

Leica Geosystems Release Notes

Product Leica CloudWorx 2021.0.0 for Revit
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What's New

This is a major release including support for Revit 2021, Cyclone ENTERPRISE, direct connection to Cyclone REGISTER 360, opening multiple point cloud sources in a single CloudWorx project, and TruSpace improvements.

Cyclone ENTERPRISE Support

Note: Cyclone ENTERPRISE is not released. All information to follow applies to the future release of Cyclone ENTERPRISE.

Leica Cyclone ENTERPRISE is a new, user managed software platform for reality capture project delivery and management. Powered by JetStream technology, Cyclone ENTERPRISE allows reality capture professionals serving all industries to scale from a file-based workflow to a collaborative server and deploy a secure, flexible and self-managed operation.

Leica Cyclone ENTERPRISE offers a range of benefits for new and existing reality capture users:

- Centralised Management: Control user and data management from a simple online, browser-based admin portal
- Seamless Integration: Interoperability with all major CAD products from Hexagon, Autodesk, Bentley, AVEVA, Dassault Systems and others via CloudWorx and JetStream powered technology, delivering rich reality capture-based feature extraction and analysis workflows
- Secure Project Access: Provide secure access to internal and external users on a per project basis. No data leaves the premise. Sessions are managed centrally and remotely.
- Single Source of Truth: Eliminate redundant and duplicated data sources and enable a common project view thereby improving quality and productivity
- Web and Desktop Access: Access via desktop viewer and CAD as well as the no-install online viewer for quick viewing and collaboration from anywhere on any device
- Powered by JetStream: Cyclone ENTERPRISE harnesses the power of Leica JetStream technology for rapid visualisation and powerful collaboration

With this release, CloudWorx now supports consuming Cyclone ENTERPRISE projects with the full contents of a project, including:

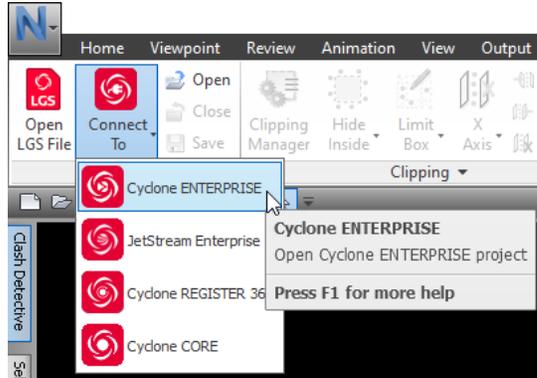
- Point Cloud (RGB, Greyscale, Hue Intensity)
- Imagery (LDR, HDR, IR)
- SiteMap(s)
- UCS(s)
- Clip(s)
- GeoTags
- Assets
- Snapshots/Markups

Publishing to Cyclone ENTERPRISE requires a Cyclone PUBLISHER or Cyclone PUBLISHER Pro license.

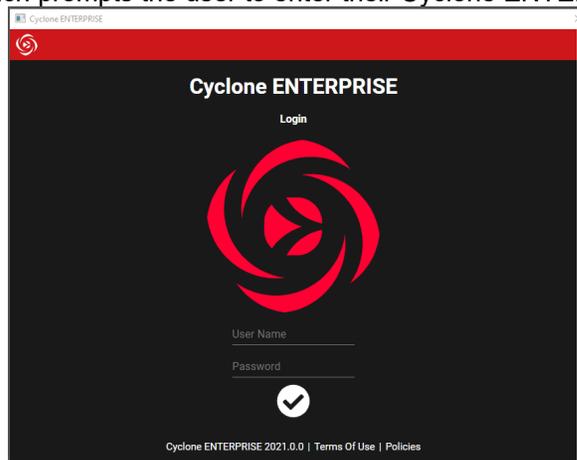
Connecting to Cyclone ENTERPRISE from CloudWorx requires an ENTERPRISE Connector license.

To connect to Cyclone ENTERPRISE from CloudWorx:

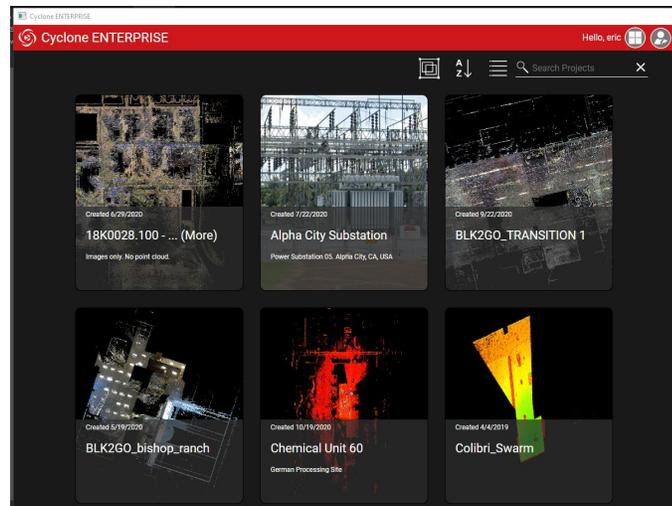
1. Click the *Connect To* dropdown in the CloudWorx Ribbon.



