- when it has to be **right**

Leica Geosystems
Release Notes

Product: Leica Cyclone 9.1.4

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Contents

What's New

Spheron image support

Cyclone can now natively import HDR panoramic imagery captured by Spheron cameras.

### *Batch import and alignment of NCTech iSTAR and SpheronVR panoramic imagery*

A new importer has been added that supports single image or batch import of iSTAR and Spheron panoramic images. Additionally, the importer provides automatic scan-to-image alignment for these external panoramic images.

Workflow for importing Spheron and iSTAR panoramic images into Cyclone:

1. Import your scan data (Leica scan data, e57, as well as most other vendor formats are supported). In addition, you must have either Spheron or iSTAR images that match the scan positions.
2. Either register your data in Cyclone, or import data that has already been registered.
3. After importing, select the ScanWorld icon or project folder (for multiple ScanWorlds) in the Cyclone Navigator window hierarchy, then right-click or from the File menu select **Import Panoramic images...**.
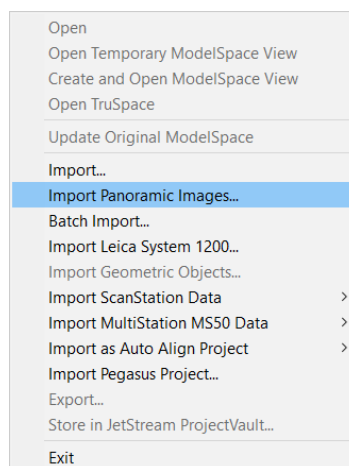
4. Navigate to the folder that contains the panoramic files and click OK.
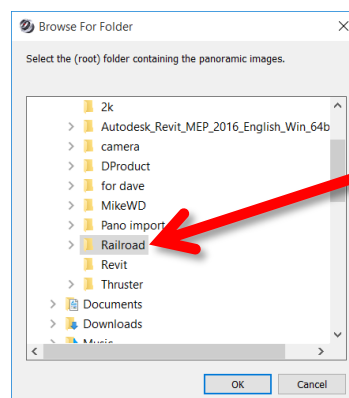
5. The **Match Images to Scans** dialog will appear and begin to load the scan and image pairs.
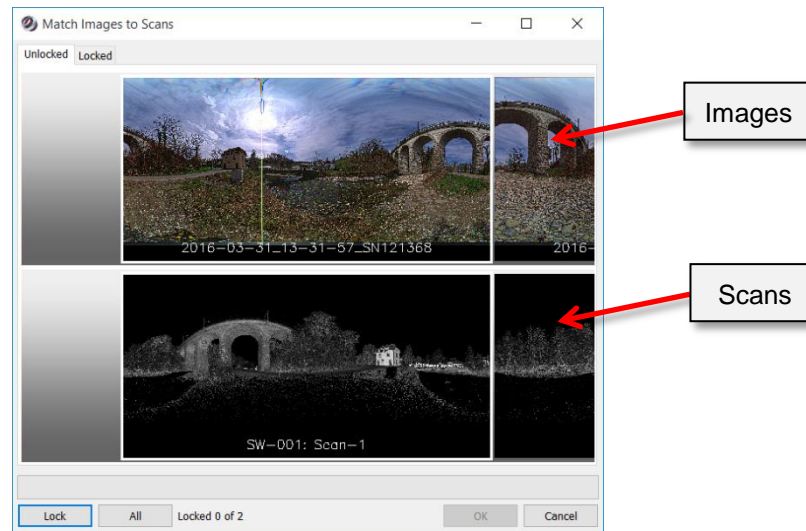
The scans are matched with the images by time stamp. The times do not need to match; Cyclone will look for the earliest time from both data sources and begin calculating matches.

