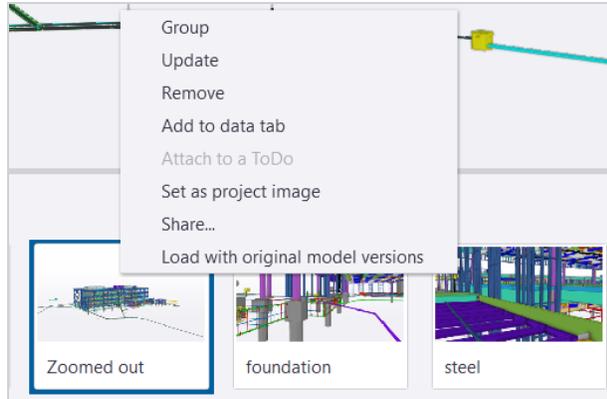
View Groups are a collection of Views.

- Double click a group to open and display its contents in the Views Strip.
- The name of the group also appears in the top left corner of the Views Strip.
- Views can be created directly inside the group
- Groups cannot be created from within another group
- Clicking the arrow located next to the View Group name allows you to go back to the Views Strip main level.



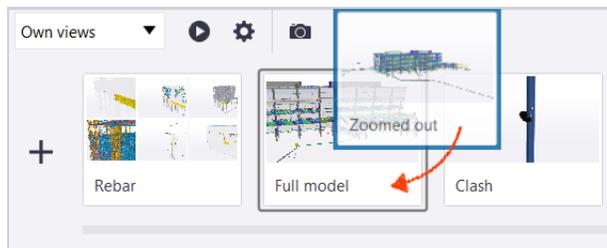
Create a View Group

1. **Select** one or several Views
2. Right click
3. Select **Group** from the context menu

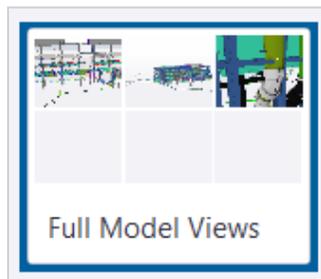


Alternatively

You can also drag and drop a View on top of another one to create a group.

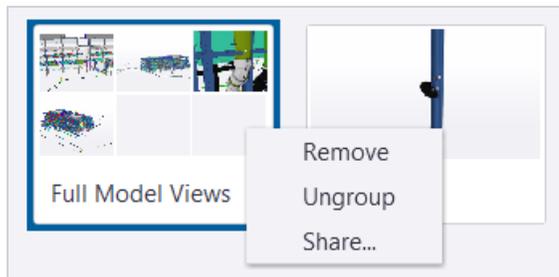


4. The View Group is created.



View Group Context Menu Functions

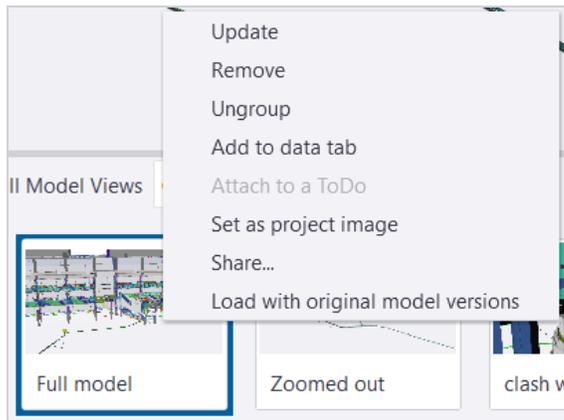
View Groups also have contextual right click menus.



OPTION	DESCRIPTION
Ungroup	Groups can be ungrouped by right clicking to open the context menu and then selecting Ungroup .
Remove	Removing a View Group will permanently delete the View Group and all the Views inside it.
Share	Shares a View Group with other project members. Note Sharing a View Group does not share all the Views inside that group.

Remove a View from a Group

To remove a View from a group, right click on the View inside the View Group to open the context menu. The option to Group the View is replaced by the Ungroup option.



- When ungrouping a View, it is removed from the group and goes back to the Views Strip.
- When ungrouping the last View in a group, the group is also removed from the Views Strip.

Rename a View or View Group

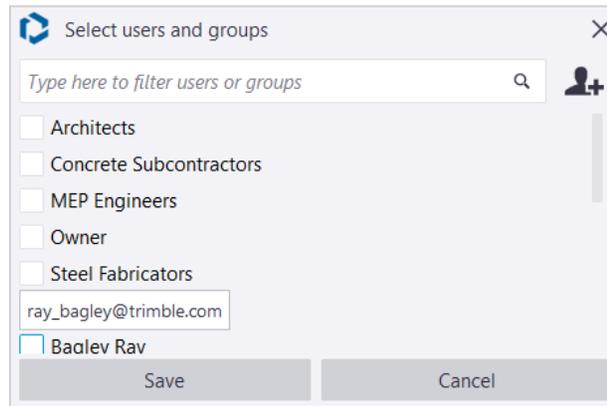
1. **Click the name** field of the View or View Group.
2. Enter the new name.
3. Press the **ENTER** key.
4. The View or View Group will be updated with the new name.

Share a View or View Group

Views are automatically pushed to the server when creating them. These Views can be used on multiple devices for the same user. However, by default, Views aren't shared with other users in the project, which means that only the View creator can see their own Views in the Views Strip.

Shared Views gives the recipient *full edit* functionality.

