FAQ

This section introduces common problems and their respective solutions during the use of LiDAR360MLS software.

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Software Installation and License FAQ

1.Why does the software prompt that the trial license has expired after installing LiDAR360MLS?

- LiDAR360MLS cannot be tried out for the following reasons:

  - Change of system time: During the trial of LiDAR360MLS, there may be some reasons that may cause the system time to change, causing the trial to expire.
  - Trial expiration: The trial period of each version of LiDAR360MLS is 15 days. If the same version is installed for more than 15 days, the trial will expire.
  - Other reasons: Please send an email to info@greenvalleyintl.com to apply for an extension of the trial license.

2.How does LiDAR360MLS send activation information? How to activate after receiving the license file?

- Official Website: Enter the official website of GreenValley International, fill in the research form and apply for the activation code: LiDAR360MLS Trial Request.
- License activation: Copy the license code from SMS or email to local, the activation method can refer to License Manager.

3.What features are supported in the LiDAR360MLS software trial?

- All functions other than those of the SLAM and Geo Processing.

4.What features can I still use after the LiDAR360MLS trial expires?

- After the trial period ends, the LiDAR360MLS software cannot be used normally, and the function needs to be activated before it can be used.

5.If the computer is damaged and the authorization code cannot be checked out, how can I use the authorization code on other computers?

- Please contact info@greenvalleyintl.com, we will recover the authorization code from the background, and then you can use the authorization code on other computers.

6.Why can't I open the help manual by clicking the help button in the License Management interface?

- Please set the default program to open pdf documents.

7.License management, single-machine license activation failed, error code: 264, prompt: The server did not respond, please confirm that the server address and port are configured correctly.

- You can check whether the computer can log in to the web page normally. Change both IP4 and IP6 protocols to automatic application in the network adapter and confirm. If it still doesn't work, check whether IP4 and IP6 have been changed. If the IP4 and IP6 changes are not refreshed successfully, adjust them to automatic again.

8.License management, single machine license activation failed, error code: 1912, prompt: machine hardware information does not match, please re-authenticate.

- It is judged that this problem may be caused by the CPU version.It is recommended that the software be upgraded to the latest version. If there are still related errors reported, please contact info@greenvalleyintl.com.

9.License management, group authorization, client device activation failed, error code: 264 , prompt: the server has no impact, please confirm whether the server geology and port configuration are correct.

- Please check the following methods
- (1) Please check whether this device is the only one reporting an error or whether other devices authorized by the group are also reporting an error. If all devices report an error, you can turn off the firewall and anti-virus software and try again. If you can access it after turning it off, you need to add a whitelist to the anti-virus software and add TCP outbound/inbound rules for ports 8273 and 8274 in the firewall.
- (2) If only one device reports an error, please check whether the device can open http: //Group Service IP Address: Port 8273 in the browser. If it cannot be opened, you can turn off the firewall and anti-virus software on the machine and try again. If the webpage still cannot be opened, please proceed to step 3.
- (3) Run the command prompt as an administrator and execute the i pconfig / flushdns command to clear the local DNS information. Then try to access the http: //Group Service IP Address: Port 8273 page.
- (4) If the server is temporarily accessible after executing step 3 but is still inaccessible later, you can only blame the command netstat -ano | Findstr " 8 273 " and net stat -ano | findstr "8274" . If there are a large number of TIME _WAIT , you can refer to the instructions on the webpage to install the patch and restart the server.
- (5) You can check whether there are multiple IP addresses under the group server. If there are multiple IP addresses, it may be because one of the addresses is not an intranet IP. You need to set the IP address to the correct IP.
- (6)If none of the above methods solve the problem, you can ask the network administrator to check whether the TCP/IP protocol between the server and the client is normal.

10.License management, online activation, group authorization server error, error code: 405 , prompt: license file data does not match.

- Unable to connect to the server, errors that may occur during online activation or upgrade, causes and solutions:
- (1) Whether the activated machine can connect to the external network. If it cannot connect to the external network, offline activation is required .
- (2) If pirated software has been installed on the machine, you need to delete 127.0.0.1 ws.bitanswer.cn in C:\Windows\System32\drivers\etc\hosts .
- (3) The machine cannot resolve the domain name. You need to add 123.57.10.39 ws.bitanswer.cn in C:\Windows\System32\drivers\etc\hosts .
- (4) If the first three are not feasible, upgrading to the latest version of the product support module can solve the problem . Otherwise, it is due to machine network problems and can only be activated offline.

11.License management, online activation failed, error code: 276 , prompt: The corresponding local authorization license data file was not found.

- Please use the following methods to troubleshoot the group server. The IP address will change after the machine is restarted. The network administrator needs to fix the IP address of the server, or enter the machine name in the server--Group Authorization Management Center--System Information on the left as the IP address to reactivate.

12.License management, online activation failed, error code: 294 , prompt: The host setting of the group authorization is empty, or the group server address is not set .

- The host is empty in the configuration file for the group service connection that is not configured on the local machine. This can be solved by using the server setting tool to set the group server address once .

13.License management, online activation failed, error code: 405 , prompt: license file data does not match .

- The authorization data is incomplete and can be resolved by reactivating it using the Cleanup tool or updating to the latest Group Service and Product Support module .

14.License management, online activation failed, error code: 289 , prompt: license file data does not match .

- Delete the C:\programdata\bitanswer\authorization directory, restart the group service and activate it again.

Framework FAQ

1.Is LiDAR360MLS software only able to handle vehicle-mounted laser point cloud data?

- No, LiDAR360MLS software supports all manufacturers of terrestrial laser scanning equipment on the market to enter the point cloud, trajectory, image data into the software for intelligent extraction and analysis of processing, such as LiGrip, LiBackpack, LiMobile, and other equipment to collect the data.

2.What data formats does LiDAR360MLS support?

- The data types that can be imported into LiDAR360MLS are divided into four categories: point cloud, trajectory, image and vector. The specific formats are as follows:
  - **Point cloud**: LiData file (.LiData custom point cloud format), LAS file (.las, .laz), PLY file (.ply), E57 file (.e57).
  - **Trajectory**: Trajectory data (.traj, .pos, .txt, .csv, .asc, .xyz, .pts, .out).
  - **Image**: The image data is divided into panoramic camera and plane camera. It is necessary to ensure that the image recording file [Image List File(.imglist), Leica Pegasus File(.csv), Trimble MX9 File(.csv), Riegl MMS File(.csv), LIDARUSA SNOOPY File(.txt), OrbitPos(.txt, .csv)] and the image file storage location is accurate.
  - **Vector**: vector data (Shape Files(.shp), Geojson Files(.geojson), Kml File(.kml), Dxf File(.dxf).
- The data formats that LiDAR360MLS can export are as follows:
  - **Point cloud**: LiData file (.LiData custom point cloud format), LAS file (.las, .laz), ASCII file (.txt), PLY file (.ply), E57 file (.e57).
  - **Vector**: Vector data (Shape Files(.shp), Geojson Files(.geojson), Kml File(.kml), Dxf File(.dxf).
  - **Model**: Model data (.obj, .osgb).

3.After running the software, some of the displays were found to be in the wrong place, such as the misplaced hints in the 3D window of the element extraction function?

- This usually happens when there are multiple graphics cards on the computer and the monitor is plugged into the integrated display.

- You can first check if the monitor socket is plugged into a unique graphics card (NVIDIA is recommended), and it is recommended that the monitor is plugged into a unique graphics card.

- If you do not want to change the position of the monitor socket, you can refer to Adjust High-Performance Graphics Mode to run the software in high performance mode.

4.The point cloud does not display in the new project software.

- This situation usually occurs when there are more than one official NVIDIA panel, whose version is wrong. Or there is a software setting problem.

- Download the corresponding version of NVIDIA Control Panel and refer to Adjustment of High-Performance Graphics Mode to run the software in high-performance mode. software to run in high-performance mode

5.How to view the help manual?

- Click File > Help, or just use the F1 shortcut to open the user manual.

6.How do I view the update instructions for LiDAR360MLS?

- The latest version of LiDAR360MLS is available on the startup page in the What's New section of the

software.

- If the startup page is turned off, you can check the startup page option in the Show/Hide group of the display page.
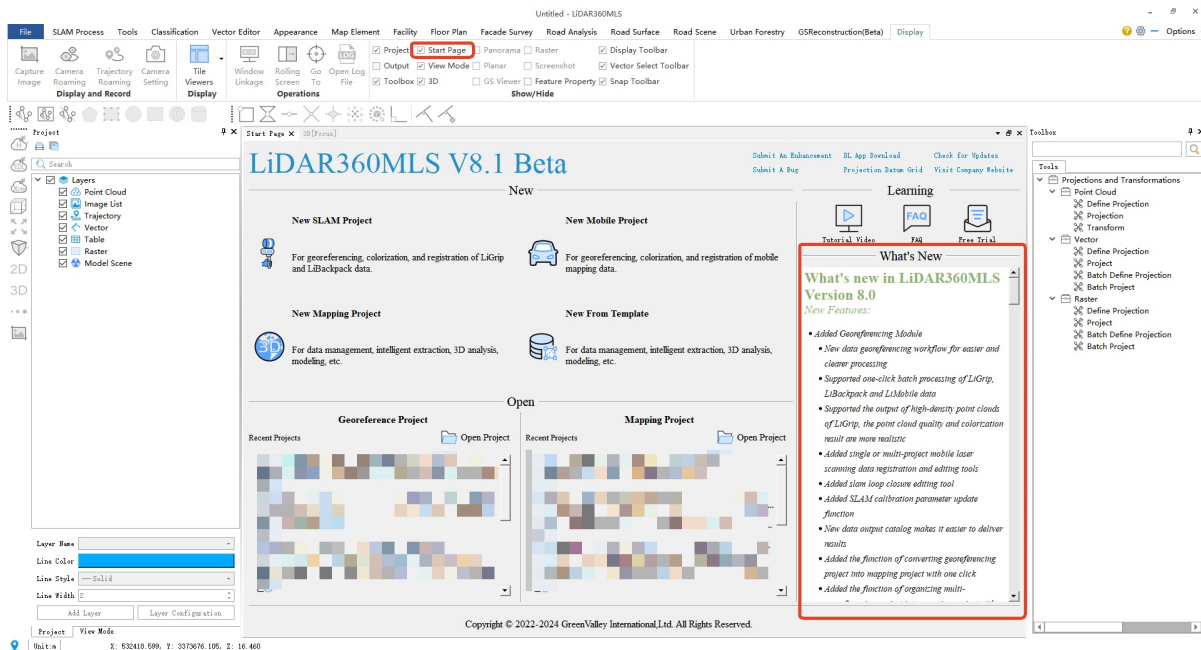
7.How to check the version information of LiDAR360MLS software?