6. If all the displayed pairs are matched, use the dialog's **ALL** button to move all the pairs into the Locked tab. Only pairs in the locked tab will be processed into Cyclone
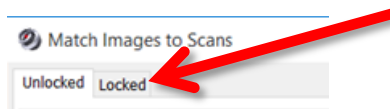

7. If the images need to be manually matched, the user can move the "film strip" of images or scans until a correct pair are displayed together. Here are a list of tools used to match the pairs manually:
    a. The active pair (or pair that will be moved to the Locked tab when the Lock button is clicked) is highlighted in Cyan\Blue.
    b. Right-click and drag moves the image or scan's azimuth in the window left or right to help matching. (The orientation/azimuth of the scan and image do not need to be aligned in the preview window. This tool is only to help the user visually identify which images and scans are pairs.)
    c. Left-click and drag moves the whole "film strip" row under the mouse cursor.
    d. Ctrl+Tab changes the rendering of the scan under the mouse cursor and will cycle through intensity hue, grayscale, and RGB.
    e. Left double click moves the row to the left or right. Left double click only works when clicked on a non-active pair.
    f. Right double click sends the active pair to the lock tab.

8. Continue through the list and match all the image/scan pairs and send them to the Locked tab.

9. Once all pairs are in the Locked tab click OK to begin processing.
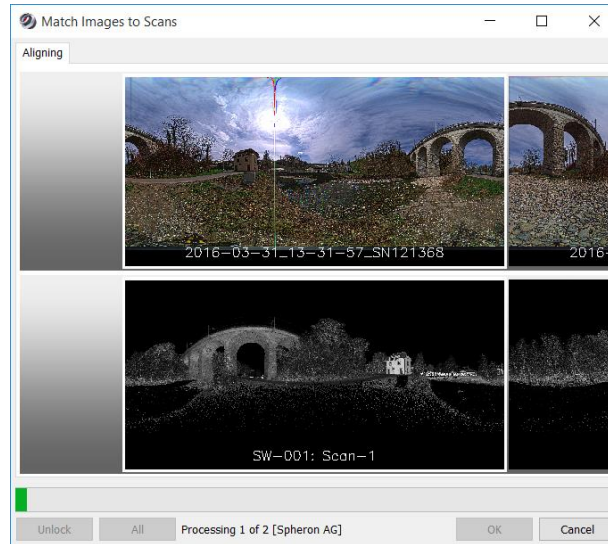
10. When finished you will be prompted to confirm the import and proceed:
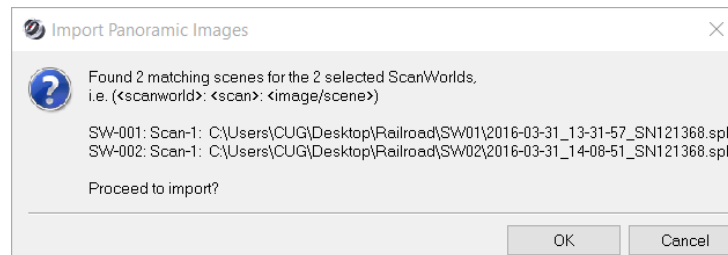
11. The import into Cyclone will proceed and new Multi-images will be created.
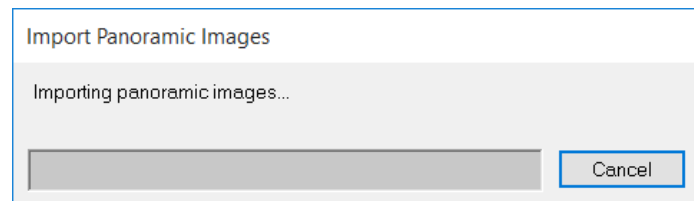
The new Multi-images will be added to the ScanWorlds, but will not replace existing Multi-images. The scan will be colored with the RGB from the new, imported Multi-image.

12. Once imported, check the new image/scan combination by selecting the ScanWorld and right clicking and selecting **Open TruSpace**.