1. To open the Views Strip, click **Views** (🖼️) in the side pane.
2. In the Views Strip, **right-click the View or View Group** that you want to share with other users.
3. Select **Share...**
4. In the **Select users and groups dialog box**, find and select the user groups or users with whom you want to share the View.



5. Click **Save**.

Note: Sharing a View Group *does not* share all the Views inside that group.

Unshare Views

If you don't want Views to be shared anymore, you can repeat the same process used for sharing them, and uncheck everyone in the list. The list always allows you to know whom a specific View is shared with.

Filter & Search Views

OPTION	DESCRIPTION
	Default state of the Views Strip. This shows all Views you have created and that have been shared with you.
	<p>This filters the Views to show only Views shared with you.</p> <p>To know who has shared a view, hovering over a shared view will display the tooltip Created by <user name> (this is only shown when the list is filtered for Shared with me).</p> <p>While in this filtered view, the only control the user can do is Load with Original Model Versions.</p> <p>Note Because shared Views appear in the Own Views Strip, <i>a user will be able to edit shared Views</i>.</p>
	<p>Users can search the Views Strip and easily find created Views using the search field on the right side of the Views Strip. When searching the Views Strip, only matching Views and groups are shown. Opening a group also only shows matching Views within that group.</p> <p>The Search can be cleared by clicking Remove (X) next to it.</p>

Play a Slideshow with Views

The slideshow function can be used as soon as there is more than one View saved. The **Play slideshow button** is disabled until some Views have been created.

Right before starting the slideshow, Trimble Connect for Windows checks which models are required to be loaded so that all the Views are displayed correctly during the slideshow.

- If there are other models needed for the slideshow, they will be loaded before the slideshow starts. A dialog will be displayed to indicate the loading.
- These models will stay loaded in 3D after stopping the slideshow.
- Clicking cancel while the models are loading will cancel the loading, and the Slideshow will not start.

Play a Slideshow

When the slideshow starts, the Views Strip goes into slideshow mode. This means that only the Views that are going to be played during the slideshow are now displayed in the Views Strip. The slideshow starts from the last selected View.

The Views Strip header indicates that slideshow is playing, and the **Stop slideshow** button is displayed instead of the play and settings button.



Play a Slideshow for Ungrouped Views

1. Click **Play** (▶) from the Views Strip or select some Views and click **Play** (▶).
 - a. In the case where there are both Views and groups selected, groups are just skipped while running the slideshow.
2. The Views Strip will go into **Slideshow mode** and all of the selected Views are shown as a slideshow.

Play a Slideshow for a View Group

1. Select a single View Group or open the View Group.
2. Click **Play** (▶).
3. The Views Strip will go into **Slideshow mode** and all of the selected Views are shown as a slideshow.

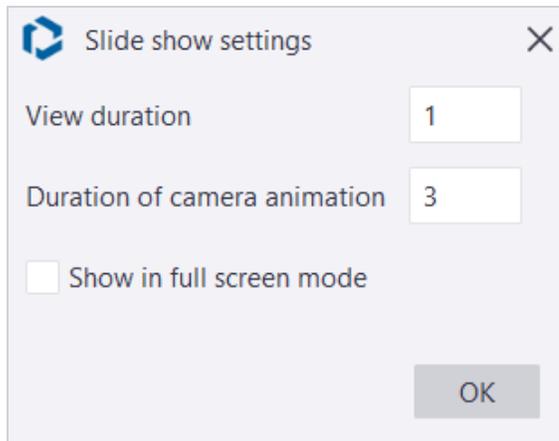
Exit a Slideshow

To exit the **Slideshow mode**, click **Stop slideshow**. The Views Strip will return to its normal state, where all created Views are shown.

- Slideshows will also stop if any navigation is done in the 3D View.
- The Views that were selected before you entered the mode will still be selected in the Views Strip when you stop the slideshow.

Slideshow Settings

Settings can be defined for the slideshow by clicking the slideshow settings button.



Slide show settings

View duration

Duration of camera animation

Show in full screen mode

OK

OPTION	DESCRIPTION
View Duration	This represents the time a View is displayed before switching to the next one. The default value for the View duration is 1. If the View duration is set to 0, then the slideshow will just go from one view to another without pausing at all.
Duration of camera animation	The default value is 3 seconds. The maximum value that can be set is 10 seconds. When trying to set a camera animation of more than 10 sec, the value is automatically reverted to 10.
Show in fullscreen mode	By checking the Show in fullscreen mode box, the slideshow will automatically play in full screen. Once the slideshow ends, the interface will go back to normal.

Working in 3D: Sequences

Overview

This feature gives users a walk-through of the steps involved in the construction of a model from scratch in a specified order. The purpose of this is for verification and construction of large models, created from several smaller models, over time.

- To fully utilize this feature, the user must have a HoloLens headset and the Trimble Connect for HoloLens application installed.
- This feature is supported only in Online mode in Trimble Connect for HoloLens.
- Sequences can only be created in Trimble Connect for Windows.
- When a Sequence is created, a **Metadata.mrdb** file is added to your project.
- It is advised to perform a project sync before working with a Sequence so that the latest changes to the Sequence are updated locally.
- Creating or editing a Sequence before the **Metadata.mrdb** is downloaded (or before the project sync is complete), might overwrite the existing Sequence contents and it is not reversible).