- Click File > About to view the version information of LiDAR360MLS software, as shown in the figure below, 7.0.0 is the software version number, and Sep 27 2023 16: 06: 45 is the compilation date.

8.How to change the language settings?

- Click File > Options > Language to switch between English, Chinese, Japanese and Traditional Chinese

9.Why does the software exit abnormally?

- When the software exits abnormally, please check: (1) Whether the on-screen word-taking software (such as

Youdao Dictionary) is opened; (2) Whether there is enough hard disk space or memory space.

10.LiDAR360MLS software startup tips:"The current OpenGL version X.X is less than 4.5, which does not meet the software display requirements. Please check if the graphics adapter is connected properly or if the graphics driver is functioning correctly."

- Please check if the computer screen is plugged in correctly, normally it should be plugged into the host computer graphics card connector position.
- If the computer screen monitor is plugged in properly, please check and update the graphics card driver.

11.The high-resolution screen computer software cannot be started or the software is stuck?

- Method 1: In the software installation directory (eg: D/LiDAR360MLS/2.1.0.0/), press and hold the Shift button of the keyboard, click the right mouse button, click "Open Power Shell window here", and enter the command line in the window **.\LiDAR360MLS.exe -autoDPR**, you can start the software normally on the high-resolution screen computer.
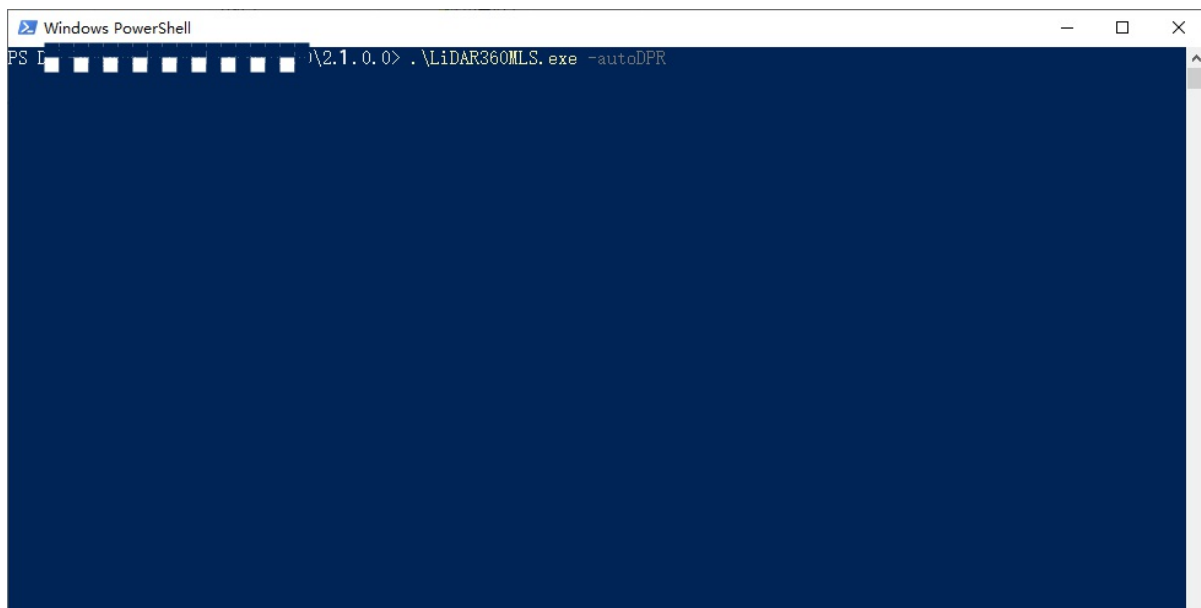

- Method 2: In the software installation directory (eg: D/LiDAR360MLS/2.1.0.0/), send the LiDAR360MLS.exe in the directory to the desktop shortcut, then right-click the shortcut, open the properties, and at the end of the target. Add **-autoDPR**, then double-click the program to start the software normally.
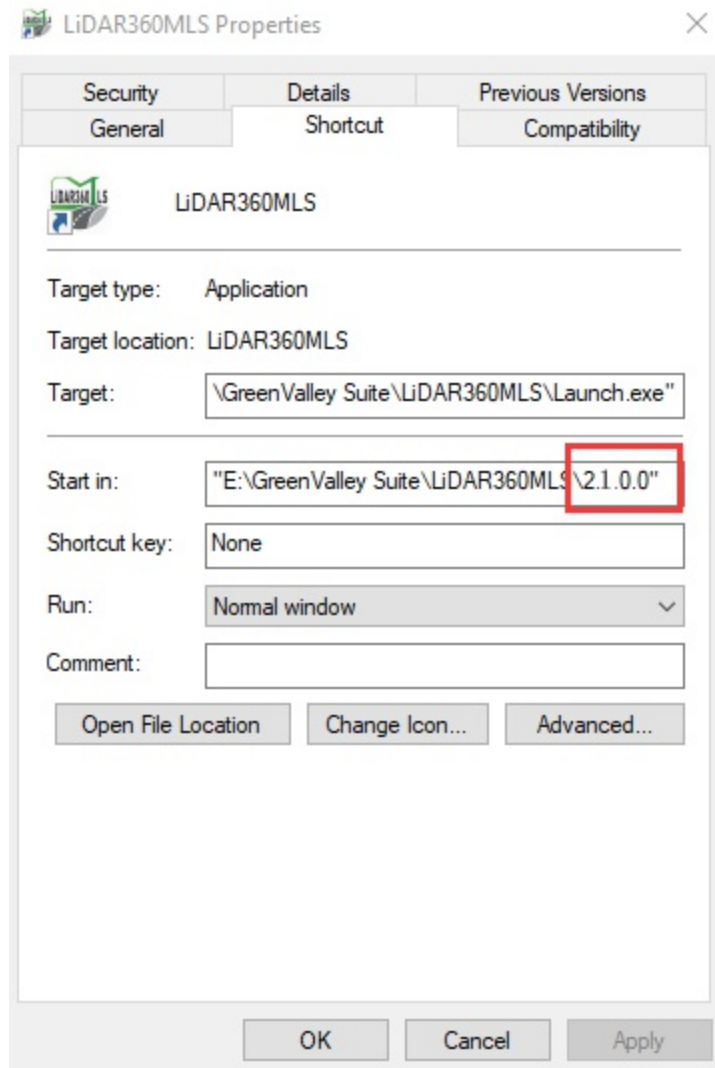
12. On a high-resolution screen, the software startup displays abnormally, with icons appearing unusually large.

- Right-click on the LiDAR360MLS startup program and click on "Properties."
- Switch to the "Compatibility" panel.
- Click on "Change high DPI settings."
- In the "High DPI scaling override" section, check the scaling behavior and modify it to "System."
- After applying the changes, launch the software, and the display should be normal.
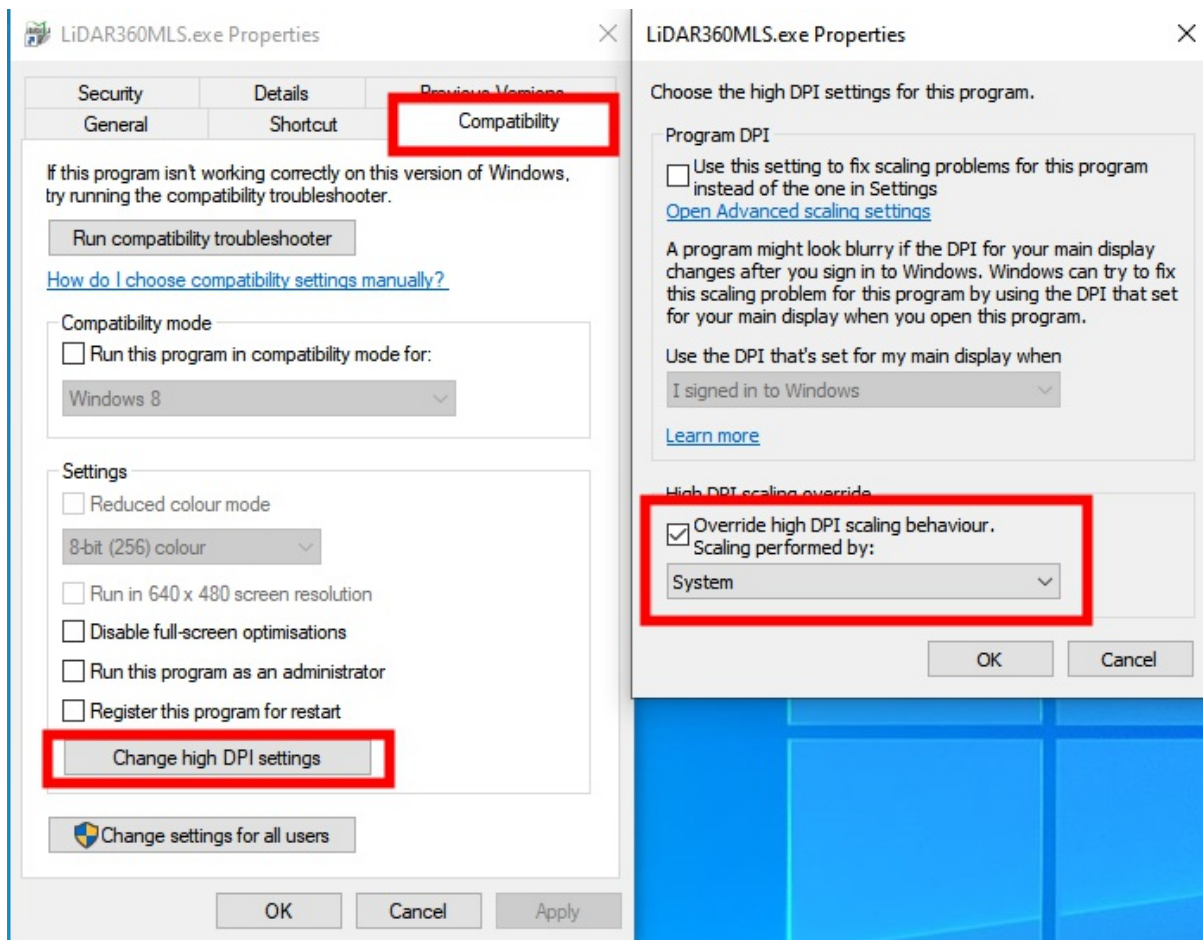
13. After using the software for a long time, double-clicking to run it starts slowly?