2. Select Cyclone ENTERPRISE.
3. A dialog will appear which prompts the user to enter their Cyclone ENTERPRISE credentials.



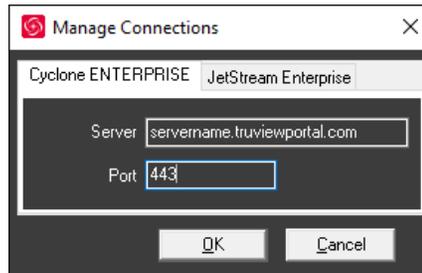
4. Upon entering valid credentials, users will be presented with a list of projects which are accessible to them based on the rights assigned to them within Cyclone ENTERPRISE.
5. Select a project.



6. The project will load within the CAD application.

To configure a connection to Cyclone ENTERPRISE:

1. Select *Manage Connections* from the Project dropdown in the CloudWorx ribbon
2. Enter your server name and port number in the Cyclone ENTERPRISE tab (**Note: You do NOT need to include 'http' or 'https' in the server name.**)
3. Click OK



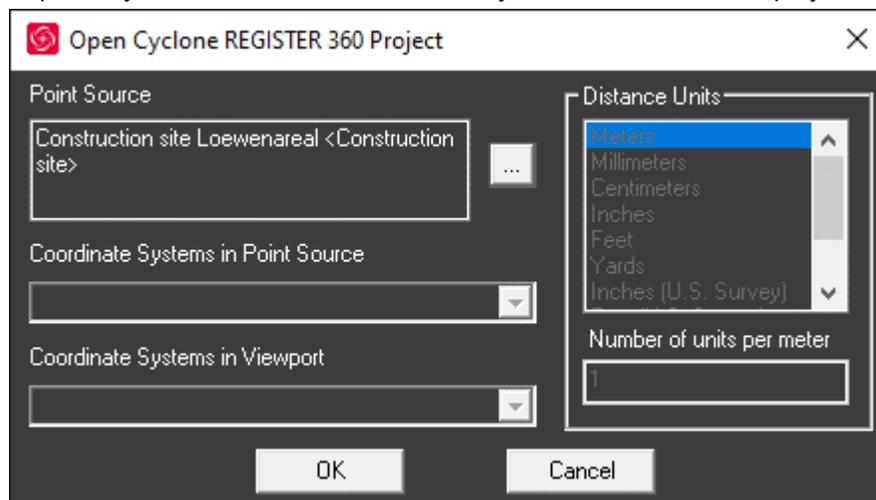
Direct Connect to Cyclone REGISTER 360

With this release, CloudWorx 2021 users can now connect directly to Finalized Registrations in Cyclone REGISTER 360 to access project data without publishing to a server or exporting to an LGS file. To access this feature, the project must be a Finalized Registration and Cyclone REGISTER 360 and CloudWorx must be installed on the same computer.

By connecting directly to a Finalized Registration, users can eliminate the time spent publishing to LGS or a server product and reduce the possibility of redundant LGS files causing confusion.

To connect to Cyclone REGISTER 360 or Cyclone REGISTER 360 (BLK Edition):

1. Select *Connect To* in the CloudWorx Ribbon.
2. Select Cyclone REGISTER 360.
3. A dialog will open prompting the user to select a project in Cyclone REGISTER 360. Projects which do not have Finalized Registrations and Finalized Registrations which do not include point clouds will not be accessible from this menu as they are not supported by CloudWorx.
 - a. Select the "..." button under Point Source and pick the desired Finalized Registration.
 - b. Optionally, select one of the coordinate systems available in the project.



4. Select *OK* to import and view the project.

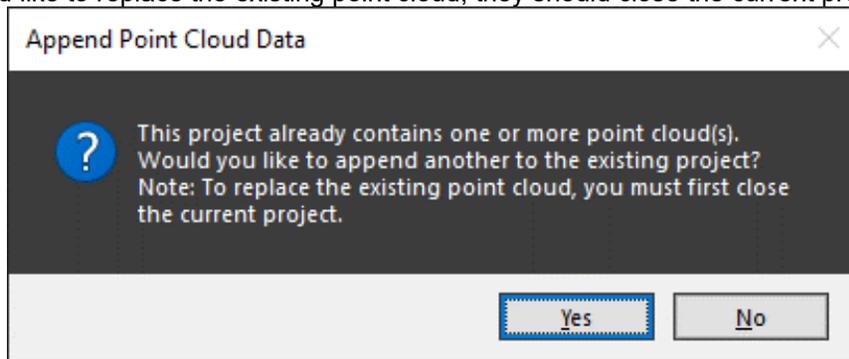
Cyclone REGISTER 360 projects opened in CloudWorx are read-only. CloudWorx can access any existing content such as GeoTags and Assets, but will not be able write any information back, such as editing GeoTags, creating Snapshots, etc. These features are disabled.