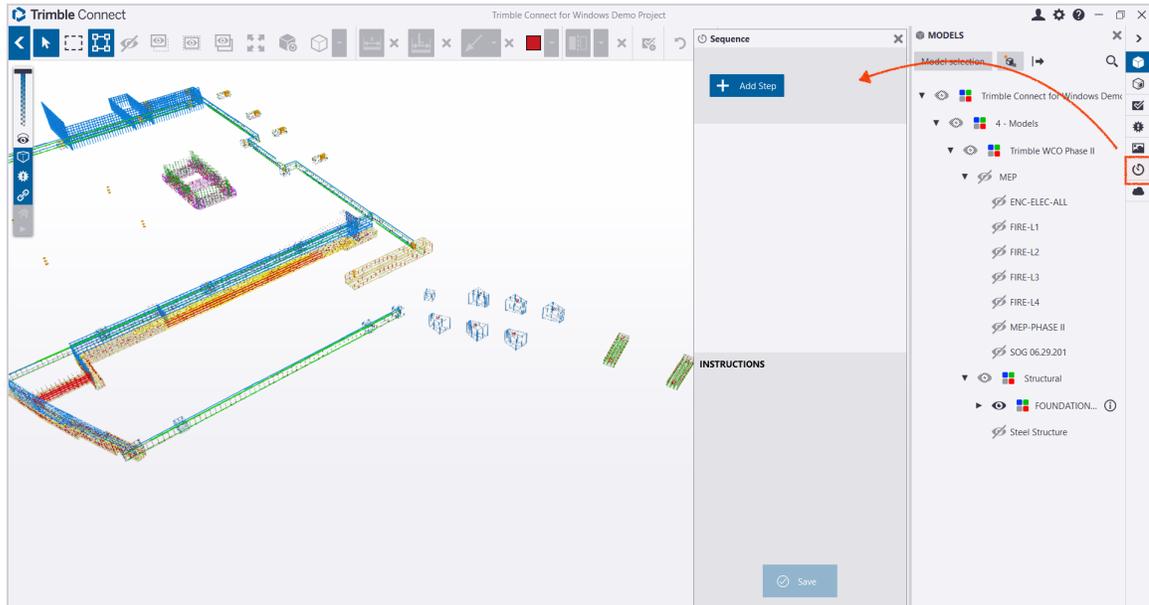
See this feature in action:

[Creating a Sequence in Trimble Connect for Windows](#) ►

[Sequencing a Model in Trimble Connect for HoloLens](#) ►

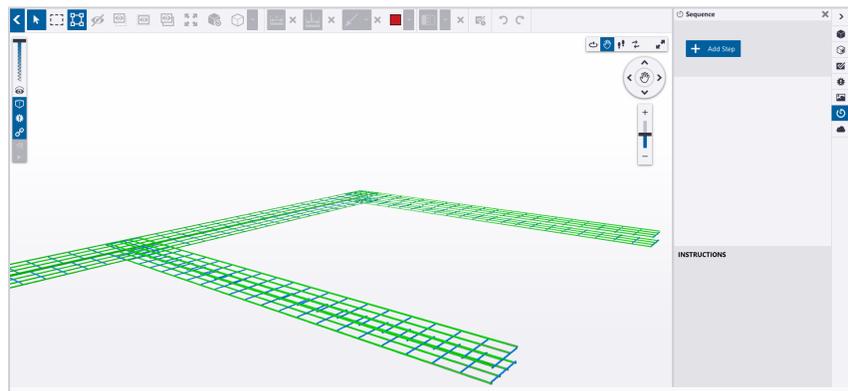
Accessibility of Model & Objects Windows

Users can work with Sequence window and Model or Object Windows simultaneously. To achieve this, the Sequence Tab can be undocked.



Object States

STATE	DESCRIPTION
Visible State	When you first start a sequence, all objects will be in the visible state, meaning they do not belong to any steps yet.

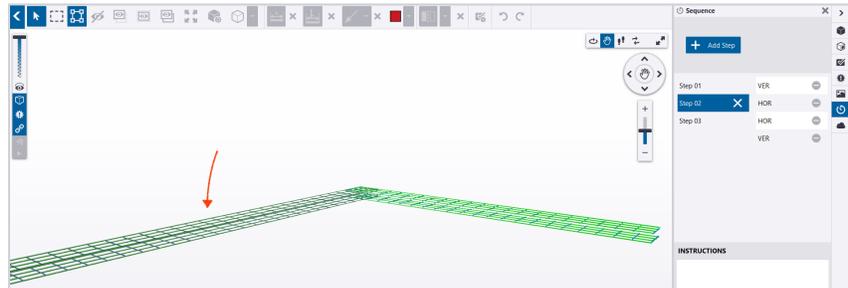


STATE

DESCRIPTION

In Use State

Objects that belong to the selected step are shown in the *In Use* state. They will appear slightly darker than the other visible (used objects).



