

# **2022.1 Cyclone REGISTER**

## **Release Notes**

Reality Capture Documentation

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## What's New

This is a major release including support for the next generation BLK360 imaging laser scanner and LiDAR data captured directly from mobile devices via Cyclone FIELD 360. From this point on the original BLK360 scanner will be referred to as the BLK360 G1.

Please reference the licensing section at the end for information about CCP compatibility.

## BLK360 imaging laser scanner

The all-new Leica BLK360 is the world's fastest, smallest, and easiest to use laser scanner that speeds up and simplifies reality capture workflows. It captures complete scans within 20 seconds and even tracks its own location with a VIS system that automatically combines your scans in the field.

Please visit [http://www\\*.blk360.com](http://www*.blk360.com) for further information.

## BLK360 Connect and Download

Users can now download their scans from the new BLK360 using either wi-fi or a direct connection with a USB-C cable. The new cable connection was a highly requested feature and decreases download times while increasing the stability of the downloads.

Users can download to either the Data Manager creating \*.blk files and a new \*.blkjob file or they can directly import scans to Cyclone REGISTER.

Any work done on FIELD 360, e.g. pre-registering & creating bundles will be synced back to the BLK360.

## BLK360 Features

The VIS functionality can ensure that scans are automatically correctly positioned to each other which makes the registration process easier and faster.

There are three settings that can be changed when the scanner is connected to a tablet using FIELD 360, BLK live app, or through the BLK Data Manager, Cyclone REGISTER 360, or Cyclone REGISTER.

- Scan Settings
  - Fast+
  - Fast
  - Dense
  - Dense+
- Image Settings
  - None
  - LDR (Low Dynamic Range)
  - HDR (High Dynamic Range)
- Set Delay
  - 1 second to 100 seconds

There are three ways to connect to and download the scans into Cyclone REGISTER.

- Cyclone REGISTER
  - Directly connect the BLK360 to Cyclone REGISTER.
- BLK Data Manager
  - Connect the BLK 360 to the Data Manager to download and create a \*.blkjob and \*.blk files.

- Import the \*.blkjob and \*.blk files into Cyclone REGISTER.
- FIELD 360
  - The BLK360 can be controlled using the FIELD 360 app Wi-Fi connection.
  - The scans can then be downloaded from the tablet or directly from the scanner.
  - Any work done on FIELD 360, e.g. pre-registering and creating bundles will be synced back to the BLK360. Importing from the BLK360 will have the updated information.

## Cyclone REGISTER

Users can either choose Wi-Fi or connect directly to the scanner.

When connecting directly to the scanner, there are 2 modes, full power, and low power.

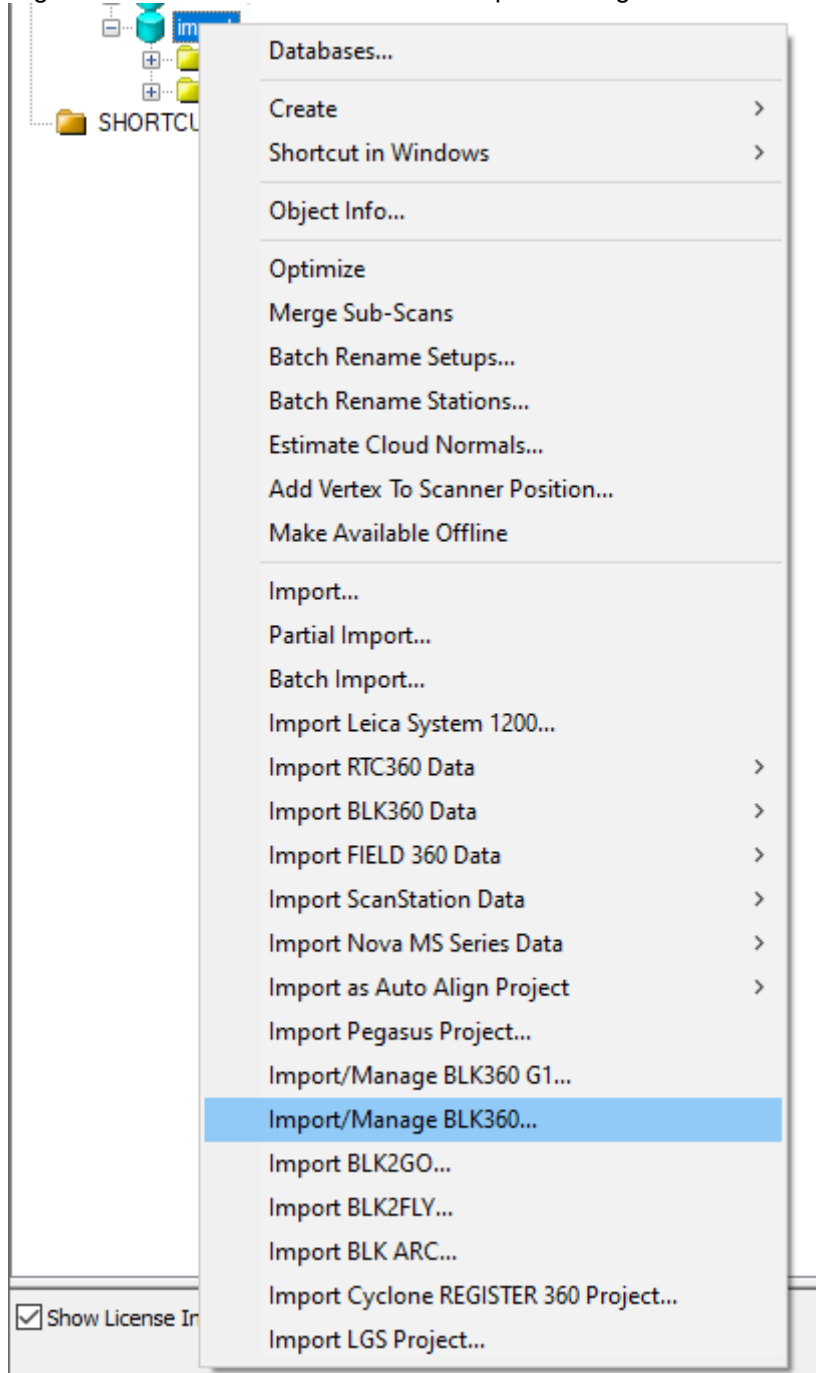
- Full Power
  - Turn on the scanner first, wait for the green light to turn on, then connect to the computer by USB-C.
  - This uses the internal battery and is good for importing smaller projects.
- Low Power
  - Connect to the computer by USB-C first, then turn on the scanner.
  - As this does not use the internal battery, it can be used to transfer larger projects taking hours.
  - Low Power is approximately 90% of the Full Power data transfer speed.