Connecting to Cyclone REGISTER 360 requires a Cyclone PUBLISHER Standard, or Cyclone PUBLISHER Pro license.

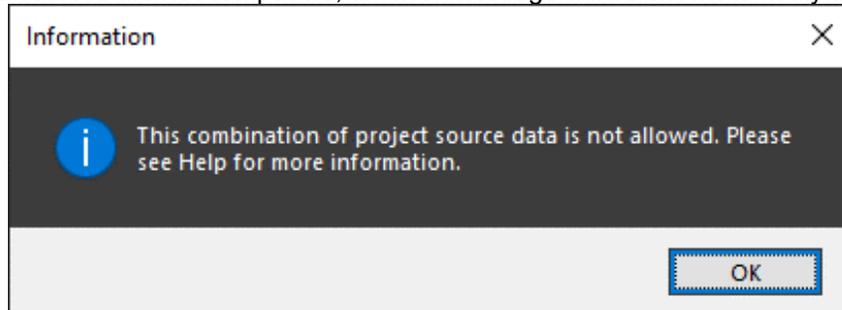
Multiple Point Sources

With the 2021 release, it is possible to open multiple point clouds within the same project. The first point cloud is opened as normal and becomes the reference frame. Other point clouds, if the source is compatible with the existing point cloud, can be appended to the same project. See further below for a table of cross-compatible point sources.

If the user would like to replace the existing point cloud, they should close the current project first.



If the point cloud sources are not compatible, an error message will be shown to notify the user.



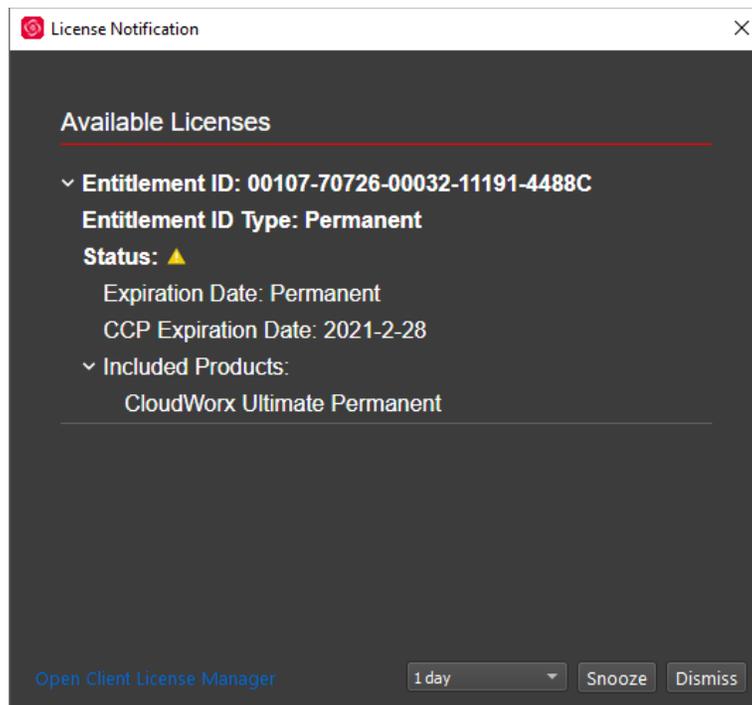
The following table describes the data sources that are compatible for simultaneous opening:

Point Source	LGS	Cyclone ENTERPRISE	JetStream Enterprise	Cyclone REGISTER 360	Cyclone CORE
LGS	✓	✓	✓	✓	
Cyclone ENTERPRISE	✓	✓		✓	

JetStream Enterprise	✓		✓	✓	
Cyclone REGISTER 360	✓	✓	✓	✓	
Cyclone CORE					✓

License Notifications

With the 2021 release, users will now be presented with license status notifications as they near expiration and renewal dates. The notification will only appear for EIDs that contain a licensed seat for the current application. License notifications will empower users to easily manage their collection of licenses and check in on the health of their licenses.



Users will first be presented with notifications 30 days prior to the expiration or renewal date of the product which they are actively running. Users may snooze the notifications until later or dismiss them altogether.

Users can view the following license information from within the dashboard:

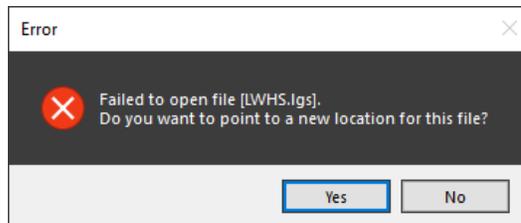
- Entitlement (EID) in use
- EID type
 - Permanent
 - Subscription
 - TimeLimited
 - Evaluation

- Education
- Enterprise Elite
- Demo
- Training
- Beta
- EID Status
- Date of EID expiration
 - Note: Permanent EIDs will not show any expiration date, they will only show a CCP expiration date
- CCP Expiration:
 - Note: only permanent licenses will have a CCP expiration date.
- What products are available on the EID in use

Reconnect LGS file

Users will be prompted immediately upon opening a CloudWorx project if the LGS file cannot be found. To reconnect the file:

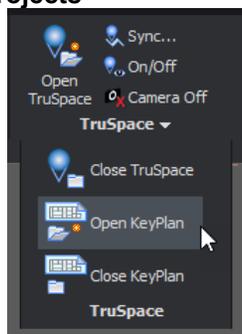
1. A dialog will open stating that the file could not be found.