HDR Tone Map Editor

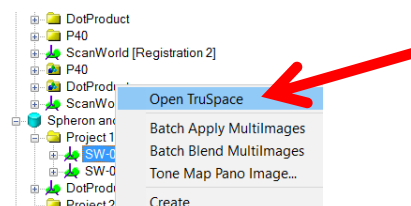When importing internal-camera HDR imagery from a P-Series ScanStation, Cyclone applies a default HDR Tone Map if the HDR option was used during image collection. External panoramic image systems, such as the Spheron, will also apply an HDR tone map to its images. Cyclone users now have an option to edit the HDR Tone Map of any HDR panoramic image through a new user interface. Users can select from different HDR algorithms, individual parameters for each algorithm, and apply the final settings to a ScanWorld's HDR panorama. Each ScanWorld's HDR imagery is editable individually for ultimate customization.

Workflow:

1. Select the ScanWorld containing the HDR imagery and click on **Tone Map Pano Image…**
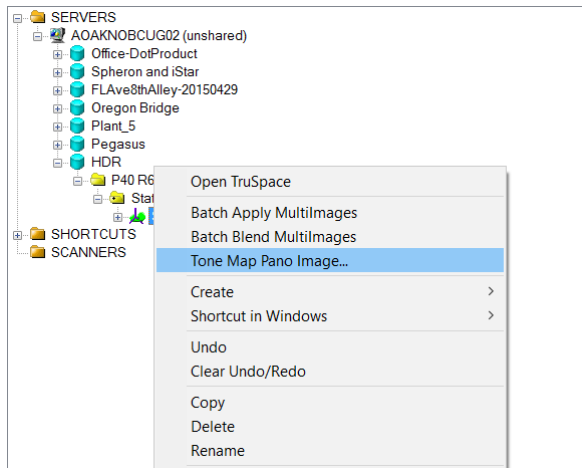
2. The Tone Map Editor will open. There are six tabs that represent the different tone map algorithms available. By selecting the tabs you can view the different results.
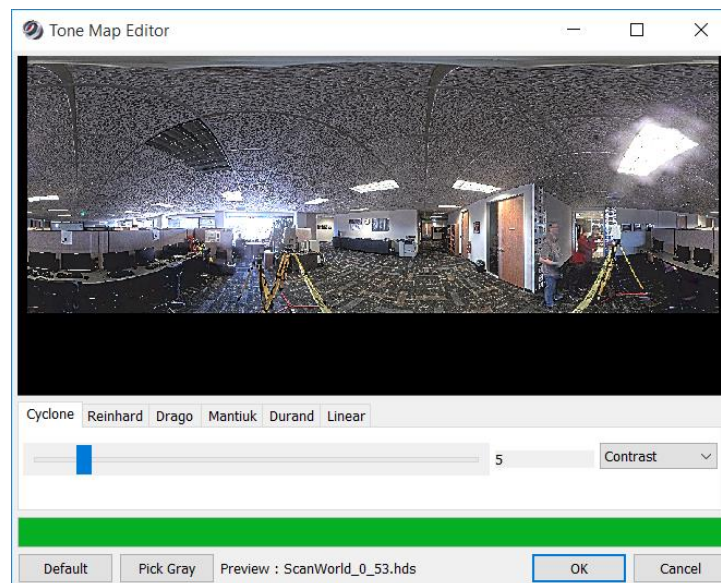
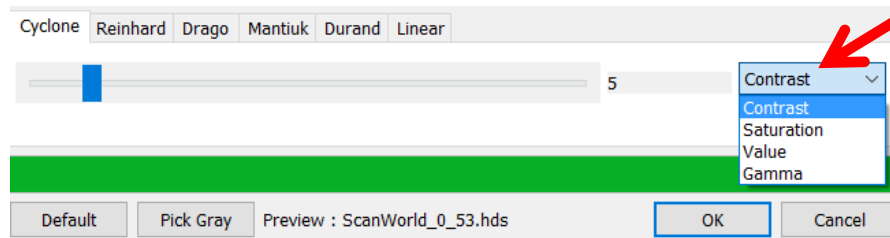3. In addition to the algorithm tabs, there are settings in a pull down menu on the right for each tone map option. Pick a selection from the pull-down and then move the slider left and right to see the change in the live preview of the image.