### Cable connection import workflow:

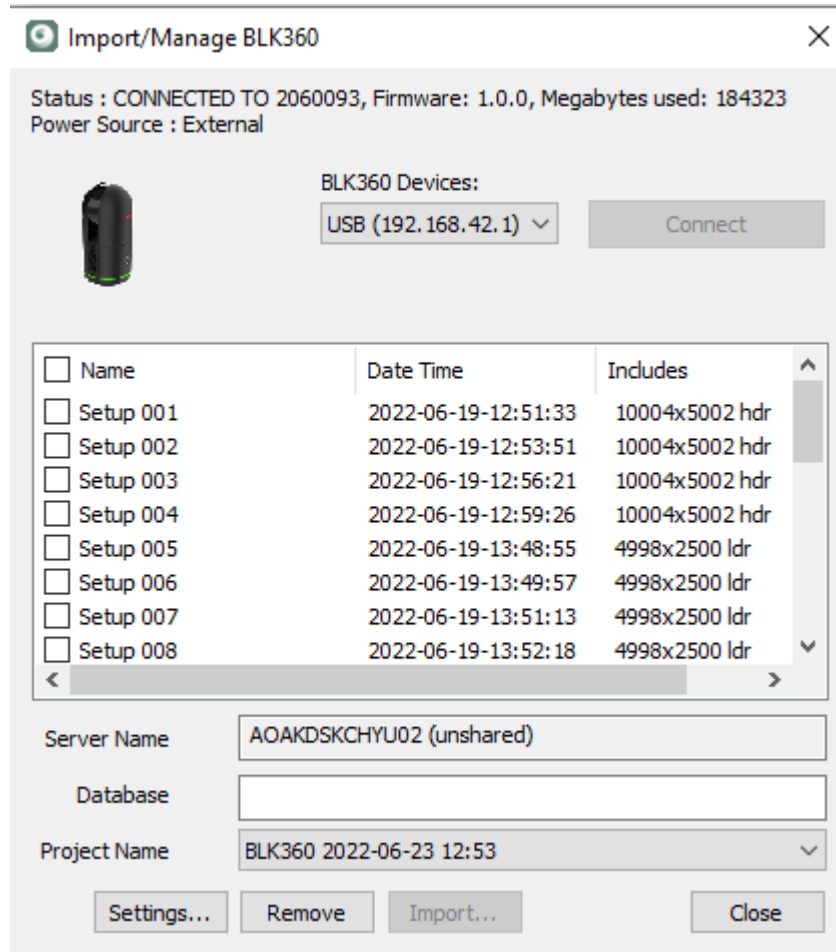
1. Open Cyclone REGISTER and create a project.
2. Connect the included USB-C cable to the scanner, using either Full Power or Low Power.



3. Right click on the database and select Import/Manage BLK360...



- Note the original BLK360 scanner is now called the BLK360 G1.



- 
- 4. Select USB-C connection type.
- 5. Select the Connect button to establish a connection to the scanner.
  - Settings for future scans may also be adjusted for future scans.
- 6. Select the scans you would like to import and click on Import.
  - Scans will then be imported.

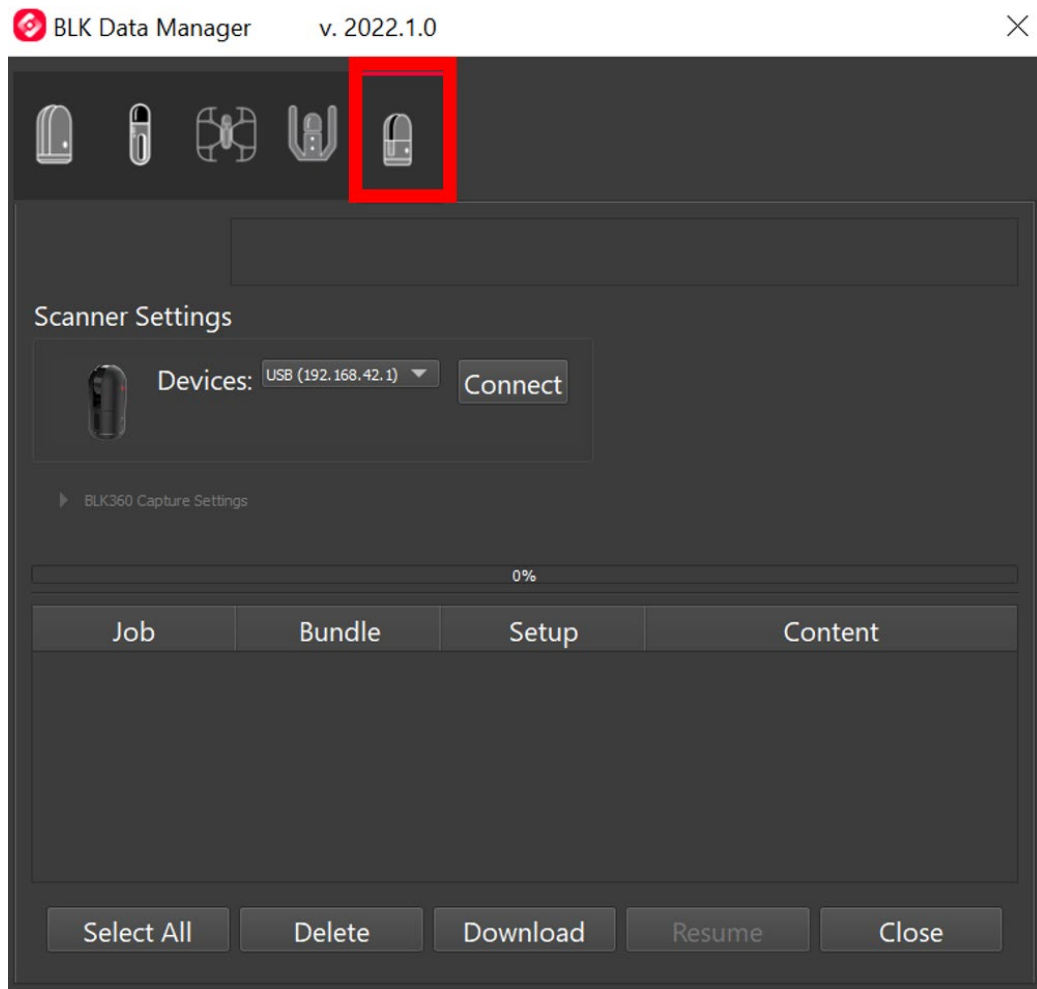
### Wi-Fi connection import workflow:

1. Connect to the wireless network of the BLK360 scanner.
  - The SSID and password can be found on the bottom of the scanner as well as the connection card which is part of the starting package.
2. Open Cyclone REGISTER and create a project.
3. Right click on the database and select Import/Manage BLK360... as shown above.
  - The older generation of BLK360 scanners is now called the BLK360 G1.
4. Select Wi-Fi from the drop-down and continue with the data download and import beginning with step 5 in the cable connection import workflow above.