Hidden State

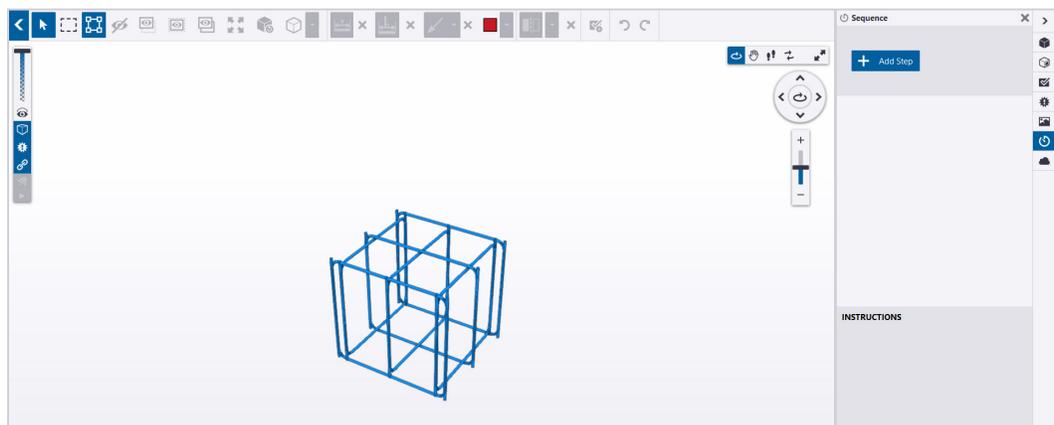
Objects that belong to the non-selected step are shown in a hidden state.

Create a Sequence

A sequence can have multiple steps. Each step can contain multiple objects, but those objects can only belong to only one step at any point in time. Empty steps without any objects are discarded when the sequence is saved.

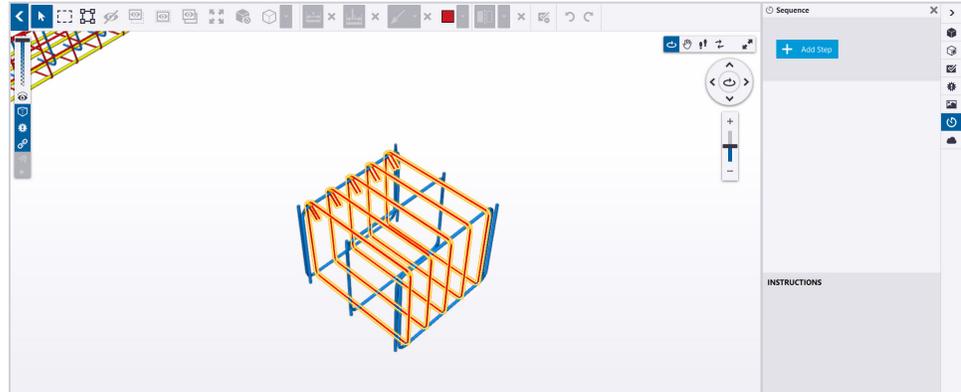
Create a New Sequence

1. Load one or multiple models.
2. To open the Sequence Tab, click **Sequence** (🔌) in the side pane.



3. Add a step to the Sequence:

- a. Create a Step by selecting some objects and click **Add Step**.



b.

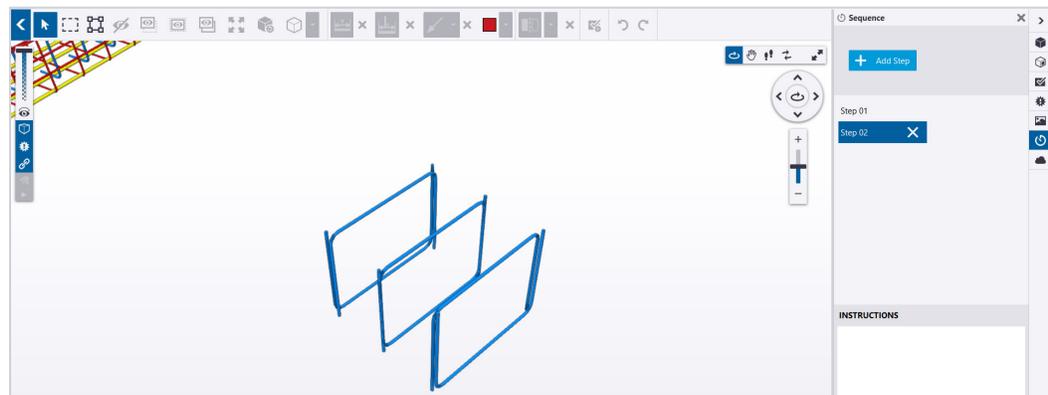
For each step that is added, a View will be added to the View Group. The View Group will maintain the order in which the Steps (Views) are created in. The order of Views inside the View Group determines the order of steps.

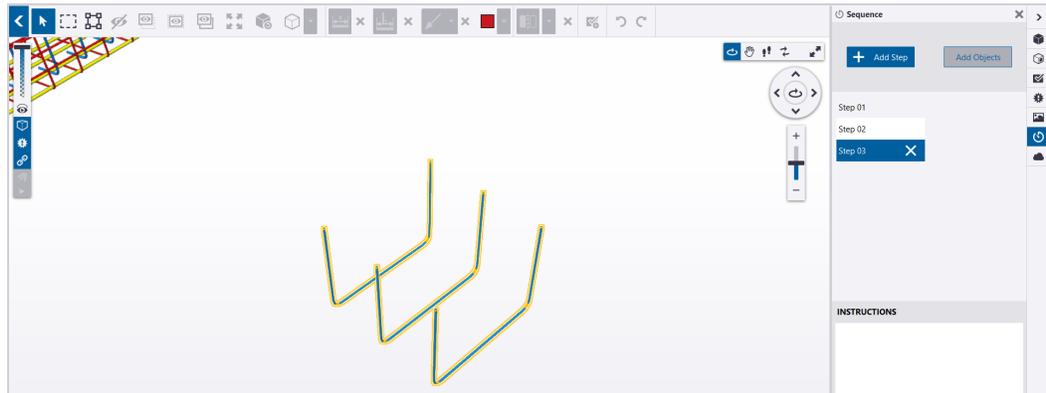
4. To add more objects to steps:

- a. Select the step you want to add objects to.
- b. Select the object(s) in 3D.
- c. Click **Add Object**.