4. There is also a Pick Gray button. Select this button and double click a representative gray pixel on the image. The image will adjust its tonal range levels based on the pick.
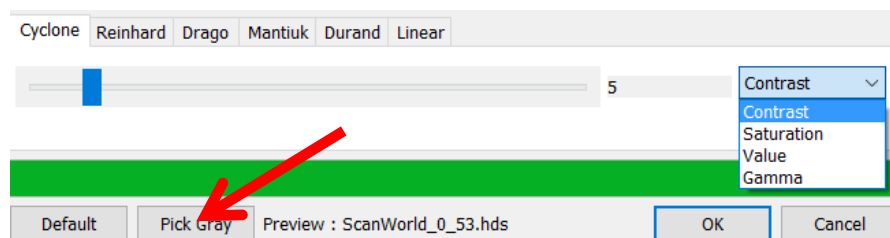
5. When satisfied with the changes, click the OK button and the HDR image will be processed into a Multi-image for the ScanWorld.

Import Leica Pegasus System Project Data

Cyclone can now directly import project data from Leica Geosystems' Pegasus series mobile and backpack systems.

Import DotProduct Data

Cyclone can now directly import *.dp* format data from DotProduct software and handheld scanners.

### Publish TruView Positions from Cyclone Camera Marker Positions

TruView positions are no longer restricted to scanner setups. Users can publish TruViews from camera object markers inserted into the ModelSpace. When publishing a ModelSpace to TruView, if camera markers exist in the ModelSpace, the user will be prompted to choose to publish TruViews from the camera positions. Currently, this is an either/or option. It is not possible to publish TruViews from both the scanner locations and the camera positions simultaneously.

This feature is not limited to static terrestrial scanner data. Users can now create TruViews from any location, in any data set, including mobile and backpack data, handheld data, aerial LiDAR data, or point clouds from UAVs.

Cyclone PUBLISHER license will now enable the insert Camera and insert Camera (Height) functionality. As in the past, Cyclone MODEL and SURVEY also turn on these features.

Workflow for publishing TruViews from camera marker positions:

1. From the ModelSpace View go to Create Object > Insert > Camera, this will insert a camera position at the screen perspective. You can also insert multiple camera positions using multi-pick, and then go to Create Object > Insert > Camera (Height)…
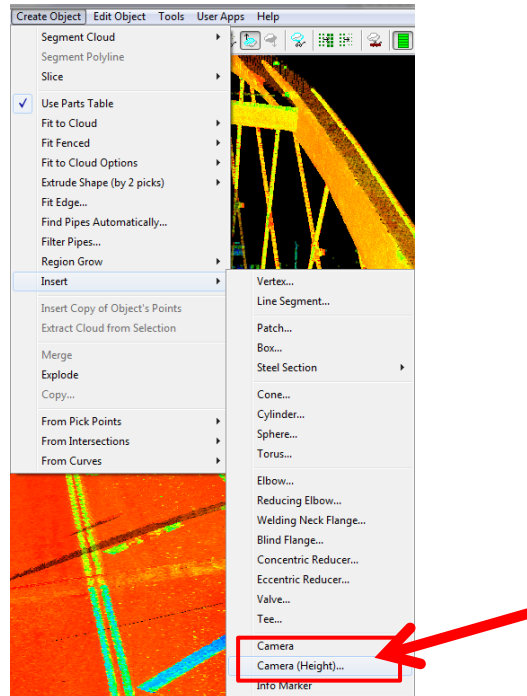
2. Once the camera positions (from either method) are placed, orient to the view from which you want the TruView SiteMap to be generated.