### BLK Data Manager

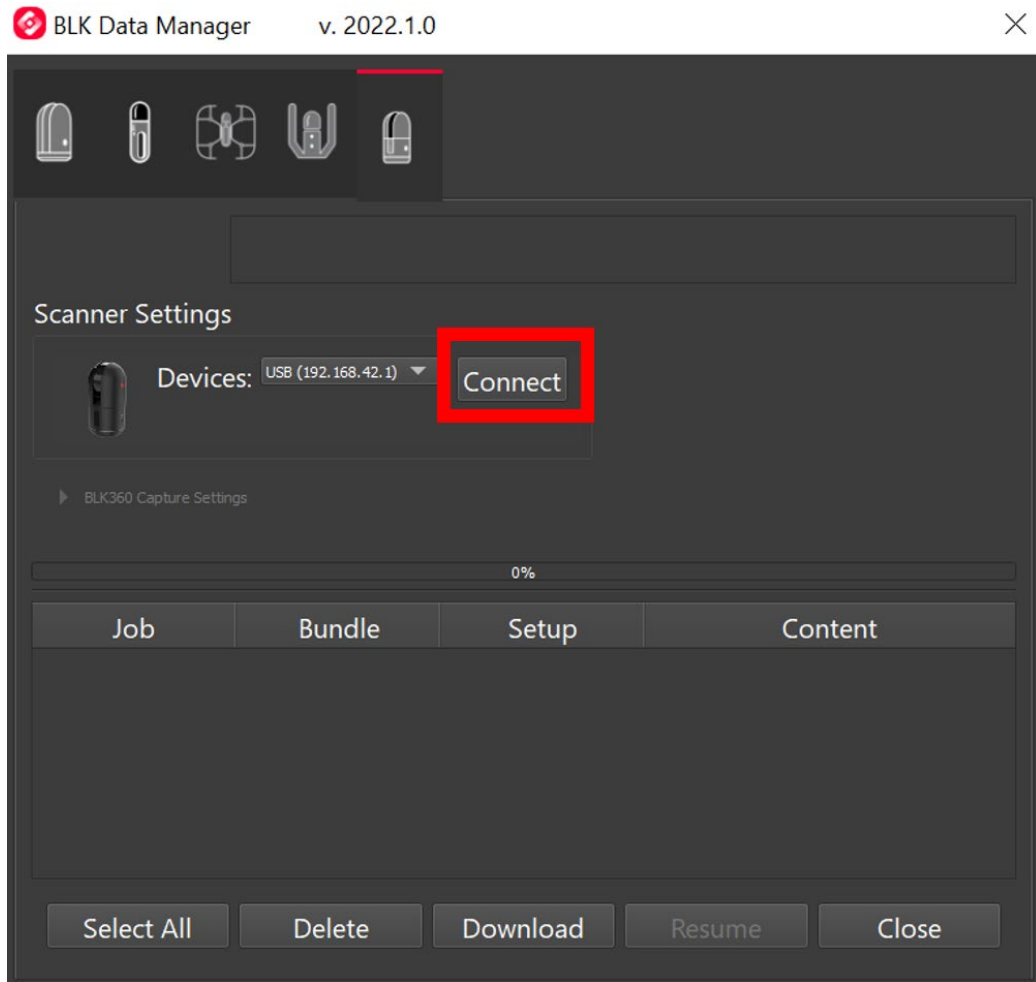
1. Turn on the BLK360 and wait until the green light is on and not blinking.
2. Open the BLK Data Manager.
3. Use the included USB C to connect the scanner to the computer.

4. Select the BLK360 from the tabs at the top left of the BLK Data Manager.

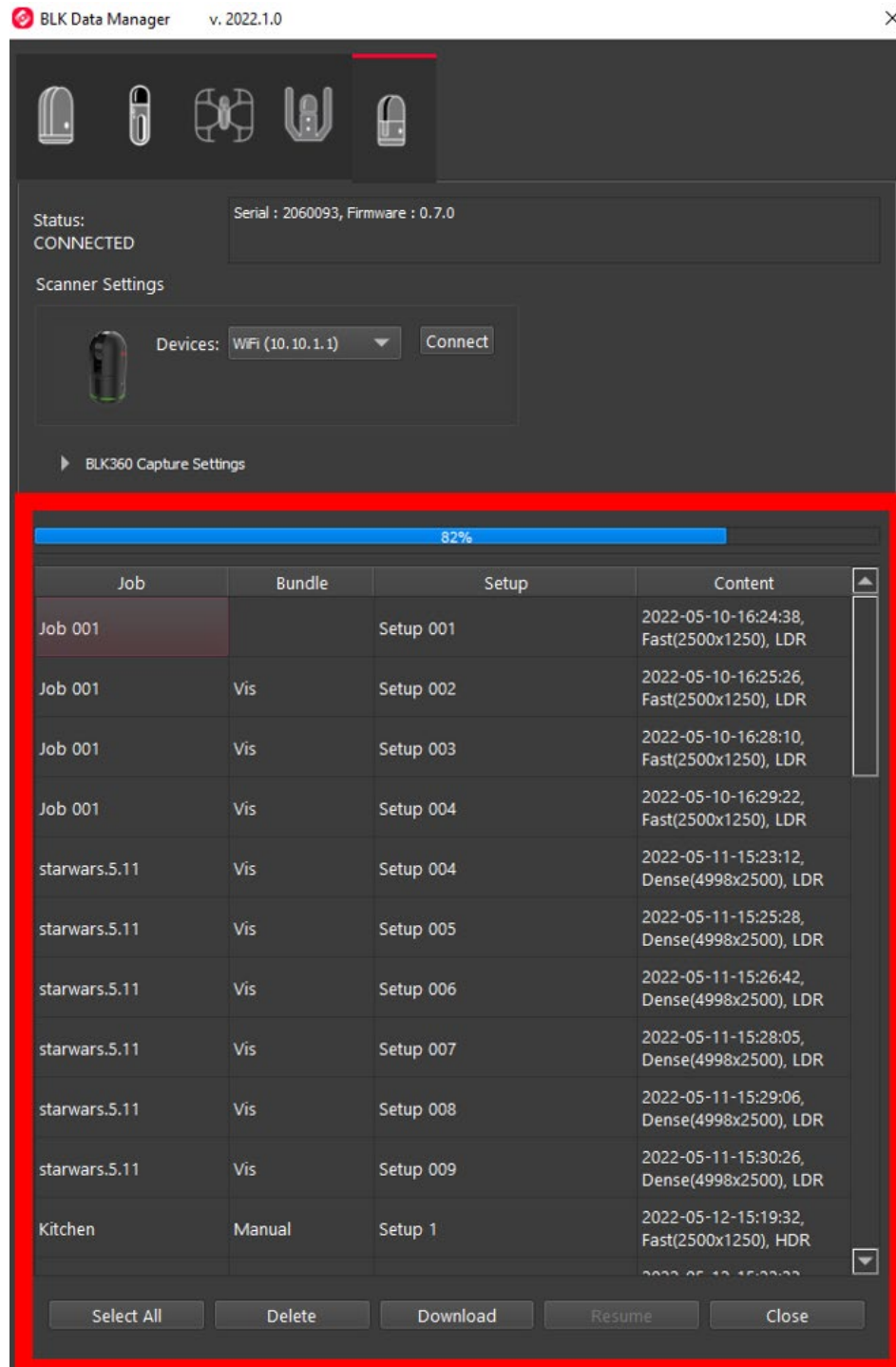


- Note the original BLK360 scanner is now called the BLK360 G1 and is located on the left.
5. Select the connect button.