2. Select *Yes* to browse to the LGS file.
3. Select the appropriate file and select *Open*.
4. To update the file location, save the project. If the project has not been saved before closing, the user will be prompted to save it with the new LGS location.

TruSpace Improvements

Open KeyPlan now supports JS/LGS projects



The Open KeyPlan function in TruSpace has been updated to support SiteMaps in Leica JetStream technology-based point cloud projects (LGS files, JetStream Enterprise projects, Cyclone ENTERPRISE projects). When a user selects this option, the project's SiteMap (if available) will be loaded within TruSpace to allow a user to jump to a specific Setup. If connected to a Cyclone ModelSpace View, this button will still launch an associated Cyclone KeyPlan (if available).

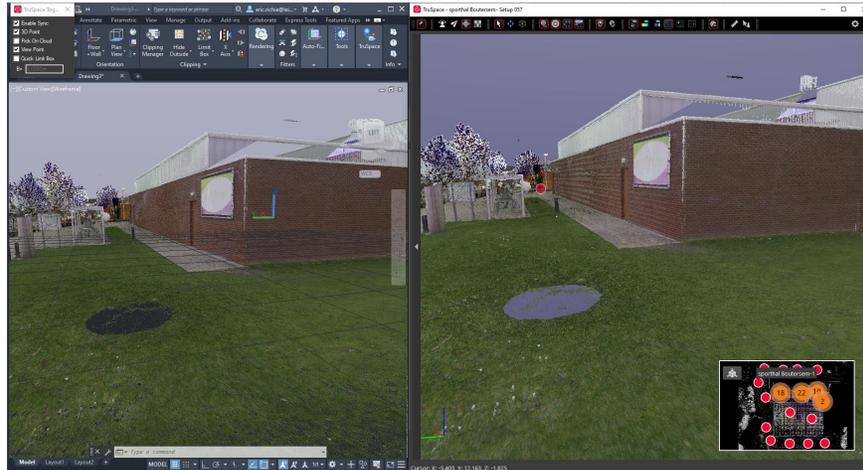
If a project contains multiple SiteMaps, the Master SiteMap will be launched, and the user can navigate to other SiteMaps as needed.

Jump to nearest Setup at launch

When launching TruSpace, users can now be placed immediately at the nearest Setup location to their selected point in the main viewing window rather than having to select the Setup from a list. This provides a streamlined entrance into TruSpace and quickly orients the user to their location in the cloud.

Support for 3D navigation in TruSpace

Users can now move in 3D within TruSpace to control their view and movement with precision rather than being confined to Setup positions. Users will be familiar with these navigation modes from Cyclone REGISTER 360 and TruView (formerly JetStream Viewer).

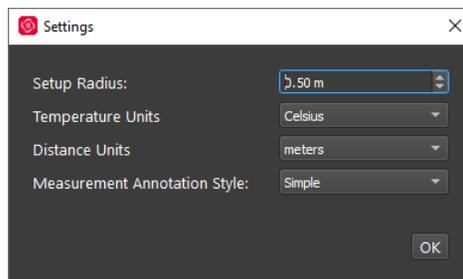


TruSpace view is offset from the Setup location.

Settings panel

Users can now manage tool settings centrally from a settings panel within TruSpace. The following settings can be controlled from the settings panel:

- Size (by Radius) of the Setup spheres
- Temperature Units
- Distance Units
- Measurement Annotation Style (Simple or Advanced)



New Measurement Annotation Style

With this release, the user now has the option of selecting from either Simple or Advanced measurement modes within the settings panel. This change allows users to have greater control over the display and level of detail of information that is presented for each measurement.



Advanced Mode displays all of the information that is currently presented to the user including the coordinates of each point plus the slope (linear) measurement and the horizontal (XY) measurement.