- Prepare the software activation code

- In the ProgramData folder on the C drive, find the BitAnswer folder (C:\ProgramData\BitAnswer)

  Note: The ProgramData folder is a hidden folder, you need to check the "Hidden Items" box in the view section of the folder to see the folder.

- Delete the contents of the BitAnswer folder and re-run the software to re-activate it to solve the problem of slow start-up.

14. After the software is launched, the interface displays garbled characters

This issue commonly arises due to non-Unicode program language settings on the computer.

- Open the computer control panel.
- Locate the "Clock and Region" option.
- Click on "Change date, time, or number formats."
- Switch to the "Administrative" tab.
- In the "Language for non-Unicode programs," ensure that the language used by the current system is consistent with the setting here. For English Windows systems, the default setting is usually appropriate. If language packs for other languages, such as Chinese language packs, are installed, set this option to the corresponding language pack.
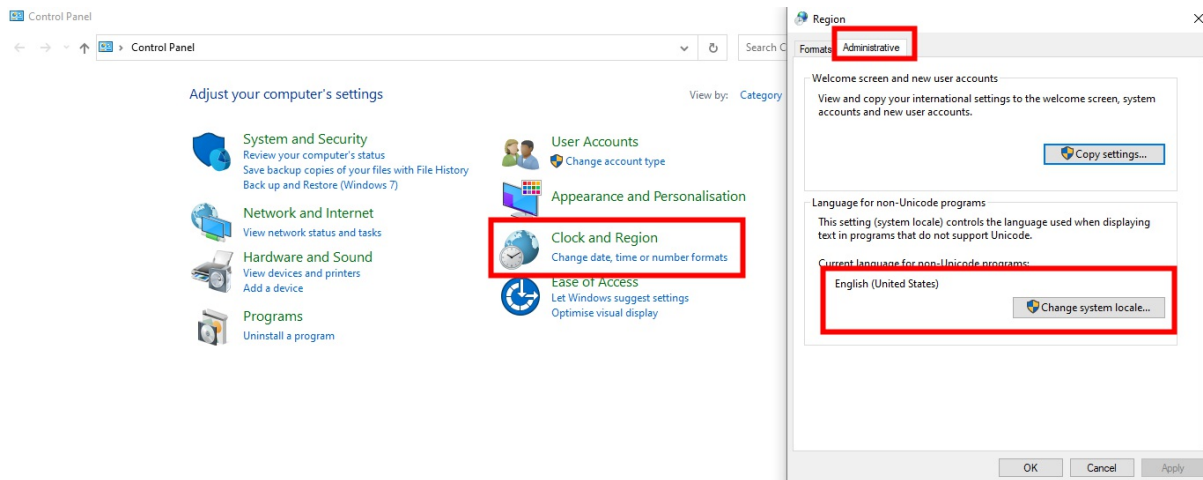
15. Recommended Process for Projective Transformation of Point Cloud Data

- In the pre-processing process, it is recommended to use the UTM coordinate system for processing, only when all the data are spliced and checked to be correct, then go to do the projection transformation to convert to the self-defined target coordinate system.
- And when doing mapping and analysis, directly based on the point cloud data that has been converted to projection processing, post-processing is not recommended to go back to the target conversion.

16. When running the Deep Learning classification function, the software prompts that nvml.dll cannot be found, what should I do?

- If your computer does not have NVIDIA graphics card, you can continue to use the deep learning classification function after this prompt, but you can only use the CPU mode.
- If your computer has NVIDIA graphics card, please make sure whether you have installed the graphics card driver correctly. If you still have this problem after installing or updating the graphics card driver, you can add C:\Program Files\NVIDIA Corporation\NVSMI (the path is determined by the user's graphics card driver installation directory) to the system environment variable Path. At this time, the classification function can continue to use the GPU mode normally.

17. The whole preprocessing page is gray and can't be used?

- Please check whether the track data is added in the project, the preprocessing page must have track data before it can be used normally.

18. The software prompts the lack of a dll file, how to deal with?

- The cause of this problem is usually antivirus software kill, LiDAR360MLS has been added to a number of commonly used antivirus software whitelist, but there may still be a phenomenon of misuse. If you encounter this problem, you can restore the wrongly killed files in the antivirus program to solve the problem.

19. When doing vector editing or point-and-click viewing, the vector always jumps to the global view instead of staying at the clicked position.

- This problem can be encountered in the file → Options → Linkage Settings → Vector Linkage Settings, set it to unchecked, can solve the problem of linkage
- If you have an image, you need to disable the image linkage setting at the same time.

20. When selecting vectors from the attribute table, the vectors in the 3D window cannot be associated with a jump to the currently selected vector object.

- This problem can be encountered in the File → Options → Linkage Settings → Vector Linkage Settings, set

it as a check box, you can linkage!

- If there is an image, turn on the image linkage setting at the same time, you can synchronize the panorama/flat window linkage.

21.[Error]"The resolution ratio of 'XXX/XXX.jpg' is not 2:1".

- Reason:The software only supports standard panoramic photo, the aspect ratio is 2:1.
- Solution:When you encounter this problem, please check the resolution of the panoramic photos, such as ladybug, insta, and other panoramic cameras do not crop the photos

22.[Warning]"The minimum distance between the selected point and the exposure points is greater than 200, no skip will be performed."

- Reason:TThis problem is encountered because the images in the project at this time cannot correspond to vectors and point clouds, resulting in a failure to jump when selecting vector objects.
- Solution:Please check the image data used for the project for errors.

23.How do I view the direction of a line?

- In the directory tree, select the layer that needs to show the direction of the line, then right-click on the layer and select the line arrow option in the menu bar to turn on the line arrow
- To turn off the line arrows, do the same thing, and then re-click on the line arrows option.
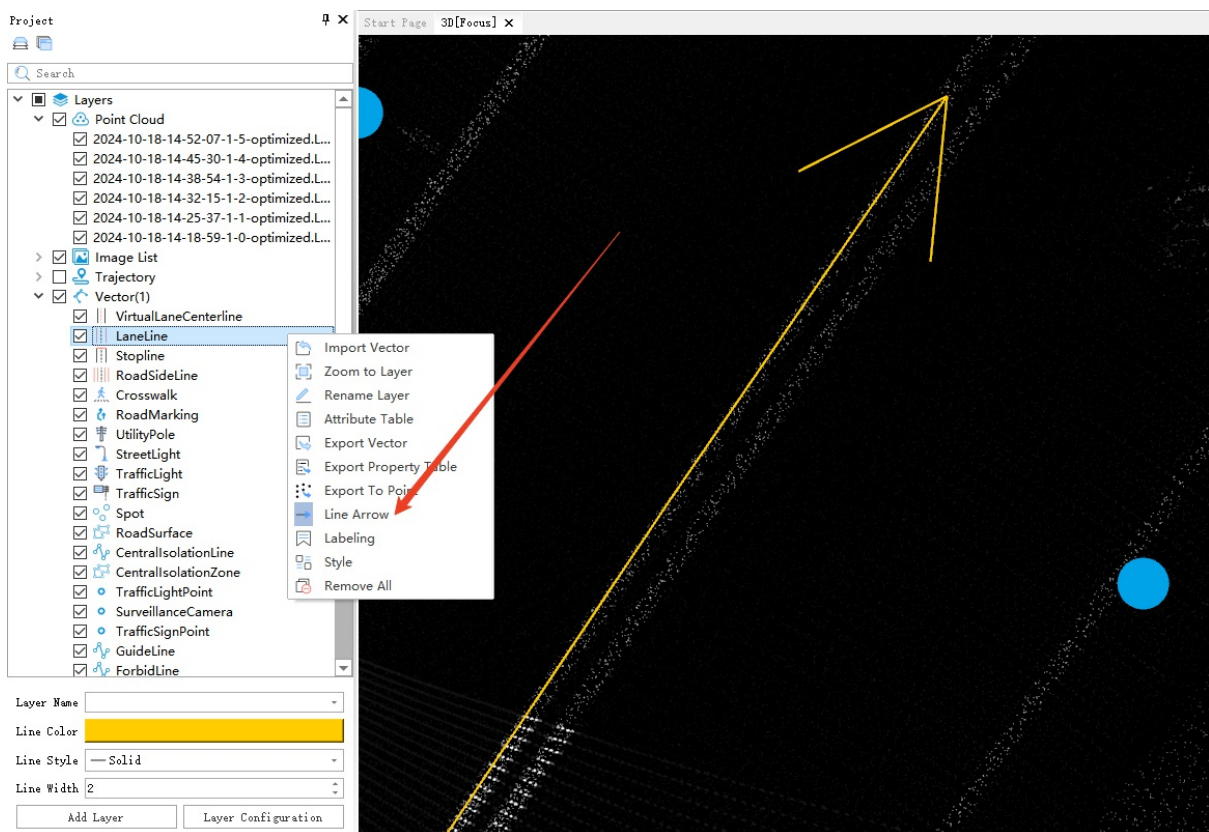
24.If I accidentally close a 3D or other data window, where do I open it from?

- Check the corresponding window option in the Show/Hide group on the Display page to open it!
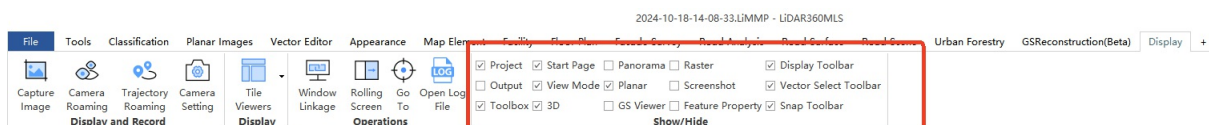
25.The software prompts "Unable to open this project as it was made with a newer version of the LiDAR360MLS" when opening a mapping project?

- This problem is due to the fact that when the software is upgraded, the project files are occasionally upgraded and optimized, so the version of the synchronized project files will be upgraded. The lower version of the software cannot open the project generated by the higher version of the software. You need to use the latest released version of the software to open the project.