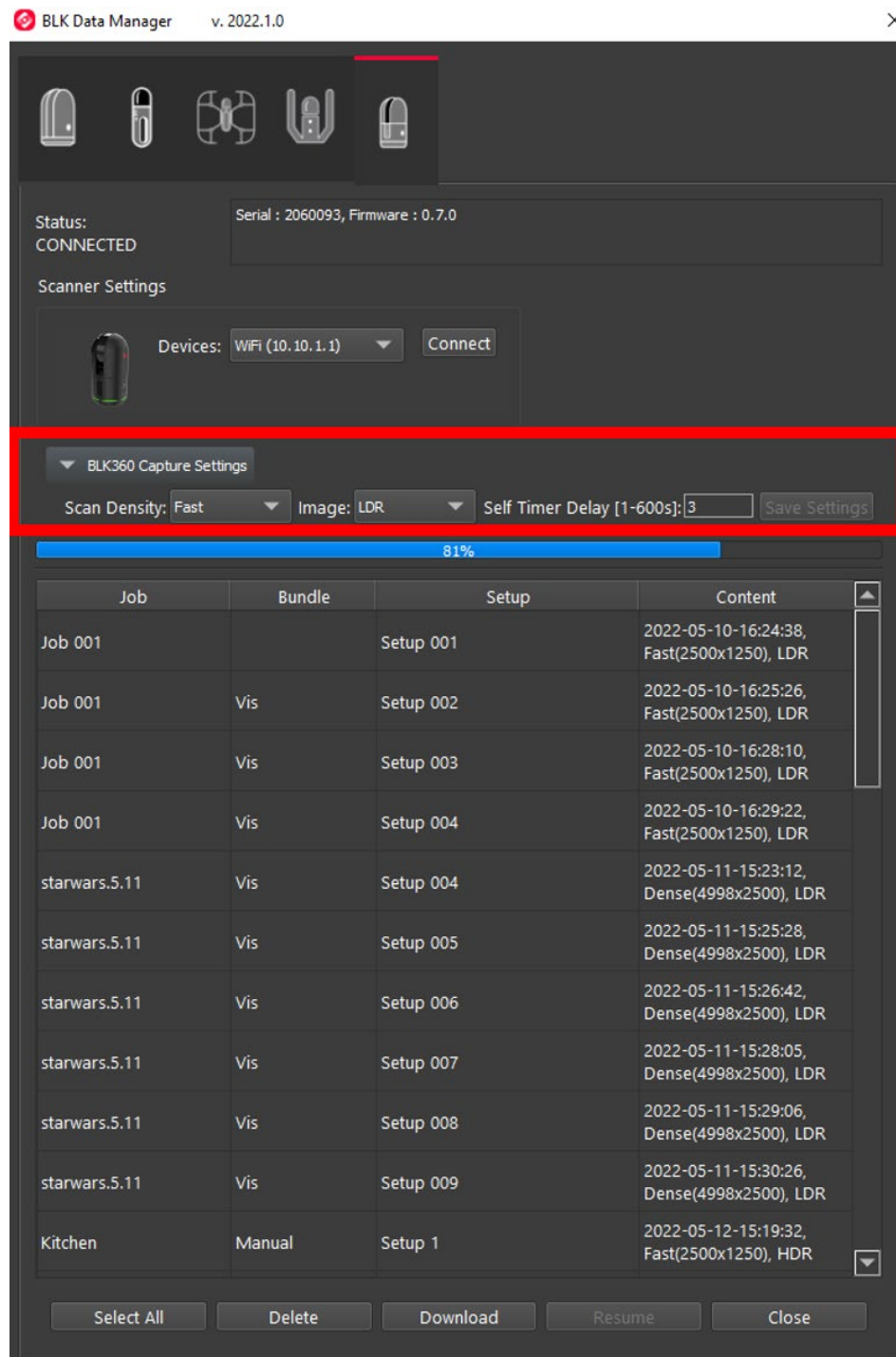




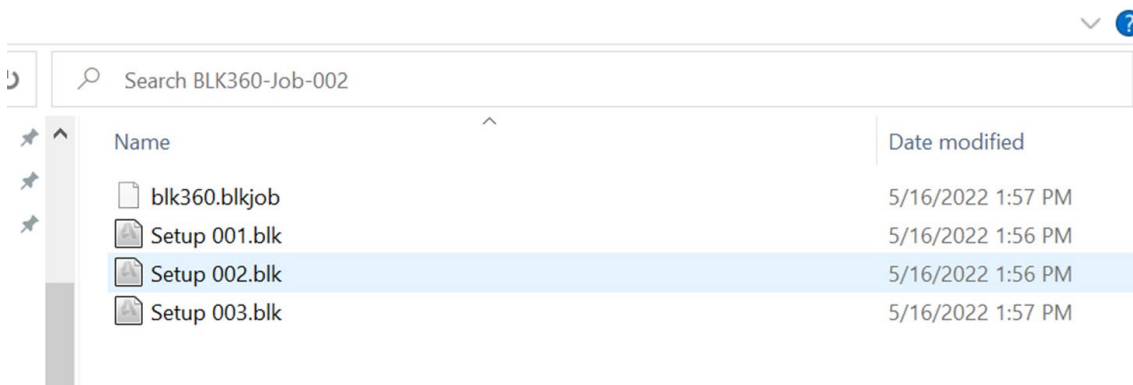
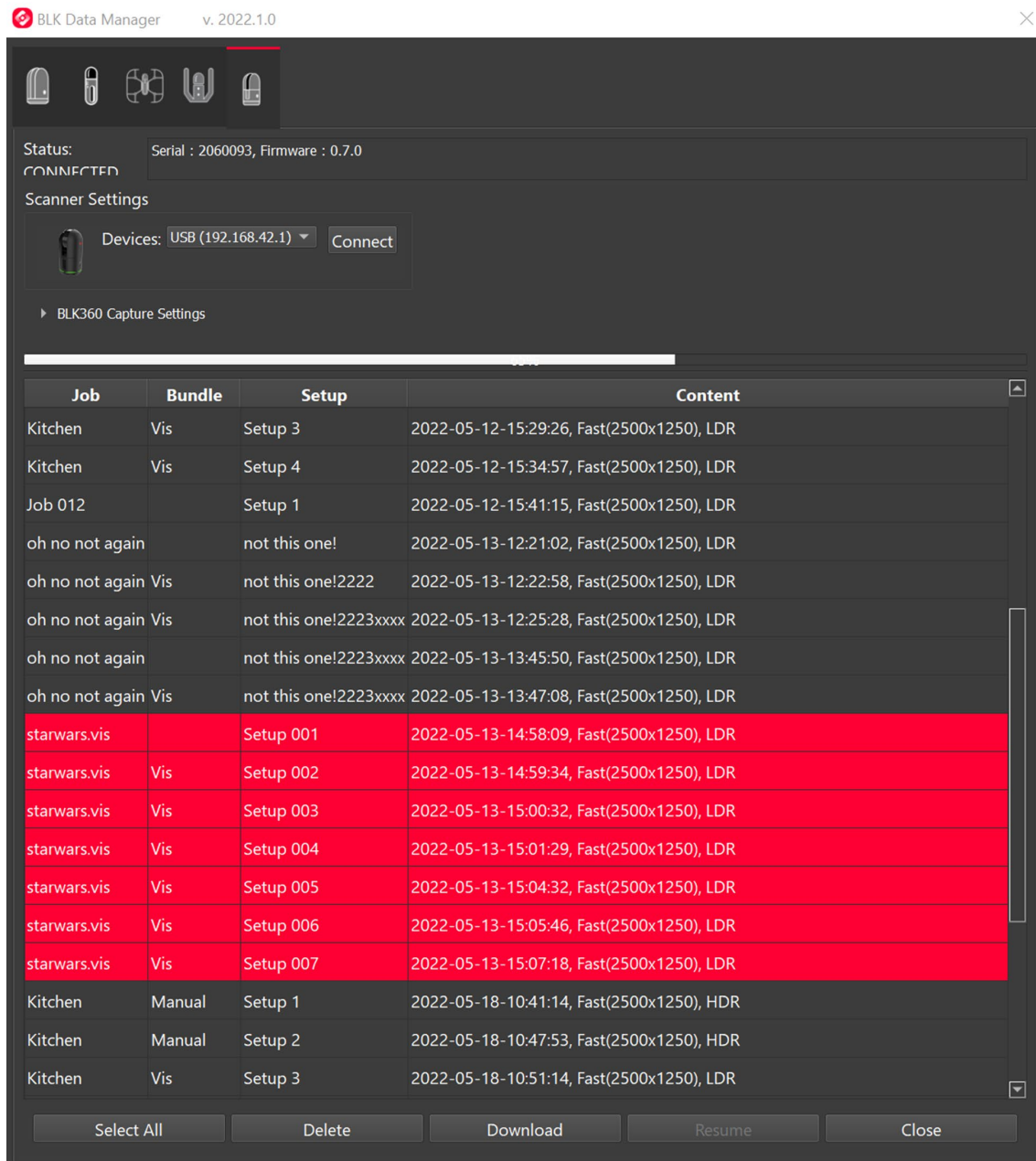
6. Select the scans you want to download.
  - Selecting a Job will select all the scans in that job, selecting a Setup will only select that setup.