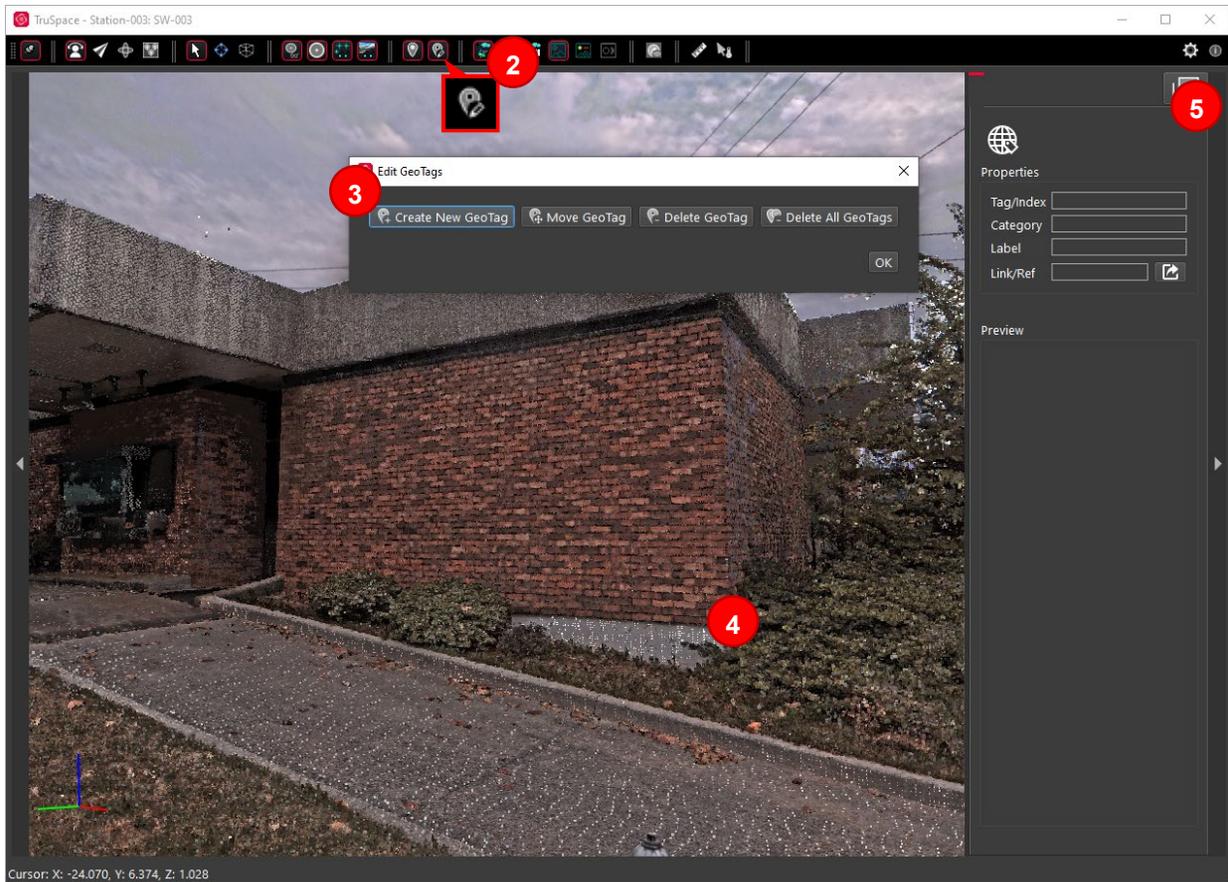
Simple Mode- displays only the slope (linear) measurement and the horizontal (XY) measurement.

Create and edit GeoTags in JetStream Enterprise and Cyclone ENTERPRISE projects

Users can now create and edit GeoTags when working with JetStream Enterprise and Cyclone ENTERPRISE projects. This allows users to work collaboratively with other stakeholders who may be accessing projects through other CAD packages or through TruView (formerly JetStream Viewer).

To create a GeoTag:

1. Open TruSpace and navigate to a Setup location
2. Click the *Edit GeoTag* button 
3. Click the *Create New GeoTag* button on the Edit GeoTags window
4. Select a location to place the GeoTag and click
5. Enter your desired info and, if desired, attach an Asset



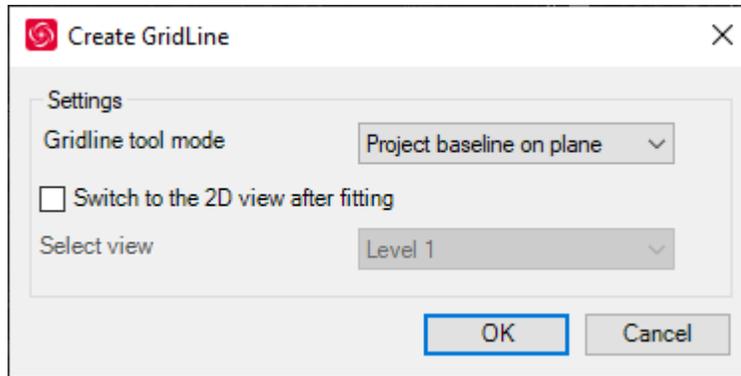
To edit an existing GeoTag:

1. Select a GeoTag in the TruSpace window
2. Edit the GeoTag via the GeoTag panel
3. When finished, click *Apply*



Set Grid tool

Users can now use the CloudWorx point cloud to create Revit gridlines for project alignment.