The problems and solutions related to each function of the platform module are described in detail:

- Projection FAQ
- Vector Edit Module FAQ
- Field Calculator FAQ
- Registration Module FAQ
- Vector and Raster Toolbox FAQ
- Customizing Deep Learning FAQ

Projection FAQ

1.[Error]: "Unable to open this project as it was made with a newer version of the LiDAR360MLS."

- Cause: The project file was created in a higher version of the software, and the current software version is lower, which does not support opening it.

- Solution: Use a higher version of the software to open it.

2.[Error]: "Failed to upgrade project file ..."

- Cause: Upgrading the low-version project file failed, possibly due to damage to the project file or database.

- Solution: Analyze the specific project file.

3.[Error[: "An exception was thrown while loading..."

- Cause: Encoding error in the project file (LIMMP), default encoding is GBK. If other encodings were used to store Chinese characters, an exception will be thrown when reading the project file.

- Solution: Use a third-party tool like Notepad to modify the file encoding.

4.[Error]: "Failed to load project file path from ..."

- Cause: Similar to the above, encoding errors cause exceptions.

- Solution: Use a third-party tool like Notepad to modify the file encoding.

5.[Error]: "Failed to save project file ..."

- Cause: The project file (.LiMMP/.gpkg) has read-only permissions or is being used by another application.

- Solution: Right-click on the .LiMMP and .gpkg files, check if the "Read-only" checkbox is selected; if it is, uncheck it and try again; if not, check if the project file is being used by another application; if so, close the application and try again.

6.[Error]: "Unable to change file permissions to writable..."

- Cause: When opening the project, the system automatically upgrades the permissions of the read-only project file (.LiMMP/.gpkg) to writable. If the file is being used, the upgrade will fail.

- Solution: Close the application using the project file.

7.[Error]: "Failed to open layer...|..."

- Cause: Failure to open the vector layer (followed by the corresponding layer name after "|"), two possibilities: one is that the gpkg file path has changed, making it unable to find the file; the other is that the corresponding table does not exist.

- Solution: For the first case, check if the gpkg path exists; if not, find the corresponding gpkg and place it in the correct path; for the second case, analyze the specific data.

Vector Edit Module FAQ

Add Points

1.[Warning] "Please set the current layer to a points type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Point" function, the point layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Point" function, select the point type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.
- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a point layer, choose tools like "Add Point".

Add Lines

1.[Warning] "Please set the current layer to a polyline type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Line" function, the line layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Line" function, select the line type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

-**Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning. -**Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a line layer, choose tools like "Add Line" or "Add Line Segment".

3.[Warning] "Lines less than three points cannot be closed."

- **Warning Reason**: The software outputs this warning because when using the right-click close line tool to draw a line object, the line object has fewer than three points, which does not meet the condition for closing the line.
- **Solution**: When using the close line tool to draw a line object, ensure that at least three points are drawn.

Add Line Segments

1.[Warning] "Please set the current layer to a polyline type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Line Segment" function, the line layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Line Segment" function, select the line type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.
- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a line layer, choose tools like "Add Line" or "Add Line Segment".

Add Polygons

1.[Warning] "Please set the current layer to a polygon type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Polygon" function, the polygon layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Polygon" function, select the polygon type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.
- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a polygon layer, choose tools like "Add Polygon".

Add Arcs

1.[Warning] "Please set the current layer to a polyline type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Arc" function, the line layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Arc" function, select the line type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.
- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a line layer, choose tools like "Add Arc" or "Add Line".

Add Rect/Parallelograms

1.[Warning] "Please set the current layer to a polygon type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Rectangle" function, the polygon layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Rectangle" function, select the polygon type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.
- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a polygon layer, choose tools like "Add Rectangle".

Add Circles

1. [Warning] "Please set the current layer to a polygon type layer."

2. **Warning Reason**: The software outputs this warning because when entering the "Add Circle" function, the polygon layer has not been selected under the vector node in the data directory tree on the left side of the software.

3. **Solution**: Before entering the "Add Circle" function, select the polygon type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.
- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a polygon layer, choose tools like "Add Circle".

Add Hexagons/Octagons

1.[Warning] "Please set the current layer to a polygon type layer."

- **Warning Reason**: The software outputs this warning because when entering the "Add Hexagon" or "Add Octagon" function, the polygon layer has not been selected under the vector node in the data directory tree on the left side of the software.
- **Solution**: Before entering the "Add Hexagon" or "Add Octagon" function, select the polygon type layer to be drawn under the vector node in the data directory tree on the left side of the software.

2.[Warning] "Please select a suitable action for this layer."

- **Warning Reason**: The software outputs this warning because the selected vector layer does not match the

clicked vector drawing function. For example, selecting a line layer and clicking the "Add Point" function will trigger this warning.

- **Solution**: Select a layer that matches the vector drawing tool as the current layer, or choose a vector drawing tool that matches the currently selected layer. For example, if the selected layer is a polygon layer, choose tools like "Add Hexagon" or "Add Octagon".

Adjust Vectors

1.[Warning] "This feature only supports 3D Viewer!"

- **Warning Reason**: The software outputs this warning because when entering the "Adjust Vector" function, the "Section" function has not been exited.
- **Solution**: When entering the "Adjust Vector" function, exit the "Section" function.

Extend/Trim

1.[Warning] "This feature only supports 3D Viewer!"

- **Warning Reason**: The software outputs this warning because when entering the "Extend/Trim" function, the "Section" function has not been exited.
- **Solution**: When entering the "Extend/Trim" function, exit the "Section" function.

Point Split Line / Line Split Line / Line Split Polygon

1.[Warning] "This feature only supports 3D Viewer!"

- **Reason**: The software outputs this warning because the "Section" feature has not been exited when entering this function.
- **Solution**: Exit the "Section" feature before entering this function.

2.[Warning] "Please select point object!" "Please select line object!"

- **Reason**: After entering the "Point Break Line" feature, you must first select a point object, then a line object. If the selection order is incorrect or if an object of another type is selected, the software will output this warning.
- **Solution**: After entering the "Point Break Line" feature, first select a point object, then a line object.

3.[Warning] "Please select line object!" "Please select multi line or line object!"

- **Reason**: After entering the "Line Break Line" feature, you must first select a line object, then a line/multi-line object. If the selection order is incorrect or if an object of another type is selected, the software will output this warning.
- **Solution**: After entering the "Line Break Line" feature, first select a line object, then a line/multi-line object.

4.[Warning] "Please select line object!" "Please select polygon object!"

- **Reason**: After entering the "Line Break Polygon" feature, you must first select a line object, then a polygon object. If the selection order is incorrect or if an object of another type is selected, the software will output this warning.
- **Solution**: After entering the "Line Break Polygon" feature, first select a line object, then a polygon object.

5.[Warning] "The point object has no point or more than one point!"

- **Reason**: The point object selected for the "Point Break Line" feature must be a single point object. When a multi-point object is selected, the software will output this warning.
- **Solution**: After entering the "Point Break Line" feature, first select a single point object.

6.[Warning] "The point is not on the line!"

- **Reason**: The point object selected for the "Point Break Line" feature must be a single point object, and this point must be on the line being broken. If the selected point is not on the selected line, the software will output this warning.
- **Solution**: After entering the "Point Break Line" feature, first select a single point object, then select the line object where the point lies.

7.[Warning] "The two lines have more than one intersect points!" "The two lines have no intersect points!"

- **Reason**: For the "Line Break Line" feature, the two selected line objects must have exactly one intersection point. If the two line objects have no intersection points or more than one intersection point, the software will output this warning.
- **Solution**: After entering the "Line Break Line" feature, select two line objects that intersect at exactly one point.

8.[Warning] "The line and polygon have less than two intersect points!"

- **Reason**: For the "Line Break Polygon" feature, the selected line object must intersect the selected polygon object at exactly two points. If the selected objects do not meet this condition, the software will output this warning.
- **Solution**: After entering the "Line Break Polygon" feature, select a line object and a polygon object that intersect at exactly two points.

Reshape

1.[Warning] "This feature only supports 3D Viewer!"

- **Reason**: The software outputs this warning because the "Section" feature has not been exited when entering this function.
- **Solution**: Exit the "Section" feature before entering this function.

2.[Warning] "Please select line or multi line object!"

- **Reason**: The Redraw feature currently supports line/multi-line objects. If an object of another type is selected, the software will output this warning.
- **Solution**: After entering the "Redraw" feature, select a line/multi-line object.

3.[Warning] "The two lines have less or more than two intersect points!"

- **Reason**: If the selected line object has fewer than two points or if the drawn line intersects the selected line object at fewer than two points, the software will output this warning.
- **Solution**: After entering the "Redraw" feature, ensure the selected line object has at least two points, and the redrawn line intersects the selected line object at more than two points.

Vector Smoothing

1.[Warning] "This feature only supports 3D Viewer!"

- **Reason**: The software outputs this warning because the "Section" feature has not been exited when entering this function.
- **Solution**: Exit the "Section" feature before entering this function.

2.[Warning] "The process is running." "The process is not finished."

- **Reason**: When the smoothing thread is running, performing other operations will cause the software to output this warning.
- **Solution**: When the software displays this message, wait for the progress bar to complete before performing other operations.

3.[Warning] "Please reduce the number of iterations."

- **Reason**: When the number of iterations is set too high, many redundant points may appear on the line, so the software will output this warning to prompt the user to reduce the number of iterations to achieve a better smoothing effect.
- **Solution**: When the software displays this message, reduce the number of iterations and perform the smoothing operation again.

Split/Merge Polygons

1.[Warning] "This feature only supports 3D Viewer!"

- **Reason**: The software outputs this warning because the "Section" feature has not been exited when entering this function.
- **Solution**: Exit the "Section" feature before entering this function.

2.[Warning] "Merge Failed!"

- **Reason**: When the polygon merge fails (the two polygons do not share a common edge and do not meet the merge conditions), the software will output this warning.
- **Solution**: Select polygons that share a common edge and meet the merge conditions to perform the polygon merge operation.

Line Intersection

1.[Warning] "No solutions found."

- **Reason**: The selected two objects do not intersect, or their extensions do not intersect. The software will output this warning.
- **Solution**: Select two line objects that intersect or whose extensions intersect.

Lines to Polygon

1.[Warning] "Please select Polygon layer."