5. Add more steps to the Sequence by following Step 3 & 4 above.

Note: As you add objects to the steps then will be hidden when you go to the next step in the Sequence.





6. **Add notes or instructions** into the **Instructions** field for each step.
7. **To delete steps from a Sequence:**
 - a. **Select a step** and click **Remove (X)**.
 - b. Any objects in the step will now be available to be used in other steps.
 - c. The step will be deleted, along with the corresponding View in the Sequence's View Group
8. When you are finished, click **Save**.
9. You will be prompted to share the Sequence with other users. Click Ok.
 - a. A new View Group will be added to your Views Strip.
 - b. Sequence View Groups will have the **Sequence icon** (🔄) in the right corner.

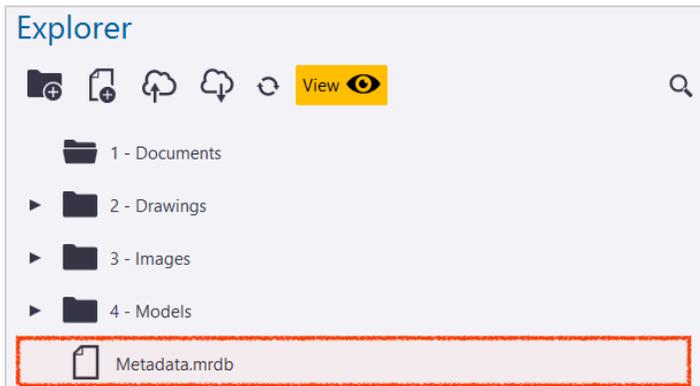


Notes

If no steps were added as a part of a Sequence the corresponding View Group will be removed when you exit the 3D Viewer.

After the Sequence is saved, the **Metadata.mrdb** file will be created at the project root folder. This file is necessary for the sequencing feature to work as expected. Users are expected not to explicitly work with this file.

When the user opens a project, if the **Metadata.mrdb** file already exists in the project, it is mandatory for the user to wait until the Project sync is complete. After the sync is complete, the latest sequence details will be available.



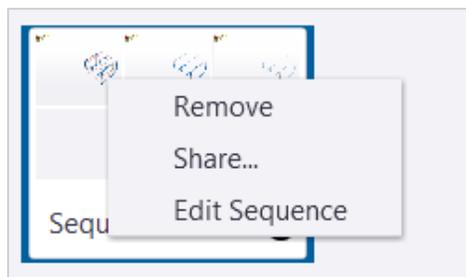
Edit an Existing Sequence

An existing Sequence can be edited or updated. This includes:

- Adding new steps
 - When a new step is added to an existing sequence, you have to explicitly share the sequence again with the assignees
 - If you do not share the Sequence again, the users will not be able to see the changes.
- Edit existing steps and the content of those steps
- Remove steps

Edit a sequence

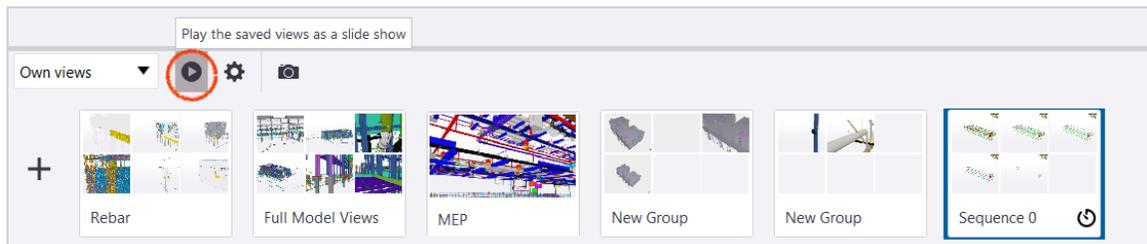
1. Right click on the Sequence's View Group
2. Click **Edit Sequence**



Play a Sequence

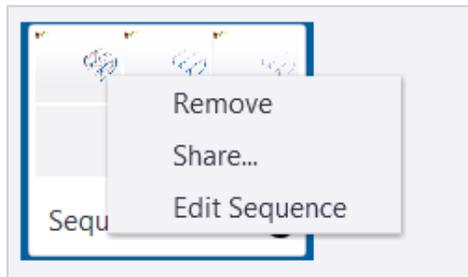
Users can play the sequence and verify each of the steps within the sequence. Instructions that belong to the step played are shown below the step.

To play a Sequence, select the View Group and then click **play**.



Share a Sequence

A sequence can be shared with multiple users in the project by selecting the View Group and clicking **Share** from the context menu.