   NOTE: Camera positions have to be within the view to be published, and publishing from a KeyPlan will not honor the camera positions.
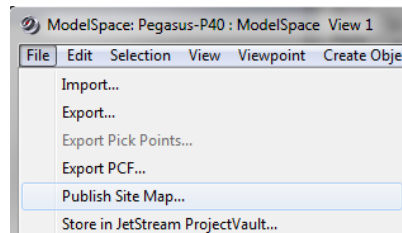
3. Go to File > Publish Site Map…
4. Browse for a folder to save the site map and TruView Files in.
5. If there are cameras in the view, Publisher will recognize them and ask if you want to publish TruViews from the camera marker positions:
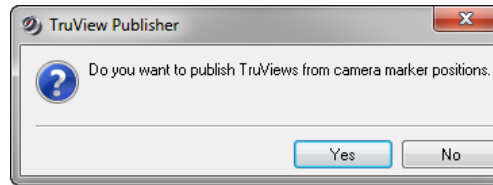
6. Continue with the Site Map and TruView Settings dialogs as normal.

Cyclone now publishes image data to JetStream ProjectVault

Cyclone will now include panoramic image data when publishing datasets to JetStream ProjectVault. This enables JetStream to utilize background panoramic images with JetStream Viewer and CloudWorx TruSpace viewers. Users must also have JetStream 1.2 or later for JetStream ProjectVault to read the image data from Cyclone 9.1.4 or later.

Additional FARO File Support at Import

Cyclone has been updated with the latest FARO SDK 5.5.3.

New CLM 1.5

CloudWorx now includes and supports Leica Client License Manager (CLM) 1.5, which offers greater stability.

Bug Fixes

- *Fixed a bug where transformation parameters were not written back correctly to .zfs files*
- *Fixed a bug where iSTAR cube maps of 2496x2496 pixels were imported as only 1248x1248 pixels*
- *Fixed a bug where the external camera Pose Editor in Cyclone was taking an abnormally long time to process P-series ScanStation data*
- *Fixed a bug where drawing a Circle Fence with a large diameter would cause Cyclone to crash*
- *Fixed a bug where the automatic Find Black & White Targets tool at import would create duplicate target vertices over targets manually acquired in the field on the scanner*

Leica Cyclone 9.1.4 Compatibility and Upgrades

Windows 10 Support

Cyclone now supports the Windows 10 operating system.

Working with Older 32-bit Windows Operating Systems

If using older computer systems with Microsoft Windows 32 bit OS (XP or Windows 7), there may be stability and memory issues while using certain functions. We recommend the following settings to offset these issues:

1. Turn off Advanced Rendering from the Initialization tab in Preferences

2. Set the Load and Display setting for pcE data to three million under the Point Cloud tab in Preferences

Cyclone Database Management Recommendation

To avoid possible database inconsistencies or corruption while moving or copying databases, we recommend the following:

- Locate each *.imp* file in its own folder
- When copying, moving or backing up databases, copy/move/back up the complete database folder, including the *.imp* file, **eventlog** folder and files, and **recovery** folder and files
- The **eventlog** records administrative events and critical errors
- The **recovery** file keeps databases consistent, avoiding data corruption that may happen in rare situations
- When adding databases to Cyclone, a warning dialog is displayed if a database's recovery folder cannot be found when it is added to the database server. Push the **More Info** button for more information.

Upgrading to Cyclone 9.1.4 from Cyclone 6.0.x – 9.1.3

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

Run the Cyclone 9.1.4 InstallShield and follow the directions in the InstallShield Wizard to proceed with the installation. Please heed the warning message about compatibility of earlier version databases.

Compatibility with Cyclone 9.1.4 AND Cyclone 8.1.3 or Earlier Versions

Cyclone 9.1.4 databases are *NOT* backward compatible with previous Cyclone versions 8.1.3 and earlier. Databases that are updated using this version of Cyclone cannot then be used with earlier versions. If you need to work with your data in older versions of Cyclone, you should make an archive copy of your database(s) prior to upgrading. Since it can take some time to update and optimize Cyclone databases, we recommend that you optimize your databases overnight, particularly when multiple databases are involved.