- **Reason**: If the layer for converting line objects to polygon objects is not selected, the software will output this warning.
- **Solution**: To use this feature, select the layer for converting line objects to polygon objects in the popup

settings window.

2.[Warning] "There are less than three lines or two lines that are not connected from end to end."

- **Reason**: This warning is output because the selected line objects do not meet the conditions for forming a polygon (fewer than three lines or the selected line objects are not connected end-to-end).
- **Solution**: Select line objects that form a surface and meet the conditions for constructing a surface.

3.[Warning] "Generate polygon error."

- **Reason**: If the layer for converting line objects to polygon objects is not selected, the software will output this warning.
- **Solution**: To use this feature, select the layer for converting line objects to polygon objects in the popup settings window.

Layer Split Layer

1.[Warning] "Split layer has no vector object."

- **Reason**: The selected split layer does not contain any vector objects, and the software will output this warning.
- **Solution**: Ensure the split layer contains vector objects.

2.[Warning] "Target layer has no vector object."

- **Reason**: The selected target layer does not contain any vector objects, and the software will output this warning.
- **Solution**: Ensure the target layer contains vector objects.

3.[Warning] "Please select split layer and target layer."

- **Reason**: The split layer and target layer have not been selected in the settings dialog.
- **Solution**: Set the split layer and target layer before running the function.

4.[Warning] "The working thread is running."

- **Reason**: When the layer split function is running, performing other operations will cause the software to output this warning.
- **Solution**: Wait for the progress bar to complete before performing other operations when the layer split function is running.

Line to Points

1.[Warning] "Please select point layer and line layer."

- **Reason**: When running the line to point function, the line layer and point layer need to be selected in the settings dialog. If the appropriate layers are not set, the software will output this warning.
- **Solution**: Select the line layer and point layer in the settings dialog before running the line to point function.

2.[Warning] "Layer of line has no vector object."

- **Reason**: When running the line to point function, the selected line layer does not contain any vector objects, and the software will output this warning.
- **Solution**: Ensure the line layer contains vector objects before running the line to point function.

3.[Warning] "No selected vector object."

- **Reason**: When the line to point function is running in selection mode, but no line vectors are selected, the software will output this warning.
- **Solution**: Select the line vectors to be converted before running the line to point function in selection mode.

4.[Warning] "The working thread is running."

- **Reason**: When the line to point function is running, performing other operations will cause the software to output this warning.
- **Solution**: Wait for the progress bar to complete before performing other operations when the line to point function is running.

5.[Warning] "The line must have more than two points."

- **Reason**: When the line object to be converted has fewer than two points, the software will output this warning and skip this line object, not converting it.
- **Solution**: Ensure the line object to be converted contains two or more points when running the line to point function.

Multi-part to Single-part

1.[Warning] "Please select multipart layer."

- **Reason**: When running the multi-part to single-part function, the multi-part layer needs to be selected in the settings dialog. If the appropriate layer is not set, the software will output this warning.
- **Solution**: Select the multi-part layer in the settings dialog before running the multi-part to single-part function.

2.[Warning] "Layer of multipart has no vector object."

- **Reason**: When running the multi-part to single-part function, the selected multi-part layer does not contain any vector objects, and the software will output this warning.
- **Solution**: Ensure the multi-part layer contains vector objects before running the multi-part to single-part function.

3.[Warning] "The working thread is running."

- **Reason**: When the multi-part to single-part function is running, performing other operations will cause the software to output this warning.
- **Solution**: Wait for the progress bar to complete before performing other operations when the multi-part to single-part function is running.

Points to Lines

1.[Warning] "Please select point layer and line layer."

- **Reason**: When running the point to line function, the line layer and point layer need to be selected in the settings dialog. If the appropriate layers are not set, the software will output this warning.
- **Solution**: Select the line layer and point layer in the settings dialog before running the point to line function.

2.[Warning] "Layer of point has no vector object."

- **Reason**: When running the point to line function, the selected point layer does not contain any vector

objects, and the software will output this warning.

- **Solution**: Ensure the point layer contains vector objects before running the point to line function.

3.[Warning] "No selected vector object."

- **Reason**: When the point to line function is running in selection mode, but no point vectors are selected, the software will output this warning.
- **Solution**: Select the point vectors to be converted before running the point to line function in selection mode.

4.[Warning] "The working thread is running."

- **Reason**: When the point to line function is running, performing other operations will cause the software to output this warning.
- **Solution**: Wait for the progress bar to complete before performing other operations when the point to line function is running.

Add Auxiliary Line

1.[Error] "This function only supports 3D window."

- **Reason**: When the 3D window is not displayed or the focus is not on the 3D window, the software will output this warning.
- **Solution**: Ensure the 3D window is displayed and has focus before running the function.

Issues Related to Vector Import and Export

1.[Warning] "Project coordinate get failed."

- Cause: Loss of project coordinate system information, possibly due to project version upgrades, project file corruption, or other factors.
- Solution: Close the current project, reopen it, or create a new project.

2.[Warning] "Project read failed." & [Warning] "Invalid param type."

- Cause: Failure to read project file content, possibly due to project version upgrades, file corruption, or other factors.
- Solution: Close the current project, reopen it, or create a new project.

3.[Warning] "Invalid coordinate system."

- Cause: Failure to correctly read the coordinate system of the selected imported vector data.
- Solution: Verify that the vector data to be imported is correct.

4.[Warning] "Get factory failed: ..."

- Cause: Failure to properly read vector files during import.
- Solution: Ensure data is correct, and consider reinstalling the software. The issue may be due to missing dependency files required for reading certain data formats.

5.[Warning] "Open Database failed: ..."

- Cause: The vector file was read during import but could not be parsed.
- Solution: Verify that the vector data is correct.

6.[Warning] "Create Database failed: ..."

- Cause: Failure to create vector file during export.
- Solution: Check if the export directory has permission and allows normal file access.

7.[Warning] "Open feature class failed: ..."

- Cause: Failure to export a specific feature class within the vector file.
- Solution: Check if the corresponding data within the vector file is correct or if the feature class exists.

Field Calculator FAQ

1.[Warning] "Error while reading the expression file."

- Cause: Failure to read the expression file or inability to open the file.
- Solution: Check if the expression file exists and is not in use.

2.[Error] "Python environment configuration error, unable to use Python for editing."

- Cause: Abnormal Python environment configuration, leading to the Python editor being disabled.
- Solution: Due to unknown reasons causing Python environment corruption, try reinstalling the - software using the installation package.

3.[Error] "Python Initialization failed."

- Cause: Python environment initialization failed.
- Solution: Due to unknown reasons causing Python environment corruption, try reinstalling the software using the installation package.

Other Issues with the Field Calculator

1. After clicking in the top-left corner of the current view's table, not all vectors in the current layer are selected, only a portion of the vectors are selected.

- The attribute table uses a partial loading display method, meaning not all items are displayed at once. When the scrollbar reaches the bottom, any data that hasn't been fully loaded yet will continue to load. Therefore, if the data has not been fully loaded, clicking the top-left corner of the current view's table will only select the partially loaded data.

Registration Module FAQ

GCP

1.[Warning] "The number of reference points is inconsistent with the number of alignment points!"

- Reason: The software outputs this warning because the number of imported reference points does not match the number of points to be aligned.
- Solution: When importing reference points, ensure that the number of reference points and the number of points to be aligned are consistent.

2.[Warning] "The number of GCP points needs to be greater than 1."

- Reason: The software outputs this warning because there are no GCP points or only one point when saving.
- Solution: To save the results, you need more than one GCP point.

3.[Warning] "Invalid data detected, please check the input data."

- Reason: The software outputs this warning because there are no GCP points or only one point when clicking apply in the GCP function.
- Solution: To apply the results, you need more than one GCP point.

ICP

1.[Warning] "No region(s) selected! Please select at least one region before running the ICP."

- Reason: The software outputs this warning because no calculation region has been selected when running the ICP computation.
- Solution: Before running the ICP computation, select the calculation region on the point cloud using a sphere selection.

2.[Warning] "No reference point clouds in the selected regions(s)."

- Reason: The software outputs this warning because no calculation region on the reference point cloud has been selected, or there is no reference point cloud, when running the ICP computation.
- Solution: Before running the ICP computation, ensure that there are both reference and alignment point clouds, and that calculation regions have been selected on both the reference and alignment point clouds.

3.[Warning] "No point clouds to align in the selected regions(s)!"

- Reason: The software outputs this warning because no calculation region on the alignment point cloud has been selected, or there is no alignment point cloud, when running the ICP computation.
- Solution: Before running the ICP computation, ensure that there are both reference and alignment point clouds, and that calculation regions have been selected on both the reference and alignment point clouds.

4.[Warning] "ICP failed! You may try it again by selecting region(s) containing featureful objects such as facade/ground."

- Reason: The software outputs this warning because the selected region does not contain enough feature points, leading to an ICP computation failure.
- Solution: Before running the ICP computation, ensure that the selected region contains rich feature points,

such as facades or ground points.

Point Pairs

1.[Warning] "The number of reference points is inconsistent with the number of alignment points!"

- Reason: The software outputs this warning because the number of imported reference points does not match the number of points to be aligned.
- Solution: When importing reference points, ensure that the number of reference points and the number of points to be aligned are consistent.

2.[Warning] "The radius of the detected sphere is, which deviates too much from the preset parameter!"

- Reason: The software outputs this warning because the detected sphere radius during the point pair function deviates significantly from the preset radius.
- Solution: Adjust the preset sphere radius, or reselect the alignment sphere based on the preset radius.

3.[Warning] "The RMS threshold is exceeded! You may try to set a larger threshold."

- Reason: The software outputs this warning because the calculated RMS for the selected alignment sphere in the point pair function does not match the preset RMS value.
- Solution: Adjust the preset RMS value, or reselect the alignment sphere.

4.[Warning] "Sphere detection failed!"

- Reason: The software outputs this warning because the point cloud in the selected region for the alignment sphere is too sparse.
- Solution: Reselect the alignment sphere in a denser point cloud area.

Rotation/Translation

1.[Warning] "No point cloud in registration viewer."

- Reason: The software outputs this warning because there is no point cloud to be aligned when entering the rotation/translation function.
- Solution: Before starting the rotation/translation function, import the reference and alignment point clouds.

2.[Warning] "There can only be one trajectory in the window."