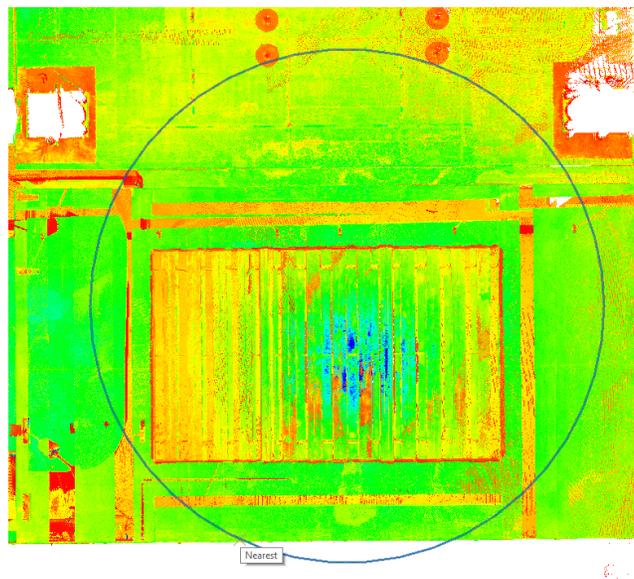


To create gridlines:

1. Click on the *Create GridLine* tool (#)
2. The Create GridLine window will open
3. Click on a wall or other plane within the point cloud to fit a grid line
4. Optionally, you may select a 2D view to switch to after the grid line is created

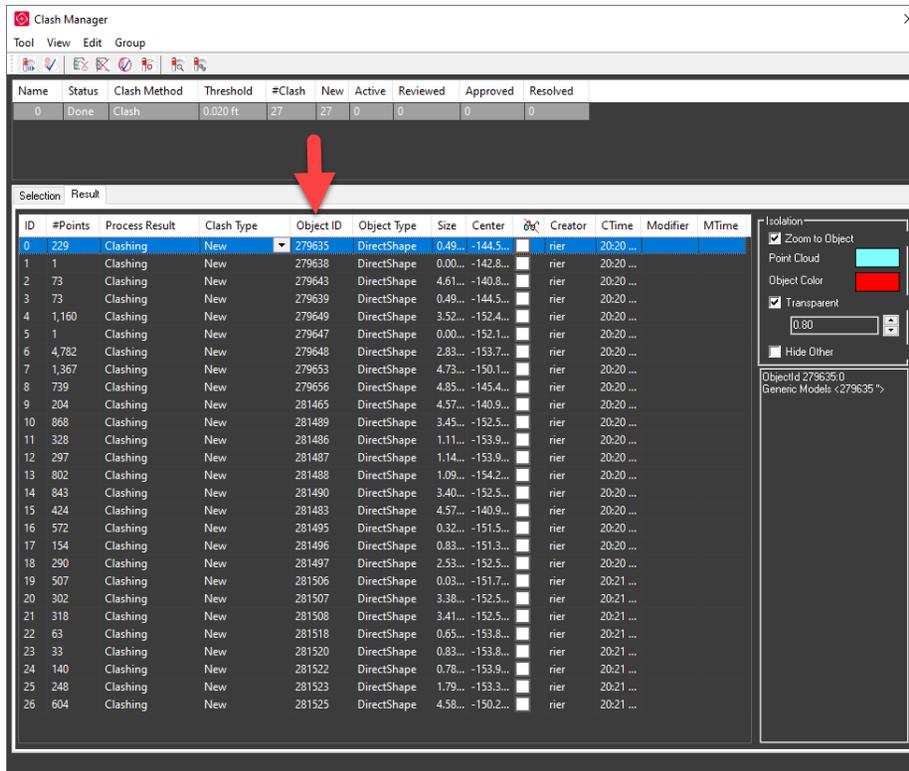
Preview Circular Fence during clipping

When using the circular fence tool, users will now be presented with a preview of the fence prior to clipping for better control over their selection.



Object ID available in Clash Manager and report

Within the Clash Manager, users will now see a column for the Object ID. Object IDs are a unique identifier associated with individual Revit objects. This will allow modelers to find a specific item using this unique identifier. Users can locate the Object ID by selecting an object, going to the manage tab and selecting *IDs of Selection*.

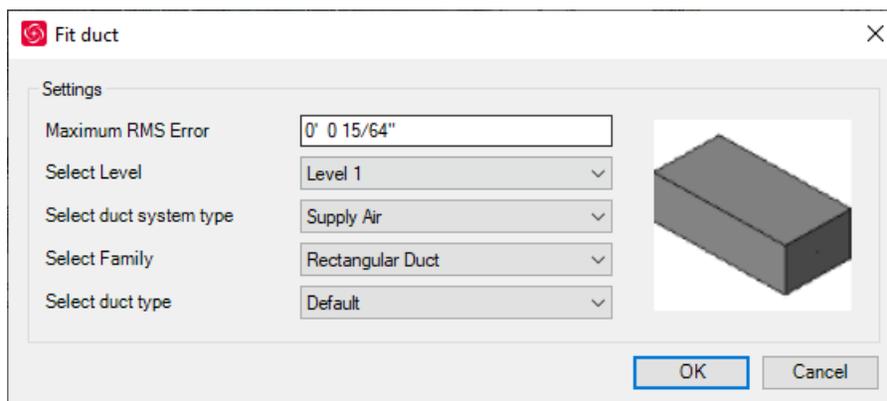


Object IDs will also be included in the report that can be exported from the Clash Manager.