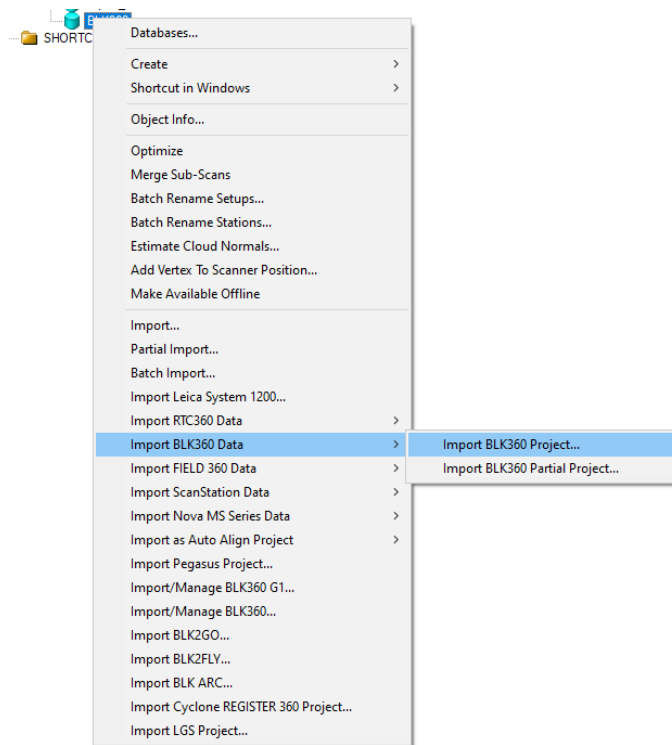
- Users can also set the options for future scans.



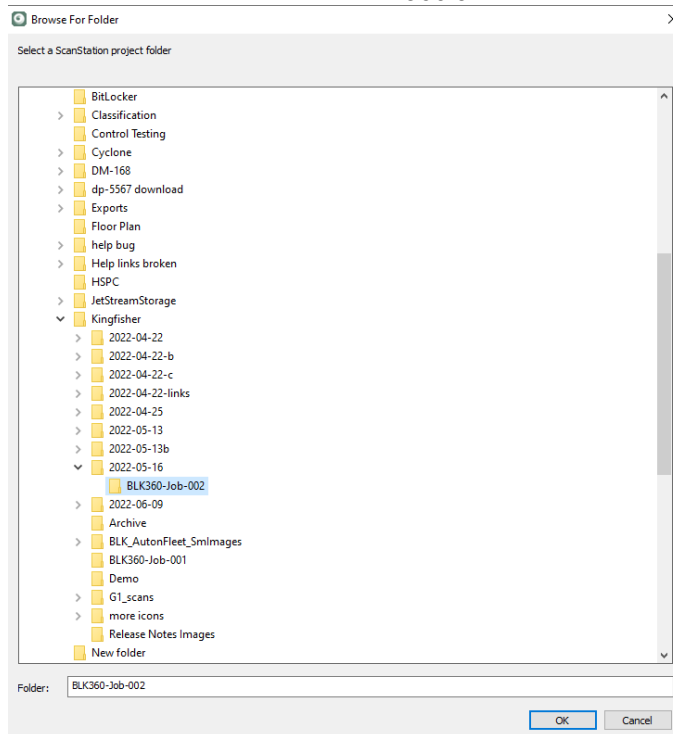
Users can download to a local drive creating a \*.blkjob file and \*.blk files. This \*.blkjob file allows links that were created in the field to be brought in when the scans are imported into Cyclone REGISTER or Cyclone REGISTER 360.



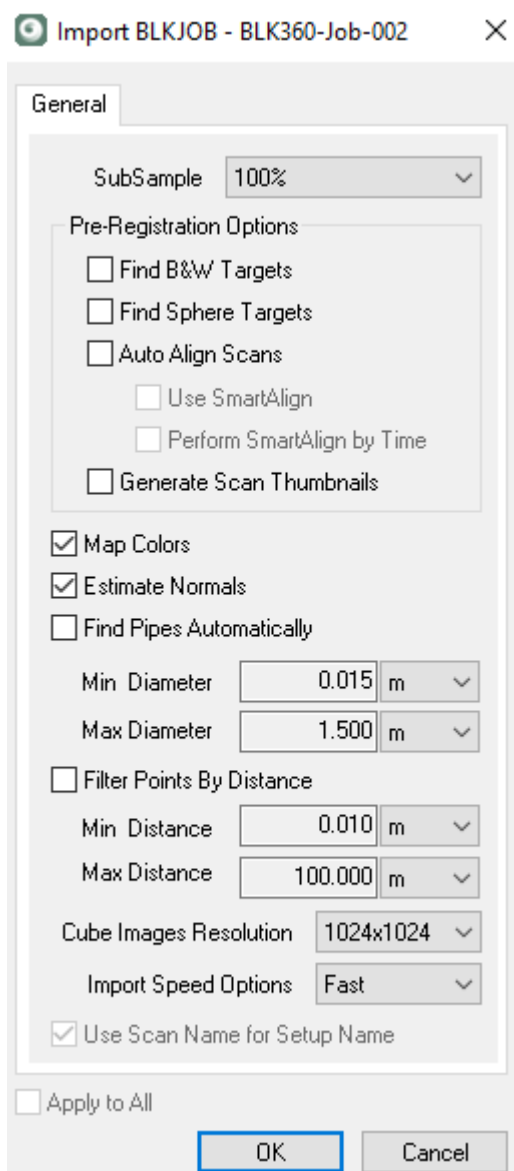
- Right click on the project database and select Import BLK360 Data then choose Import BLK360 Project.



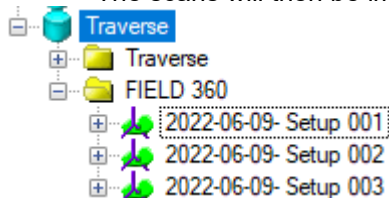
## 8. Browse to the location of the BLK360 Job folder



## 9. Select Import Options



- The scans will then be imported.