- Reason: The software outputs this warning because the rotation/translation function supports only one trajectory data.
- Solution: If you need to import a new trajectory, remove the existing trajectory data first, then import the new trajectory data.

3.[Warning] "The file already exists."

- Reason: The software outputs this warning because there is already a trajectory with the same name in the registration window when importing trajectory data.
- Solution: If you need to import a new trajectory, remove the existing trajectory data first, then import the new trajectory data.

4.[Warning] "No cloud points in current active project." [Warning] "Get point cloud error."

- Reason: The software outputs this warning because there is no point cloud data in the currently active

project (mapping or processing) when starting the rotation/translation function.

- Solution: Exit the rotation/translation function and ensure that the current project contains point cloud data.

5.[Warning] "This action matches the bounding box centers of the 'to align' cloud(s) and the 'reference' cloud(s)."

- Reason: The software outputs this warning because there is no reference point cloud when clicking to match the centers in the rotation/translation function.
- Solution: Before clicking to match the centers, ensure that there are both reference and alignment point clouds in the registration window.

Vector and Raster Toolbox FAQ

File Type Error

1.[error]: Input encode is null.

error cause: The input encoding format is empty.

solution: Check the incoming file encoding format.

2.[error]: Input dxf path is null.

error cause: The input dxf file path is empty.

solution: Check whether the path of the input Auto CAD dxf format file is valid.

Table Error

1.[error]: Index of the row in which the table header resides parameter must be greater than 0.

error cause: The index parameter of the row where the header is located must be greater than 0.

solution: Check whether the incoming line number meets the expected value, usually the first line exists in the header of the table data such as csv and excel.

Database Error

1.[error]: The feature class pointer cannot be null.

error cause: The feature class object pointer is empty.

solution: Check whether the input feature class data is valid.

2.[error]: The table class pointer cannot be null.

error cause: The table class object pointer is empty.

solution: Check whether the input table class data is valid.

3.[error]: Input geometry is null.

error cause: The input geometry is empty.

solution: Check whether the input point, line and surface geometric entities are valid.

4.[error]: Input spatial filter is null.

error cause: The input spatial query filter object pointer is empty.

solution: Check whether the spatial query filter is valid.

5.[error]: Input feature class is empty.

error cause: The input feature class is empty.

solution: Check if the input feature class contains at least one or more features.

Feature Class Type Error

1.[error]: The input path is invalid.

error cause: The input path is empty.

solution: Check whether the input path is correct.

2.[error]: The input feature class is invalid.

error cause: The input feature class object pointer is empty.

solution: Check whether the input feature class data is valid.

3.[error]: The format of the input data is not supported.

error cause: The format of the input data is not supported.

solution: Check whether the function supports the format of the input data.

4.[error]: The geometry type of input feature class is not supported.

error cause: The geometric type of the input feature class is not supported.

solution: Check whether the function supports the geometric type of the input feature class.

5.[error]: The option of have M-values is invalid.

error cause: The option value for 'Include M Values' is incorrect.

solution: Check if the input option value for 'Include M Values' is correct; it should be one of 0 (Unsupported), 1 (Same as Template Feature Class), or 2 (Supported).

6.[error]: The option of have M-values or Z-values is invalid.

error cause: The option value for 'Include M Values' or 'Include Z Values' is incorrect.

solution: Check if the input template dataset is empty. When the option value for 'Include Z Values' or 'Include M Values' is set to 1 (Same as Template Feature Class), a template dataset is required!

7.[error]: Create CRSTransformer failure.

error cause: Creating a CRS transformation object failed.

solution: Check if the input and output spatial reference systems are valid and recognizable.

8.[error]: Get polygon wkt failed.

error cause: The input surface elements fail to turn into wkt.

solution: Check whether there is a problem with the input elements.

9.[error]: Union fail. Union geometry is null.

error cause: The input features failed to Union.

solution: Check whether the input elements are empty or meet the requirements.

Data Insertion Failure Type

1.[error]: Failed to insert fields into fieldinfo table: failed to prepare SQL.

error cause: When the feature class saves the field information data, the SQL statement that inserts the field information fails to prepare.

solution: Check whether the gpkg data is in a locked state, and check whether there is a gpkg_fieldinfo table in gpkg.

2.[error]: Failed to insert fields into fieldinfo table: failed to bind parameters.

error cause: When the feature class saves the field information data, the preprocessing SQL statement that inserts the field information fails to bind the field information value.

solution: Check whether the gpkg data is in a locked state, and check whether there is a gpkg_fieldinfo table in gpkg.

3.[error]: Failed to insert fields into fieldinfo table: failed to execute sql step by step.

error cause: When the feature class saves the field information data, the preprocessing SQL statement that inserts the field information fails to execute step by step.

solution: Check whether the gpkg data is in a locked state, and check whether there is a gpkg_fieldinfo table in gpkg.

4.[error]: failed to prepare SQL.

error cause: The SQL statement for preparing to insert into the feature class has failed.

solution: Check whether the gpkg data is locked.

5.[error]: failed to bind parameters.

error cause: The binding of parameters to the prepared SQL statement for the feature class insertion has failed.

solution: Check whether the gpkg data is locked, check whether the field value of the inserted element has an invalid value, and check whether the field is set to a non-empty inserted field value but empty.

6.[error]: failed to execute sql step by step.

error cause: The feature class failed to perform insert preprocessing SQL statements.

solution: Check whether the gpkg data is in a locked state, whether the field name of the feature class has illegal symbols, and whether the field name of the feature class may be repeated with the id name.

7.[error]: non same fields object.

error cause: The input feature field set and the feature class field set are not the same object.

solution: Check whether the inserted feature field set object and the feature class field set are the same.

Add Field Failure Type

1.[error]: failed to execute sql.

error cause: The sql statement for adding a field to the feature class has failed to execute.

solution: Check whether the field name is repeated with the feature class, and check whether the field name and alias have illegal characters.

Cursor Construction Failure Type

1.[error]: failed to prepare SQL.

error cause: The SQL statement preparation for constructing the cursor failed.

solution: Check whether the conditional filtering statement is legitimate.

Raster Error

1.[error]: Raster band index list exception.

error cause: Raster band index parameter exception.

solution: Check whether the incoming index number is in a valid range, usually the raster data set contains one or more bands.

2.[error]: Failed to create GCPtransformer based on input parameters.

error cause: Failed to create GCP transformation object based on input parameters.

solution: Check the number of input parameter GCP point pairs, whether the GCP point pair list and polynomial degree are valid.

3.[error]: The value of NoData conversion to double type failed.

error cause: The conversion of NoData data into dual-precision data failed.

solution: Check whether the input 'NoData 'value is valid.

4.[error]: The raster file is probably corrupted or too large.

error cause: The raster file is too large or damaged.

solution: Check whether the raster file is too large, too large to cut. If the file is damaged, check whether other software can open the file normally, and whether the data is normal.

5.[error]: Raster Identitor doesn't support xx bands. Must be 1/2/3... .

Attempt to create Raster dataset with an illegal data type , only Byte/eight/... bit supported by the format.

JPEG Identitor doesn't support data type. Only eight bit byte bands supported.

error cause: Each raster format supports different numbers of bands and data types.

solution: Check whether the output raster format supports the corresponding number of bands and data types. If not, the output format needs to be replaced, such as tif and img.

Customizing Deep Learning FAQ

1.When using Custom Deep Learning Classification, If prompted to "Please go to (service pack address) to download the complete service package," please click the link to download and install it before launching the feature.
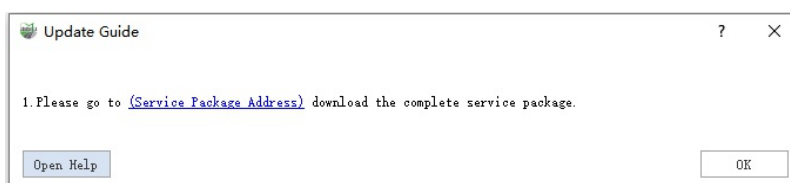
- Please click the link to download and install the complete service pack before launching the feature.

2.When using Custom Deep Learning Classification, if prompted "Please update the graphics card driver (version required > 465.89), you can download the latest driver from (graphics card driver address)".
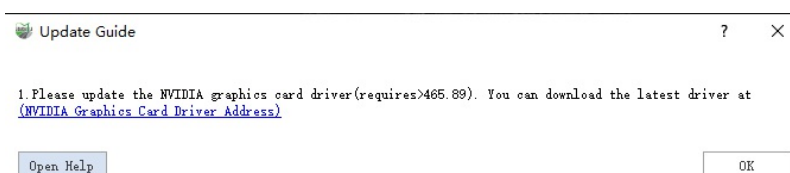
- Please click on the graphics card driver address to download and install the latest version of the graphics card driver. This will resolve the issue.

3.If the software is upgraded online or reinstalled after uninstallation, does the deep learning extension package need to be reinstalled?

- The deep learning extension package needs to be reinstalled.

4.When using Custom Deep Learning Classification, if you get "The code cannot continue because nvml.dll was not found. Reinstalling the program may solve this problem".
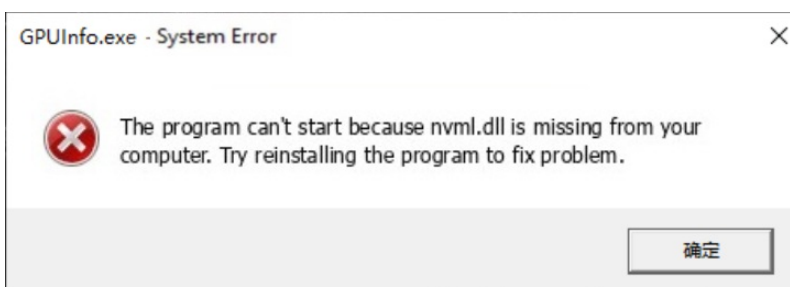
- Please first check if the graphics card driver is installed. If you have confirmed that you have installed the latest version of the graphics card driver and the issue still persists, you can add the path **C:\Program Files\NVIDIA Corporation\NVSMI** (the path may vary based on your graphics card driver installation) to the system environment variable Path.