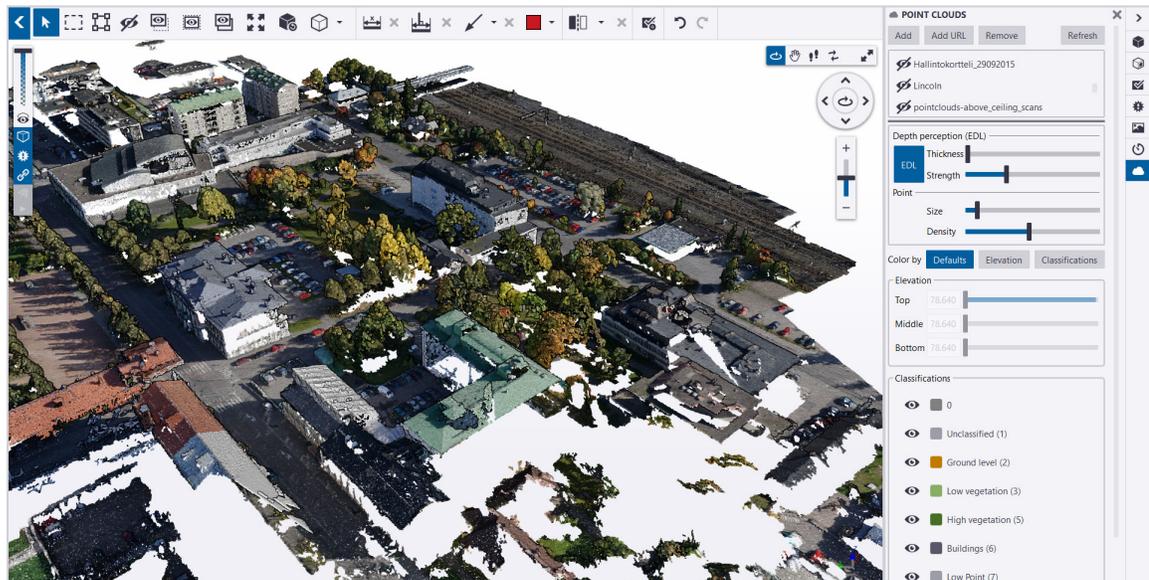


Remove a Sequence

A sequence can be deleted by right clicking on the Sequence's View Group and selecting the **Remove** option from the context menu.

Working in 3D: Point Clouds

A point cloud is a set of data points in some coordinate system. In a three-dimensional coordinate system, these points are usually defined by X, Y, and Z coordinates, and often are intended to represent the external surface of an object. Point clouds are now supported in Trimble Connect for Windows (since v1.3).



See this feature in action:

[Check as-Built Structure with Point Cloud in Trimble Connect](#) ►

Point Clouds

Point clouds can be added to Trimble Connect for Windows by clicking the **Add** button in the Point Clouds Tab, and choosing a suitable *potree folder* or file containing point cloud data.

- A Point cloud URL cache has been added and is stored in the default cache location:
c:\users[username]\AppData\Local\trimble\trimble connect\import\PotreeURLCache
- Location uses the same setting as point cloud import (Settings -> General -> Point clouds).

- Cache file max size is can be changed in registry: PointClouds.DiskCacheInGigabytes, default value is 10 gigabytes.
- Setting cache size to 0 disables caching.

PointClouds.DiskCacheInGigabytes	REG_SZ	10
PointClouds.EdlStrenght	REG_SZ	6
PointClouds.EdlThickness	REG_SZ	2
PointClouds.MemoryCacheInMegabytes	REG_SZ	200.0
PointClouds.PointDensity	REG_SZ	0,1
PointClouds.PointSize	REG_SZ	1

The registry settings are stored in the following hive:
 HKey_Current_User\Software\Trimble\Trimble Connect\Settings

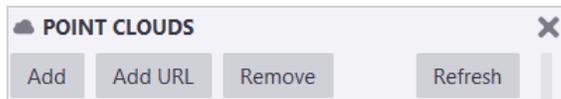
Supported Point Cloud File Formats

FILE TYPE	DESCRIPTION
LAS	A binary format for storing uncompressed LiDAR (Light Detection and Ranging) data.
LAZ	A binary format for storing compressed LiDAR (Light Detection and Ranging) data.
XYZ	A text file format that can be read by Point Cloud Manager.
TDX	A file format that can have both point clouds and (panorama) images. It can be used for example by transferring data between Trimble Realworks and Trimble Business Center.
TZF	A highly compressed file format for scanned point clouds used in Trimble Realworks.
E57	A format for storing point clouds, images and metadata produced by 3D imaging systems, such as laser scanners.
URL	Point clouds can also be added through web URL by clicking the Add URL button and choosing a suitable URL.

Adding Point Clouds

In the Data Tab, a "Point Clouds" folder is created. This folder contains a file that has the same name as the point cloud folder; this file contains the path to the actual point cloud folder. That way, the folder can be shared easily if it is found in a shared location.

Point clouds can be added to Trimble Connect for Windows by opening the Point Cloud Tab (☁) and clicking the **Add** button in the Point Clouds Tab, and choosing a suitable *potree* folder or file containing point cloud data.



Sharing Point Clouds

Points clouds can also be shared if they are found in a shared location. To do so, upload the file that was created automatically in the point clouds folder in the Data Tab, and then share the project with other users. Once they open the project and download the file locally, they will have access to the point cloud from the Point Clouds Tab.

If the point cloud folder isn't in a shared location, the point cloud will not be able to be displayed in 3D View. This is indicated by the point cloud title being red.