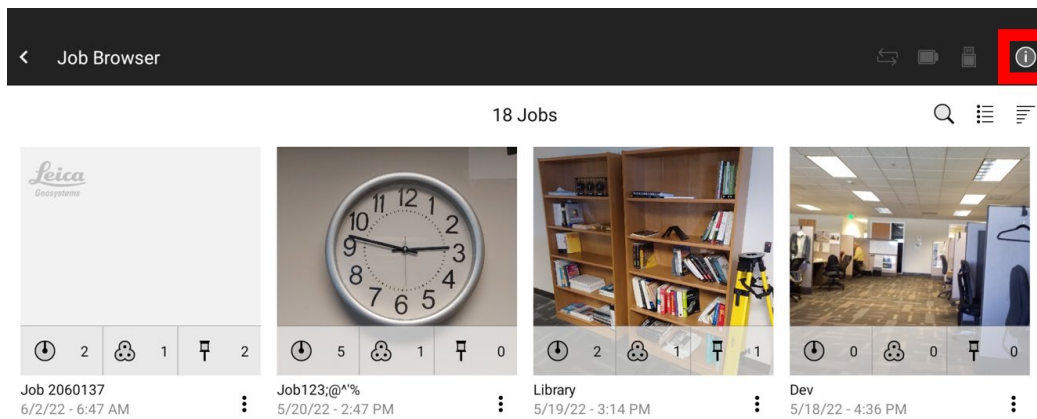


## Cyclone FIELD 360

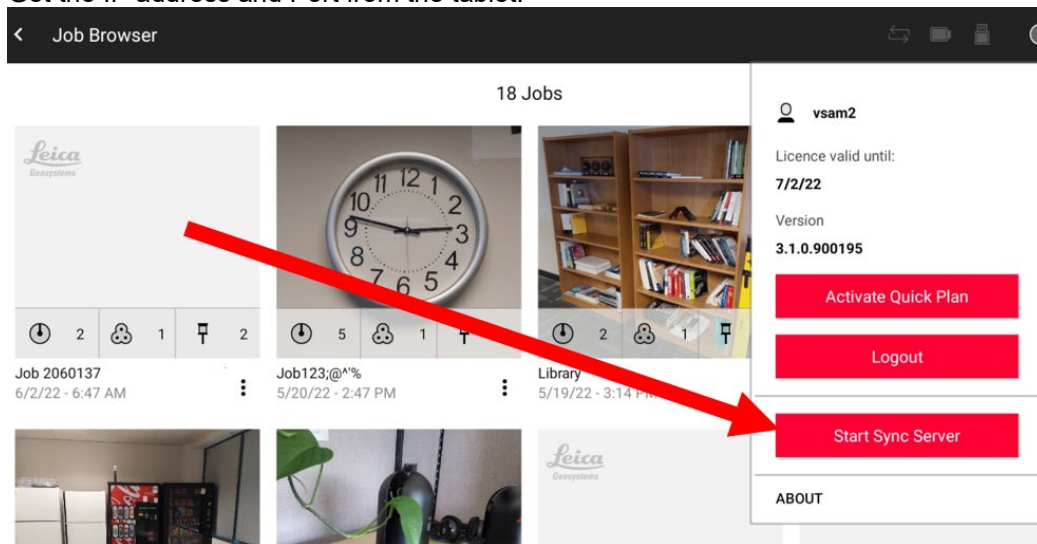
1. Open Cyclone REGISTER and create a project.
2. Connect your tablet and computer to the same network.
3. On the Tablet, select the

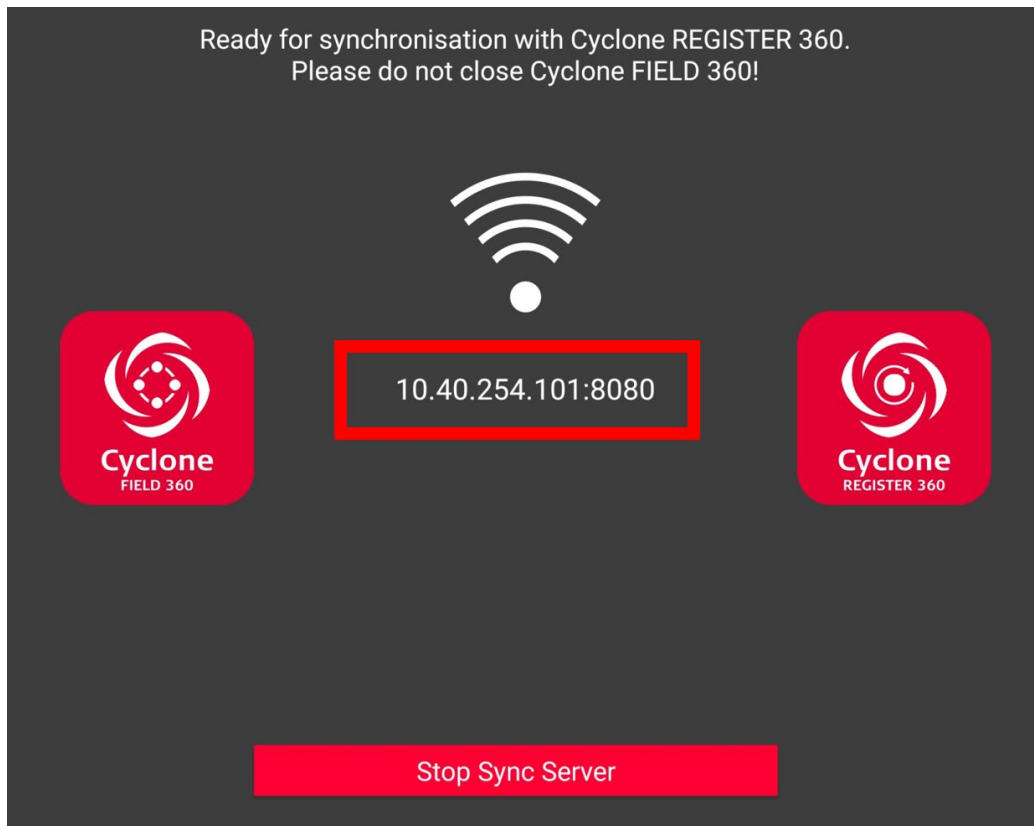


icon in the top right and select Start Sync Server.