5.When running the training module, I receive the following message: "GPU driver version is too old. Please update to version 465.89 or above."
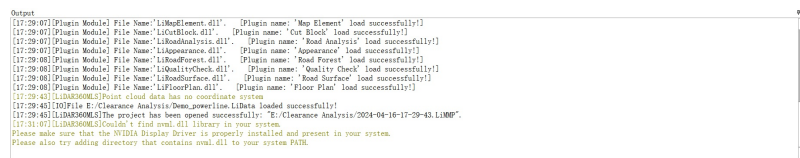
- Please upgrade your graphics card driver to at least version 465.89.

6.When running the training module, I get the message "NVIDIA GPU not found or driver not installed."

- Please make sure you have an NVIDIA GPU installed and that the graphics card driver is properly installed
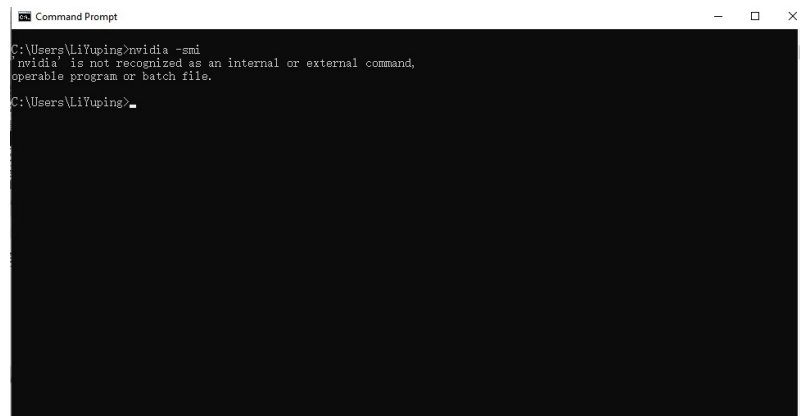
7.When using deep learning related functions, if the following prompt is printed in the log window, but the computer has an NVIDIA graphics card

- To check if there is any problem related to NVIDIA graphics card driver, you can use win+r key combination to hit the run screen of Windows and type cmd to open the command prompt window. In the Command Prompt window, type nvidia-smi and press Enter. If the interface prompts "nvidia-smi is not an internal or external command, nor is it a program that can be run", it proves that the current computer has an NVIDIA graphics card, but the graphics card driver is abnormal, so it is recommended to download NVIDIA drivers from NVIDIA Driver Download page to download the corresponding driver.

8.When labeling training data, should the number of the same category be uniform across all the data?

- The number of the same category must be the same, otherwise a good training model cannot be obtained. If there are data with different categories, you can use the classification function in LiDAR360MLS software to number all the data with the same categories and then train them.

9.If I already have a trained model and now need to continue training it with new data, what should I do?

- It is possible to use both old and new data as training sets and then retrain or use the existing model as a pre-trained model to continue training.

10.When using the Custom Deep Learning Classification module, I choose to train 100 rounds but why does it ends the training early without reaching 100 rounds?

- The module has an early stop function to save training time by stopping training when the mIoU of the validation data is not improved after 10 consecutive rounds of training.

11.When using the Custom Deep Learning Classification module and I terminate the training early, how do I get a report on the training sets?

- There is a button to print the report in the training screen, click Print Report to print after terminating the training.

12.When performing the inference process with a trained model, where can I find the data after inference?

- After inference is finished, the source data will be overwritten. If the source data has labels information, it will be replaced. So it is recommended to backup the inferred data before inference. If it is image data, it can be found in the latest inference folder in the same directory as the image.

13.What are the functions of software related to deep image learning? What is the difference?

- Road signs: Built-in extraction models for China and the United States, as well as support for custom labeling or synthetic samples to train models for other regions.
- Road facilities: Built-in extraction models for China, such as street signs, street lights, facilities, etc., and also supports custom labeling or synthetic samples to train models for other facilities you want to extract.
- Road damage: built-in damage detection such as cracks, manhole covers, potholes and other types of damage detection model, while supporting custom labeling training own damage data model
- Image de-privacy: built-in automatic fuzzy face, license plate model, this task, the current function does not support the use of custom-trained models for the time being
- Automatic MASK: Built-in color assignment used in the mask file to automatically generate mask model, the current function does not support the use of custom-trained models for the time being
- Generic target detection: If the customer wants to identify any feature through the image, for example, facilities or pipeline scenes want to extract tees, bolts, etc., any target detection task, you can customize the labeling, training, model inference, and through the inverse projection point cloud to get to identify the location of the target (point layer storage).
- General semantic segmentation: If the customer wants to identify and segment any features through images, such as various broken segmentation needs, any image segmentation tasks, you can customize the labeling, training, model inference and through the inverse projection point cloud to identify the shape of the target (face layer storage).

BP Module FAQ

Common error messages and solutions

1.Bag file read error

- Meaning: Error reading bag file.

- Causes: ① Copy error, file corruption; ② Packaging error, very unlikely.

- Solutions: ① Recopy; ② Click the repair icon in the APP;③USB drive format issue, FAT32 does not support copying data above 4GB, please format as exFAT or NTFS format

2.SLAM results may be incorrect

- Meaning: SLAM process failed.

- Causes: ① Too few features; ② Turning too fast; ③ Number of dynamic object features exceeds that of static objects.

- Solution: ① Place the feature object; ② Recollect data; ③ Reduce the feature filter size; ④ Increase the minimum distance in the general settings.

3.Video file:VID_**.MP4 not exist

- Meaning: Video file does not exist.

- Cause: ① Incorrect video file copied; ② Video file lost;

- Solution: ①② Copy the correct and complete video file

4.Current stitcher process isn't completed

- Meaning: insv to mp4 conversion incomplete.

- Causes: ① Disk speed is occupied; ② Insufficient disk space; ③ Low disk read/write speed; ④ MP4 file is damaged; ④ Antivirus software mistakenly kills the software; ⑤ Insufficient computer memory.

- Solution: Check remaining disk space, use a hard drive with good read/write speed; ⑤ Requires a computer with more than 32GB of memory.

5.Move distance insufficient

- Meaning: SLAM intermediate result not generated.

- Causes: ① IMU and LIDAR time not synchronized; ② Initialization failed; ③ No IMU data.

- Solution: ① and ③ are equipment issues; ② requires re-initialization

6.GPS time is out of sync with trajectory time,please check the trajectory

- Meaning: The time difference between POS and LiDAR is too large (>1 day).

- Causes: ① The time of the base station and the rover do not match; ② The GPS and LiDAR of the equipment are not synchronized.

- Solution: ① Confirm whether the base station file and the rover file match; ② Consult after-sales service.

7.GCP initial transform error, please check GCP pairs

- Meaning: The initial matching error of the GCP is too large.

- Cause: The initial error between the control point and the GCP collection is too large.

- Solution: Check the error before the GCP, ① reorganize the matching relationship between the GCP collection and the control point, ② or check if X and Y are reversed.

8.GNSS file doesn't exit

- Meaning: *.gnsstraj file does not exist.

- Cause: *.gnsstraj is missing or damaged, or has been modified.

- Solution: Reprocess PPK or import RTK file.

9.Re-output lidata failed

- Meaning: Point cloud output failed.

- Cause: ① The previous lidata file is missing or damaged; ② Insufficient disk space.

- Solution: Ensure sufficient disk space and re-output.

10.No origin insta video please check data

- Meaning: The video file directory does not contain the original insta video.

- Cause: INSV and the converted panoramic MP4 are not in the same folder.

- Solution: Recopy the original INSV file.

11.Stitcher timeout break, video stitching error/Fail stitcher insv to MP4

- Meaning: The merge subroutine failed.

- Cause: ① Antivirus software; ② Original file is damaged.

- Solution: ① Turn off antivirus software; ② Recopy the video file; ③ Reinstall the software.

GNSS

1.GPS base station file format error

- Meaning: GPS base station data format error

- Cause: GPS format issue

- Solution: Please convert to standard RINEX (V2.11-3.03)

2.It is detected that the difference between the manually input base station position and the rough position obtained from the original data unpacking of the base station is too large, with a difference of more than 1000 meters. It is suspected that the input base station position is wrong or the base station file is wrong. Please verify !

- Meaning: The difference between the coordinates of GPS single point positioning and the input base station coordinates is too large, more than 1000 meters

- Cause: The entered base station coordinates are incorrect

- Solution: Check the entered base station coordinates

3.It is detected that there is no common viewing time between base station data and mobile station data. It is suspected that the input original data is wrong.

- Meaning: The coverage time of the GPS base station is inconsistent with that of the Rover

- Causes: ① Copy the correct base station file; ② The base station file is damaged

- Solution: Copy or use the correct base station file

4.The time of the mobile station is too short to meet the normal solution conditions

- Meaning: The time of Rover is too short to get a fixed solution

- Cause: Short collection time

- Solution: It is recommended to collect data for more than 5 minutes when using PPK mode

5.The ephemeris files of the mobile station and the base station are missing and canot be solved. Please check the reason (possible cause: the data is too short or the equipment factory configuration is wrong).

- Meaning: The ephemeris of the base station or Rover is lost

- Cause: acquisition time is too short or factory settings error

- Solution: It is recommended to collect data for more than 5 minutes when using PPK mode or contact the after-sales team

6.Failed to load file: "**.rtk". The quality of the result trajectory is too low!

- Meaning: The RTK quality is too low to be loaded

- Cause: RTK is a floating at all the collection time

- Solution: ①: Use PPK; ② Re collect

GAP

1.Laser gap

- Meaning: LiDAR data loss.

- Causes: LiDAR data is lost during data collection.

- Solution: ① The APP will prompt if data is lost, and fieldwork needs to recollect; ② Check if the cables are properly connected; ③ For other situations, please contact after-sales.

2.IMU gap

- Meaning: IMU data loss.

- Cause: IMU data loss during equipment data collection.

- Solution: ① The data loss APP will prompt, and fieldwork will need to recollect; ② Check if the cables are properly connected; ③ Other situations.

Geo Module FAQ

Common error messages and solutions

1.[Analyze Images]Please generate the trajectory file first!

- Error reason: No *.traj file was generated in the project.
- Solution: The Thinning By Distance function when analyzing images and generating *.imglist files require trajectories, so the trajectories need to be processed before performing these operations.

2.[Analyze Image]Maybe something wrong with command line parameters for Ladybug.