Removing Point Clouds

Point clouds can be removed from Trimble Connect for Windows using the Remove button found next to the Add button in the Point Clouds Tab. The point clouds list can also be refreshed if needed (when doing changes to a point cloud from the Data Tab, it won't be updated automatically in the Point Clouds Tab).

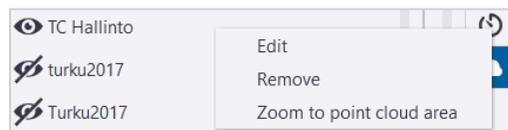
Viewing Point Clouds in 3D

It is possible to hide/show the model using the visibility icon next to it, like in any other tab.

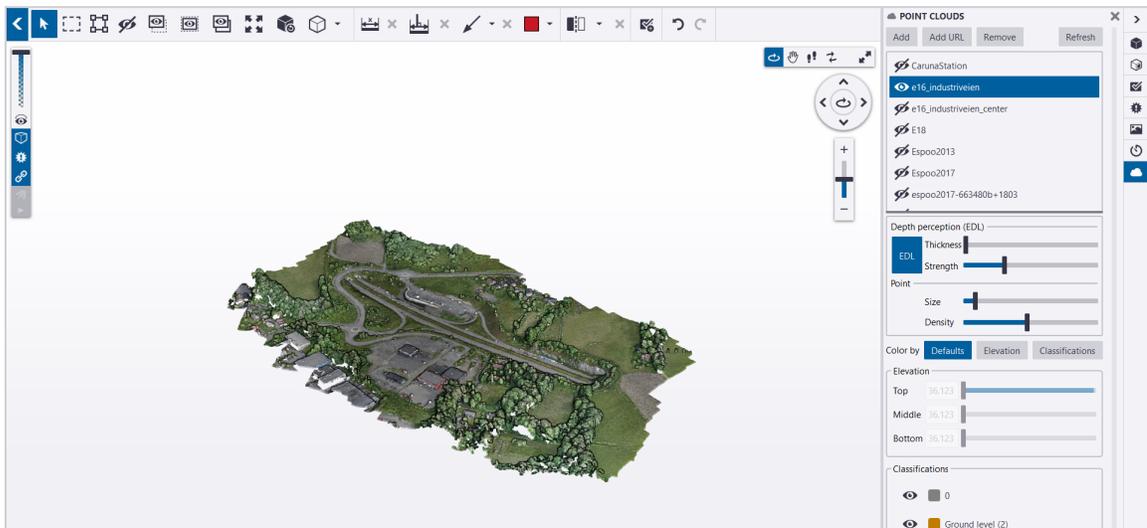
It is possible to fit the point cloud to view by selecting the point cloud in the list, press space bar, or double clicking the point cloud.

The context menu (opened by right clicking) allows you to

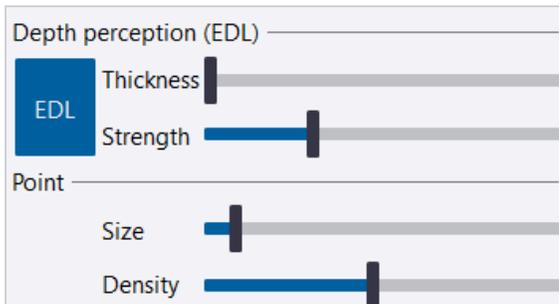
- Edit the Point Cloud
- Remove a point cloud from the project
- Fit the point cloud to view



Point Clouds Tab



Depth Perception

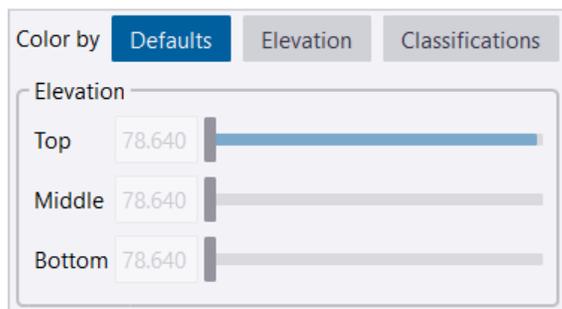


OPTION	DESCRIPTION
EDL	<p>The EDL (Eye Dome Lighting) technique is used in Trimble Connect for Windows. The EDL allows to enhance a viewer's perception of a point cloud, by adding contour and basic shading. EDL thickness, EDL strength, point size and point density values are saved to registry so values are remembered between sessions.</p> <p>Point clouds depth perception can be affected in different ways by adjusting the EDL effect. EDL is activated by default when adding a point cloud, but it can be disabled by clicking the EDL button. When disabled, EDL's thickness and strength cannot be changed anymore.</p>

OPTION	DESCRIPTION
Thickness	The thickness parameter gives how big of an area around every point to include in the calculations, a bigger area resulting in a more sensitive distinction between the points.
Strength	The strength parameter sets how heavy of emphasis should these distinctions be given. Thickness and strength by dragging the related sliders.
Point Size Point Density	Point size and density can also be adjusted by dragging the sliders. This affects all points currently shown in 3D.

Coloring Point Clouds

When adding a point cloud, the default coloring is used. However, this coloring can be changed to use either the points elevation or the model classifications.



Color by Elevation

Once clicking Elevation, the color is defined for all points depending on their elevation. Three values have to be defined:

- Top
- Middle
- Bottom

Elevation values can be changed either by dragging the sliders, or by writing the wanted values in the editing fields. The range of possible values for each elevation is defined by the others elevation. Thus, the range for Middle elevation is always between the highest value of Bottom elevation and lowest value of Top elevation.