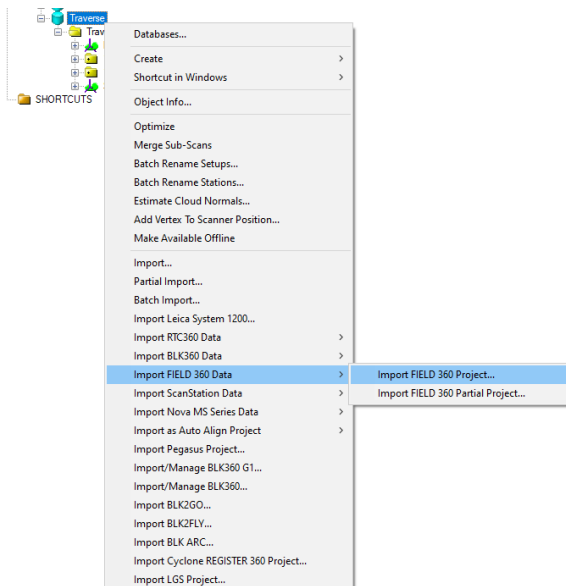


4. Get the IP address and Port from the tablet.



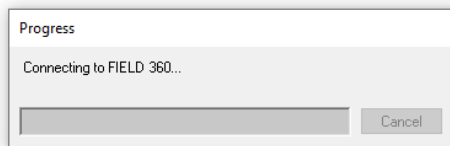


5. From the dropdown in the import area, select FIELD 360.

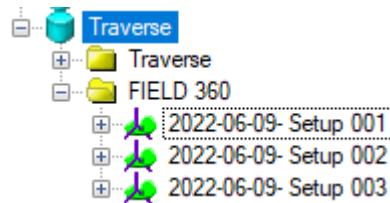


6. Check the IP Address and Port from the tablet and select Test Connect and Add to Project.





7. Select the scans you want to import.
8. Select import settings and import scans.
  - The scans will then be imported.



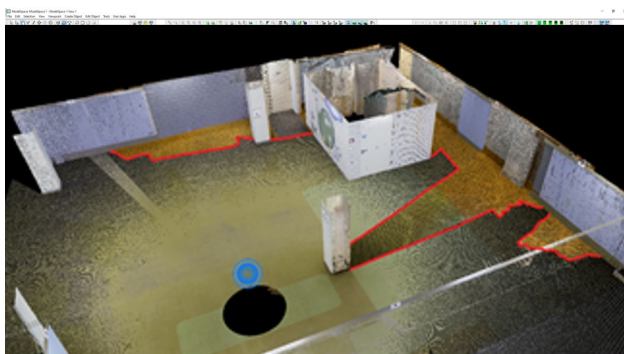
## Import Device-based LiDAR data

Users can now import LiDAR data captured directly on a LiDAR compatible device (e.g., iPhone 13 Pro) via Cyclone FIELD 360. These on-device LiDAR scans can be collected either to gap fill in TLS projects or standalone.

No special import steps or settings are required to import this new data type.

### Gap Filling

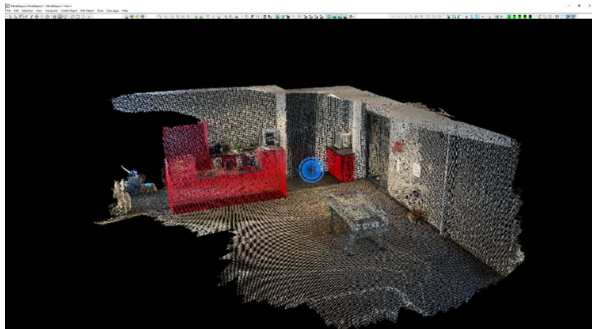
When using on-device LiDAR scans for gap filling, they will be combined within the scan in which they were collected. They can be visually identified within the Setup once in Cyclone REGISTER, but they cannot be extracted or imported separately. Due to the nature of the on-device LiDAR data, its accuracy is not characterized. When combined with TLS data, the bundle statistics (bundle error etc.) will reflect the accuracy and quality of the TLS data only. Users wishing to have greater insight and accuracy of their project accuracy should use the standalone import option.



**Figure 1** Gap filling scans are marked along the perimeter of the room. They are clearly distinguishable by their point coloration.

## Standalone

Capturing on-device LiDAR data in standalone mode means that LiDAR scans are not being captured and tagged inside of a TLS scan. Users should capture all their TLS data within one job and all on-device LiDAR scans within a separate job. These can then be imported separately and joined within Cyclone REGISTER.



**Figure 2** An on-device LiDAR scan captured independently of TLS data.

## Bug fixes

- Fixed a bug that occurs when uninstalling Cyclone several files were not removed, those un-needed files are now removed.
- Fixed a bug that occurs when installing Cyclone nothing is shown during installation process, now a status message is shown.
- Fixed a bug that occurs when the time zone of data acquisition is different from time zone of import, Cyclone was displaying as UTC and now displays the time zone of the import.

## Known Issues

### BLK360 Known Issues

When importing BLK360 data, the "check links with setup silhouette images" checkbox in the smart align window grays out the OK button so user cannot proceed. The workaround here is to not select the "check links with setup silhouette images" checkbox OR once we are in the above state click the "add by time" button. This un-grays the OK button and user can proceed.

In rare cases, downloading BLK360 data may fail. The workaround is to restart the BLK360 scanner.

If there is a synchronization issue between the tablet and the scanner (which may be caused by a poor or interfering Wi-Fi connection) items created on the tablet using FIELD 360 such as links, images, and geotags may not be synced back to the scanner. The workaround here is to download the data from the tablet using FIELD 360 rather than directly from the scanner.

### General Known Issues

#### Windows 11

Windows 11 that are using Desktop using Manage OneDrive dialog will find that Cyclone crashes when attempting to use search dialogs. The workaround is to stop backup Desktop using Manage OneDrive dialog. A link to Microsoft support can be found [here](#).

#### GSM enabled computers

When there is a license issue when Cyclone Core and 3DR are running on a computer with GSM enabled, the workaround here is to unplug the GSM.

#### ReCap export

Several EMEA support issues have been reported where Cyclone fails to export to \*.rcp, we are working with Autodesk on this.

#### Geotags

Certain geotag assets (txt, pdf) fail to open in Cyclone Core after importing LGS files.

#### Importing P-Series data with FIELD 360.

In some cases, levelled P40 data collected and registered in the field using Cyclone FIELD 360 comes in tilted when imported into Cyclone CORE, but it is not clear that the internal compensator is being over-ridden by manual registration without optimization. The workaround here is to make sure that you optimize in Cyclone FIELD 360.

#### Using the command Export Separate Setups

There are issues when exporting to separate Setups when exporting from a nested registration and or a referenced database.

To mitigate this issue, export from the home registration or the original database.

#### Mac OS's running Windows Boot Camp is not officially supported

Cyclone CORE supports Windows 10 on Windows-native devices only.

#### When publish to Jetstream Enterprise with many assets:

There can be an issue when publishing to JetStream Enterprise with many assets in the project. The workaround is to publish the project to LGS and then import the LGS to JetStream Enterprise.

## Cyclone ENTERPRISE Publishing

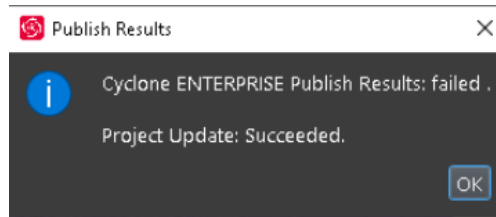
When publishing to Cyclone ENTERPRISE, you need to enter the Host Name and Port for the target server. The Host Name should only contain the top-level domain part of the URL. In some cases, a host name may be valid for the connection test but will not work for publishing. In this case, the connection dialog will display the Project Selector. To solve this problem, edit the Host Name to remove all text after the Top-Level Domain. For example:

"https://mycycloneenterprise.com/abc...-////" should be trimmed to

"https://mycycloneenterprise.com"

When publishing to Cyclone ENTERPRISE fails, the error message could mean that:

- The sever has low disk space
- The network drive is disconnected
- File permission error
- Invalid file path



## RCP export from ScanWorld issue

Exporting RCP from the ScanWorld, not a ModelSpace, can have issues if the ScanWorld contains detail scans. The workaround is to remove the detail scans from the scan folder.