New Model Types and Improvements

Fit and connect ducts

With the 2021 release, users can now fit both round and rectangular ducts using Revit families.



To fit a duct:

1. Select the *Fit Duct* tool from the fitters toolbar.
2. Select the Level to add your element to
3. Select the duct system type
4. Select a duct family:
 - Round

- Rectangular
5. Select a duct type
 6. Click on the duct in the CAD window or TruSpace.
 7. A dialog will appear that prompts the user to accept the suggested type from the catalog.
 8. If the type is not a close enough fit, select *Create new type*.
 - Define the name and size of the new type
 - A new entry will be created in the family and the new type will now appear in the list for future duct fitting.
 - Select *OK* and the duct will be placed.

Users can also connect two segments of duct. To connect ducts:

1. Select the *Connect Systems* ( *Connect Systems*) tool from the Fitters menu.
2. Select the first duct.
3. Select the second duct.
4. Adjust the connector settings as needed.
5. Select *OK*.
6. The ducts will join.

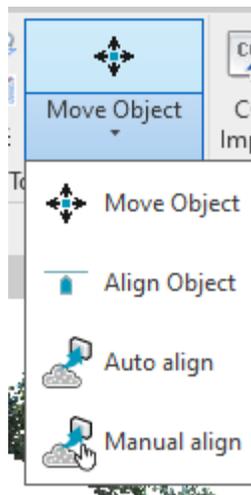
Preserve fitter settings

While using fitters, the user's settings will now be preserved to save the user time when adding many similar elements in the same area.

Fitter settings will be preserved within a single project for a single session and within a single tool. Upon launching a new session, all fitter settings will revert to default until set for the first time.

Improve Align to Model tool

With the 2021 release, the Align to Model tool has been improved. The tool now contains 4 methods for moving the cloud or objects.

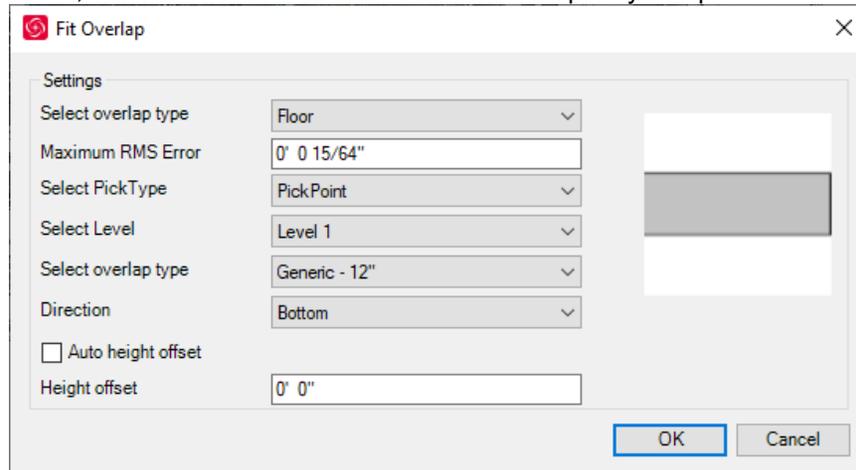


The previous Align to Model options have been split into two different windows. Additionally, two new methods have been added to align modeled objects to the cloud.

- **Move Object** – This function will move the selected model objects to a point on the cloud.
- **Align Object** – This function will snap an object to a selected plane.

Fit Floors and Roofs

With the 2021 release, users can now fit flat floors and roofs to quickly complete their model.



To fit a floor or roof:

1. Select *Fit Overlap* from the Fitters menu.
2. Choose the type of overlap (floor or roof).
3. Select the Level.
4. Select the Overlap type.
5. Select *OK*.
6. Click on the floor or roof to fit your overlap.

Zoom to Face of Revit object

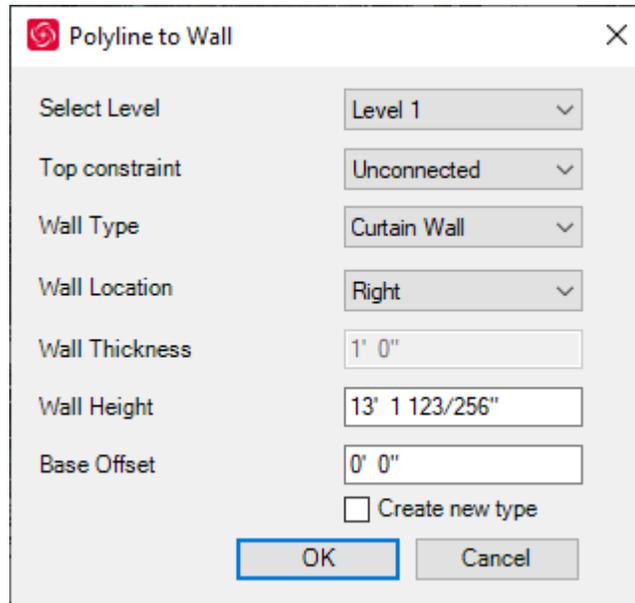
Users can now zoom to the face of a Revit object in order to quickly orient themselves in the project and square-up to a surface.