How coloring works:

- Points with an elevation equal or above the defined Top value are colored in red;
- Points with an elevation equal or under the Bottom value are colored in blue.
- Points with an elevation included between Top and Bottom values are a blend of green and red, or green and blue, depending on the range and middle value. The closer from the Bottom value, the more blue; The closer from the maximum value, the more red.

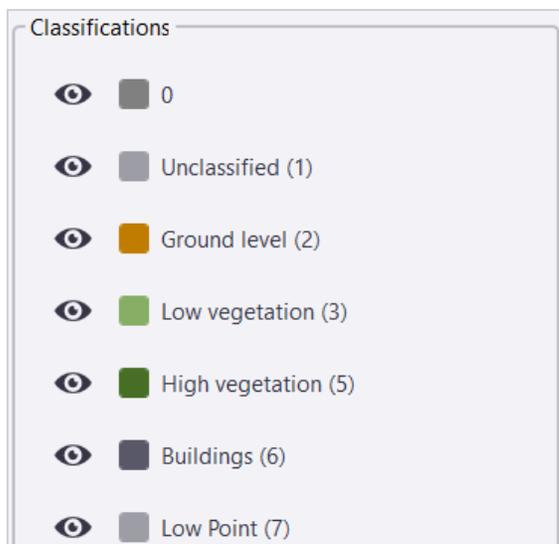
Color by Classification

Classifications can also be used as coloring. All points will be colored based on their classifications. Classifications colors are shown under the classifications section of the Point Clouds Tab.

Point Cloud Classifications

Once the model has been added to Trimble Connect for Windows correctly, its classifications are added under the classifications section.

Parts of the point clouds can be hidden by using the visibility icons next to classifications. Points that belong to that classification will be hidden accordingly.



Resources & Training Material

Trimble Connect App Store

Trimble Connect Apps expand the capabilities of Trimble Connect by integrating with multiple applications to increase workflow efficiency and productivity.

Accessing the App Store

You can access the [Trimble Connect App Store](#) while logged in Trimble Connect by clicking the App Store icon in the top right corner.

You can browse and download available apps that can integrate with Trimble Connect.

The screenshot displays the Trimble Connect App Store interface. At the top left is the Trimble Connect logo. In the top right corner, there are icons for search, user profile, help, and a grid icon (the App Store icon), which is highlighted with a red arrow. The main content area is titled "Connect Applications" and features several application cards:

- Trimble Connect for Windows:** A powerful desktop tool for construction project collaboration. Includes a "64-bit (v1.10.0.248)" download button and a "Learn More" link.
- Trimble Connect for Mobile:** An on-site mobile app to digitalize fabrication and construction site work. Includes "Available on the App Store" and "Get it on Google play" buttons and a "Learn More" link.
- Trimble Connect for Mixed Reality:** A mixed reality app that will transform the way we consume and interact with our data. Includes "Get it from Microsoft" and "Buy now" buttons and a "Learn More" link.
- Trimble Connect Sync:** A desktop tool to synchronize files among project collaborators. Includes "32-bit (v2.44.31.0)", "64-bit (v2.44.31.0)", and "Mac (v2.44.8.0)" download buttons and a "Learn More" link.
- Trimble Connect for REVIT:** Add-in to upload files to Trimble Connect from within Autodesk Revit. Includes "2019 (v1.40.3)", "2020 (v1.40.3)", and "2021 (v1.40.3)" download buttons and a "Learn More" link.
- Trimble Connect Visualizer:** Visualizer is now available to users with Business or Business Premium subscriptions. Includes a "Windows Installer Download" button and a "Learn More" link.

Below the "Connect Applications" section is the "Business Premium Extensions" section, which includes:

- Status Sharing Tool:** Status Sharing is now available to users with Business Premium subscriptions. Includes a "Learn More" link and an "Upgrade to Business Premium" button.

Skill Builder Videos

Basics

- [2D Drawing Review ▶ New](#)
- [Creating a New Project ▶](#)
- [Creating Clash Sets ▶](#)
- [Creating Groups & Inviting Users ▶](#)
- [Managing Folder Permissions ▶](#)
- [Microsoft Office 365 Integration ▶](#)
- [Viewing Project Files ▶](#)

Other

- [Trimble Connect Visualizer: Constructible Rendering ▶](#)
- [Trimble Connect Visualizer ▶](#)
- [Creating a Sequence in Trimble Connect for Windows ▶](#)
- [Sequencing a Model in Trimble Connect for HoloLens ▶](#)
- [Check as-Built Structure with Point Cloud in Trimble Connect ▶](#)

User Guides & Documentation

For more Trimble Connect User Guides and other useful information, click on any of the links below.

Specifications

[Applications Feature Comparison](#) ↓

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User Guides

[Trimble Connect for Browser User Guide](#) ↓

[Trimble Connect for Browser 3D Viewer User Guide](#) ↓

[Trimble Connect for Browser 2D Viewer User Guide](#) ↓

[Trimble Connect for Mobile User Guide](#) ↓

[Trimble Connect Sync User Guide](#) ↓

[Account Administration Dashboard User Guide](#) ↓

[Trimble Connect Revit Add-In](#) ↓ **New**