## Setups without Points

If publishing a dataset without valid ScanWorld position(s) to TruView Cloud or JetStream Enterprise, at least one Camera position needs to be added and then the publish needs to have the option to publish camera positions as Setup positions enabled

If all points are deleted from a Setup, it cannot be published to RCP.

## Cyclone FIELD 360 measurement support

While Cyclone supports the display of Cyclone FIELD 360 measurements, these measurements do not propagate downstream to other products.

## Inconsistent Setup icons

In rare cases where a Setup has no points and only modelled geometry, the LGS file, JetStream Enterprise project, and Cyclone ENTERPRISE project published will open with yellow tetrahedrons as the Setup icons instead of the red Spheres introduced in the 2020.0 product versions.

## LGS Publishing to TruView Enterprise & TruView Cloud

In the event of problems uploading large LGS files to TruView Enterprise or TruView Cloud, a user may try to publish another version of the LGS file with the 'Include Point Cloud Data' option unchecked in the LGS Export Options. This option will dramatically reduce the overall file size and could help in case of a problematic TruView Enterprise/Cloud upload as well as reduce upload and import times.

## Publishing to TruView Enterprise & TruView Cloud with BLK2GO data

Project data published to TruView Cloud or TruView Enterprise containing BLK2GO data will NOT contain point data image layers, but the camera-based panoramic images will be

measurable. Model geometry superimposed on the imagery layers is not supported for BLK2GO data.

Non-BLK2GO data mixed with BLK2GO Scanner data will support the point cloud image layers and models.

#### **BLK Mobile data**

- B2G files are updated upon import with the new SLAM solution. ALWAYS backup B2G files BEFORE import.

#### **BLK2FLY Issues**

- In some cases, when importing BLK2FLY data the number of WayPoints created is incorrect.
- In some cases, when importing BLK2FLY scans that were downloaded as B2G, the imported scans have the same name as the last scan.

#### **BLK Data Manager**

The BLK Data manager will fail to connect to the BLK2GO scanner if there are no scans on the scanner.

#### **RCP export**

The 2-billion-point limitation has been removed from export to RCP.

- 30 GB of temp space is need for every billion points exported to a single RCP cloud.
- Using Export to Separate Setups does not use the same level of temp space. Temp space is not generally a problem when exporting separate Setups.

RCP export will fail if the Setup exported has zero points. The workaround is to restore the points for the Setup, export again.

#### **Blurred images within ReCap**

In some cases, E57 files published from Cyclone, when imported into ReCap, may display blurred imagery when entering the Setup location sphere. This is a known issue with ReCap incorrectly handling the E57. RCP files published from Cyclone do not show any display issues within ReCap.

The E57 export using the new Compatibility mode option (see details above in feature description) may help with this issue.

#### **4K and 5K Imagery with TruView Local (ActiveX plugin) and Internet Explorer**

The TruView Local plugin for Internet Explorer does not officially support 4K and 5K imagery or the LGS file. To take advantage of these features, we recommend TruView, TruView LIVE (part of Cyclone ENTERPRISE), [TruView Enterprise or TruView Cloud](#).

#### **Batch import Panoramic images**

When using the Command **Import Panoramic images...** Images and scans in the import panel dialog may appear blank. The workaround is to resize the window.

#### **Scanner locations are no longer visible in the ModelSpace when automatically created during Pegasus data import**

When importing Pegasus mobile scan data into Cyclone, the user is provided the option to automatically create ScanWorld positions at a user-defined interval along the trajectory. These are used for the creation of TruView positions at these virtual "Setup" positions.

#### **Usage file reporting issue for EnterpriseElite Customers**

When using the standalone CLM installer, some EnterpriseElite users may find that the usage file (year-month.db) normally located at *C:\Leica Geosystems\CLM\LogFiles* does not get produced.

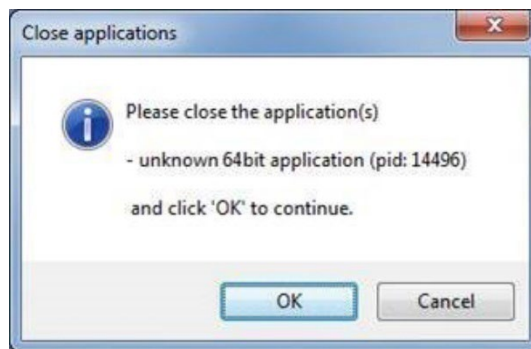
Please ensure your lgs.opt (located here: *C:\Program Files (x86)\Common Files\Leica Geosystems\License-Server\lgs.opt*) file looks like this:

```
DEBUGLOG +"C:\Leica Geosystems\CLM\LogFiles\lgs.log"
NOLOG IN
TIMEOUTALL 240
ENABLE_DB_HISTORY 1
PATH_DB_HISTORY C:\Leica Geosystems\CLM\LogFiles
```

ENABLE\_DB\_HISTORY should be set to **1** in this file. Please copy the file to a new location, edit it and re-save if the file says it's read-only.

### Installing CLM while JetStream Enterprise server 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

### 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 published to or hosted in a network location.

### Object behavior with ModelSpace Inventory Table objects or layers set to Unselectable

Selection from the table does not highlight the object in ModelSpace if the Object Type or the Layer is set to unselectable. Object Type and Layer selectability settings can be changed from **View Properties**.

### Generating auto-patches for data without HDS file

Generating auto-patches requires an HDS file, which some older databases (2014 and prior) may lack. Currently, HDS file creation is NOT performed when preparing the data for auto generating patches; therefore, the only way to ensure existence of HDS file is re-importing the data.

### PTG Export

Please only export uncleaned data to PTG.

### Older PyCylinder scripts require new end cap parameters

If a Python script containing the PyCylinder object was created using an older version of the API, you will need to add the two new properties to the end of your existing objects. They can both be made the default value of 0 if you do not want to use them. The parameters are required; without them the script won't run.

### Importing from Cyclone FIELD 360

Only BLK360 projects will appear when the user connects to Cyclone FIELD 360. Cyclone FIELD 360 does not store full project data for the RTC360\IP-Series and should be imported directly from the scanner's USB memory stick.

### Cleaned vs. Uncleaned pano layer publishing

When publishing an LGS file, the Hue and Greyscale pano layers will show the uncleaned cloud.

*A workaround would be to publish to E57 and then re-import the data then publish to LGS.*

### Non-ASCII characters

Non-ASCII characters are not allowed in the following conditions:

- Import temp path
- On computers with non-Latin user names, the user will not be able to create any project if the source data is stored anywhere under the user profile name. This issue will manifest itself in Japanese, Chinese, or any other language containing special non-Latin characters in the user name.
- The SiteMap name cannot have non-Latin (Japanese, Chinese, etc.) characters for publishing to TruView Enterprise or TruView Cloud.



## Deprecated Features

Leica Geosystems strives to provide support for the widest array of operating systems and file formats possible as is reasonable given current technologies and support from third-party partners.

With each release, we review our list of currently supported formats and operating systems in line with industry trends and announced product terminations.

Leica Geosystems may add or terminate support for a file format during any release. Obsolete operating systems will be supported for six months after their announced termination or the next major software release, whichever comes first. Server products will be supported in alignment with Leica's Client License Manager (CLM) supported servers to guard users against incompatibility.

## Licensing

Cyclone 2022.1 is a major release. All users with currently valid CCP, or with CCP valid as of 28 May 2022, can run the latest version with no new license required.