To zoom to an object face:

1. Select the *Zoom to face* () tool from the Rendering menu in CloudWorx.
2. Click on the face of an object
3. The CAD window will zoom to that face and orient the user perpendicular to it.

Improved Polyline to wall tool

The *Polyline to Wall* tool now supports the option to define a top constraint when creating your wall. This allows you to extend your wall upwards to a specified Level, without needing to know the exact height of your wall.



Bug Fixes

- Fixed a bug which prevented objects from being fattened from the camera view.
- Fixed a bug which could cause loading issues when opened in Perspective 3D from the Project Browser.
- Fixed a bug which caused the RMS error to change to 0 whenever the project units were changed to meters resulting in failures using fitting tools.
- Improved the Wall Fitter's support for slanted walls to more closely match the functionality of Revit's slanted walls.

Leica CloudWorx 2021.0.0 Compatibility and Upgrades

Upgrading to Leica CloudWorx 2021.0.0 for Revit from Leica CloudWorx 2020.0.1 for Revit

You must have Administrator-level privileges on your workstation to correctly install Leica CloudWorx software.

If using IMP data, first run the current Cyclone installer if you do not have a version of Cyclone installed. Otherwise/Next run the CloudWorx 2021.0.0 installer and follow the directions to proceed with the installation. Please heed the warning message about compatibility of earlier version databases. We strongly recommend that users not use the "Repair" option when upgrading. Rather, users should select "Remove" when it appears and then run the setup again to install the new version.

Compatibility with Leica CloudWorx 2021.0.0 for Revit AND Revit Versions

CloudWorx 2021.0.0 for Revit officially supports Autodesk Revit Architecture, MEP and Structure versions 2018-2021.

Compatibility with JetStream Enterprise

CloudWorx 2021.0.0 for Revit is compatible with JetStream Enterprise 1.3 and higher. To access the latest features, it is recommended that users update to the latest release of JetStream Enterprise 2020.1

Compatibility with Cyclone ENTERPRISE

CloudWorx 2021.0.0 for Revit is compatible with Cyclone ENTERPRISE 2021.0.0 and higher.

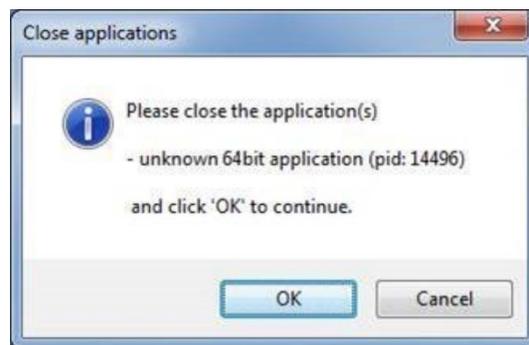
Compatibility with CloudWorx Ultimate

CloudWorx 2.1.5 (or later) for Revit is compatible with the CloudWorx Ultimate License.

Known Issues

Installing CLM while the JetStream Enterprise service is running

During installation of CLM, users may encounter the following error message. This is commonly due to a service like JetStream running in the background.



To enable the successful installation of CLM, please follow these steps:

- Launch the task manager
- Select the Services tab
- Look up the process with the PID (Process ID) shown in the Close applications dialog
- In this case it is JetStream
- Terminate the process so that CLM can be installed
- After CLM is installed, click on the Services button in the Task Manager and restart the service

Switching the JetStream Enterprise server with a JetStream Enterprise project open

CloudWorx does not support switching JetStream Enterprise servers while a JetStream Enterprise project is open. Upon attempting this action, the user will receive a message which states, "You already have a CloudWorx project open." Users should close the active project before switching servers.

Equivalent user permissions requirement

When working with IMP data, Revit must be run with the same level of user privileges as Cyclone was originally configured with. Meaning if Cyclone is configured to Run As Administrator, then Revit should be Run As Administrator to connect to Cyclone and open an IMP.

TruSpace HDS Auto-Brightness

In certain scenarios, the auto brightness setting for HDR images in TruSpace will not re-activate after being turned off and the brightness being manually adjusted. The workaround is to pan around the scene prior to re-engaging auto-brightness or adjust the brightness to the highest level then re-engage auto-brightness.

LGS usage over network

The use of LGS files is only officially supported when the files are saved locally. Due to variations between network deployments LGS files may be unreliable when hosted in a network location.

RCP Compatibility

Some CloudWorx functions are not compatible with RCP data sources.

- ScanWorld Explorer
- Clipping manager
- Rectangular fence
- Polygonal fence
- Circular fence
- Slice
- Fit steel
- Fit cable holder
- Density levels
- Silhouette mode
- Color mapping
- Orthoimage
- Floor Flatness
- Align to Model
- TruSpace

Licensing

All users with a currently valid CCP, or with CCP valid as late as 13 December 2020, can run this new version with no new license required.