- Error reason: *.pgr files do not exist or is damaged.
- Solution: Check if the *.pgr* files exists in the Cam folder. If the file exists, it is considered damaged. Users need to send the .pgr files to our technical support, and they will use ladybugCapPro software to view it. As shown in the figure, the data is damaged.
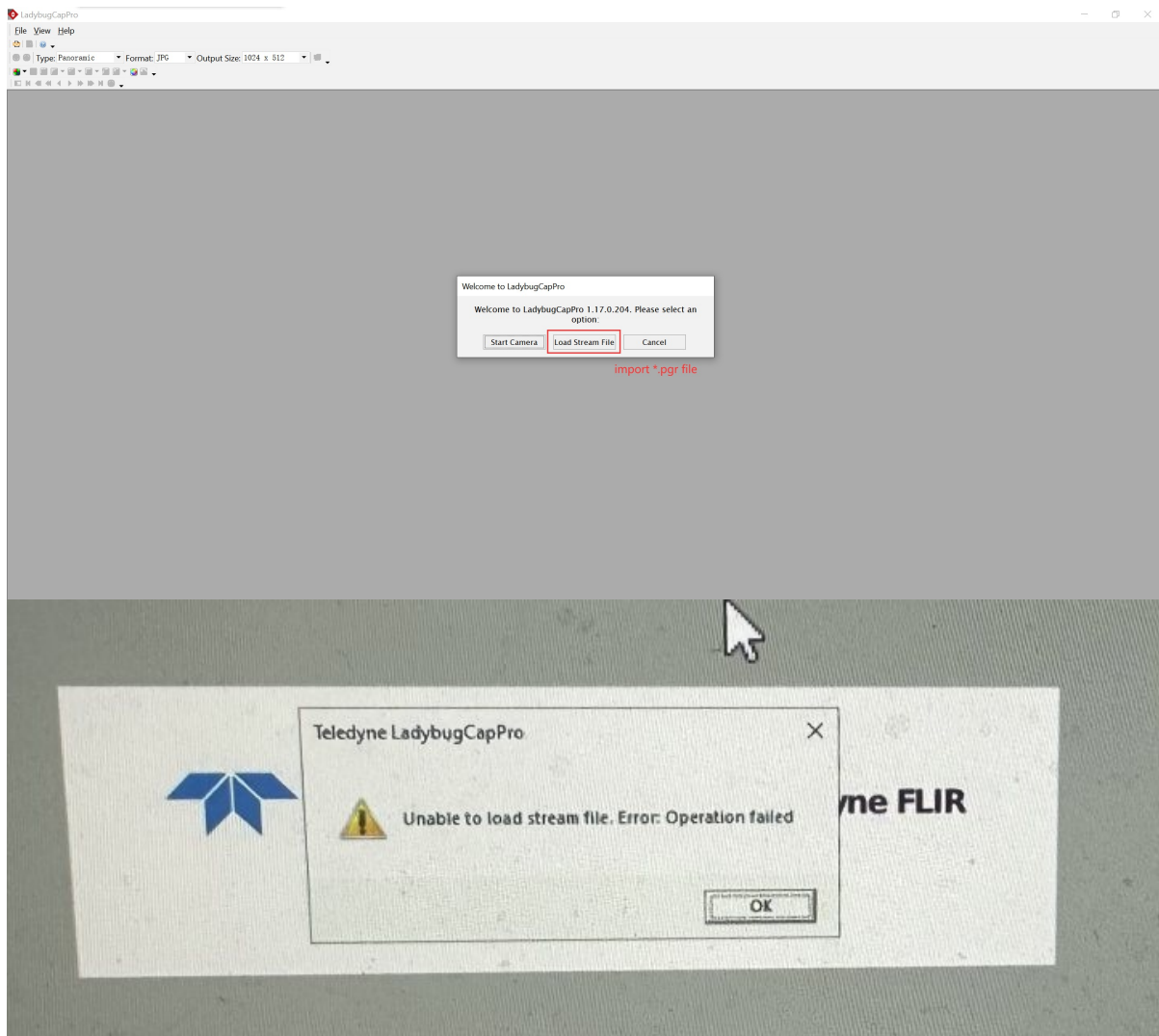
3.[Analyze Image]Folder doesn't exist *.pgr file! F:/Data/0625/2024-06-25-07-12-28/Result.

- Error reason:The panoramic Image Folder path is set incorrectly.

- Solution: Check the Image Folder path and whether there are *.pgr files under the path.

Setting   ⌸ ✕

Scan Name:2024-10-18-03-51-53-977

| POS Process | Georeference | Strip Adjust | Output |

Output Coordinate System WGS 84 / UTM zone 49N   [...]

▸ Laser
▾ Camera Setting

☐ Analyzing Panorama

MV-GC: Camera 1 | Ladybug5plus: Camera 2

Calibration

Image Folder: G:/2024-10-18-03-51-53-977/Cam   [...]

Camera Event: |-10-18-03-51-53-977/Cam/ladybug_caminfo.txt [...]

Thinning By Distance: 0.200   ⇅ m

Resolution: 8192*4096 ▾

▸ Advance Setting

4.Error Num = -41, The quality of the satellite navigation processing is poor (Fix ratio is 0%), and the solution is terminated.

- Error reason: Data quality is poor, fix rate is 0.
- Solution: Check if the base station is too far away.

5.[Open Project] The project has been occupied.

- Error reason: The project file is open.
- Solution: Check whether multiple software interfaces are open and the project is open in other interfaces.

6.[LiDAR360MLS]Please switch to the mapping project to use this function.

- Error reason: This function can only be used in mapping projects.
- Solution:Click the button to convert the project.

☑ Go to Traje(

 Convert to Mapping Project

 Organize into Mapping Project

7.[LiDAR360MLS]The base station file 'R:/20240914/onig258l00,24o' does not exist.

- Error reason: The base station file is lost in the project.
- Solution: Check whether the base station file is lost. It is strongly recommended to put the base station file into the project to reduce the risk of data omission when copying data.

8.[IO]Failed to build G:/2023-06-21-07-26-10/laser_1_2023-06-21-06-36-37-1-optimized.LiData!

- Error reason: The LiData file is not completely generated or is damaged.
- Solution: Please check if the solution disk space is insufficient.

9.[IO] Load project file F:/1021_2024-10-21-05-09-40/2024-10-21-05-09-40.live failed!

- Error reason: There is an error in the live project file.
- Solution: Open the live file and check if it is normal.

10.[IO]Recover project data failed, please copy the original project data to current project directory!

- Error reason: The project folder is not copied completely.
- Solution: Compare and check whether the copied data is inconsistent with the original data.

11.[LiDAR360MLS]Failed to load project file path from F:/1021_2024-10-21-05-09-40/2024-10-21-05-09-40.liscan

- Error reason: liscan project file corruption and other JSON format issues.
- Solution: Check whether the liscan file is abnormal. If it is an empty file, try to create a new liscan project for solution. If it is not an empty file, it is recommended to contact our technical support for file repair.

12.[Strip Adiust] Initialization: Failed reading E:/2024-10-13-07-37-29-199/202410-13-07-37-29-199_original.traj

- Error reason: The trajectory file was moved, deleted, or the file format was incorrect, resulting in a failure in reading the trajectory file.
- Solution: Check the trajectory file under this path.

13."E:/M2/1018_2024-10-18-01-25-25/LaserRaw/Hesai_1/Hesai_1_2024-10-18-01-35-13-0/Temp/pointCloudList.json" is not found.

- Error reason: Geo process task run failed.
- Solution: Try to update the software version or try to change the processing computer equipment.
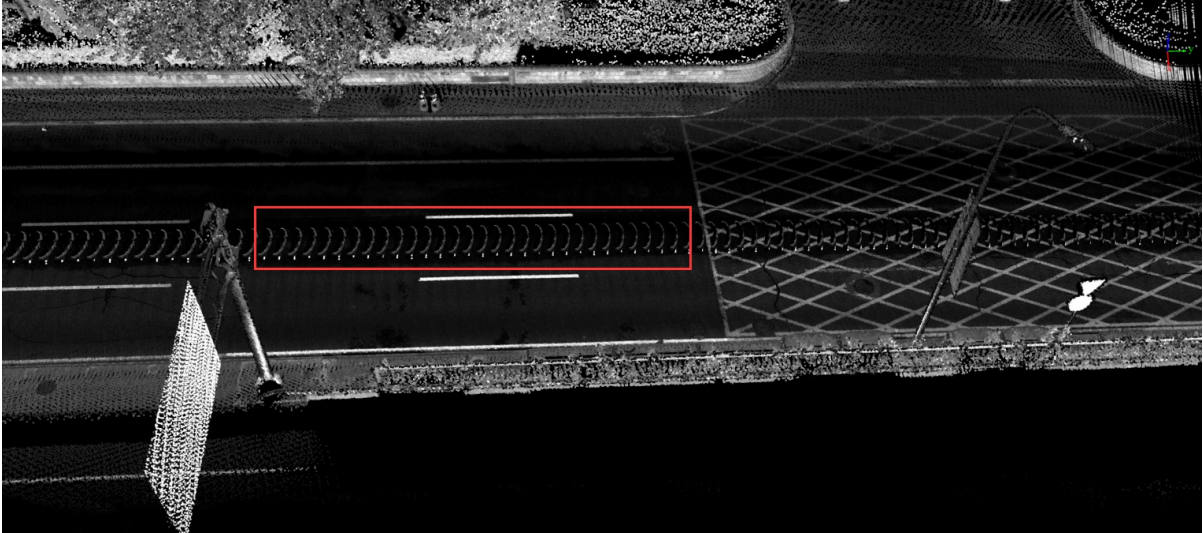
14.No point cloud input for colorization

- Error reason: There is no LiData point cloud data in the liscan project.
- Solution: Coloring after processing the point cloud.

Point cloud process issues

1.Why are there noise points along the trajectory after solution as shown in the figure?

- The distance filter option is not set when processing the point cloud. Please note that you need to click the OK button after setting it so that the configuration takes effect.

2.How to solve the problem of point cloud stratification after solution?

- (1) Check whether the trajectory has jumps. If there are jumps, repair the trajectory jumps, re-solve the point cloud and check whether it is stratified.
- (2) Use the Strip Adjust function for automatic optimization.
- (3) In special scenarios, if the above methods cannot meet the requirements, you can further use the Register function to perform manual point cloud adjusting.

Analysing Panorama and Colorize point cloud

1.How to analyze panoramic camera photos?

- (1) In the Georeference interface, the software defaults to the Analyzing Panorama option, and the user will analyze the panorama simultaneously when performing the point cloud Georeference step.
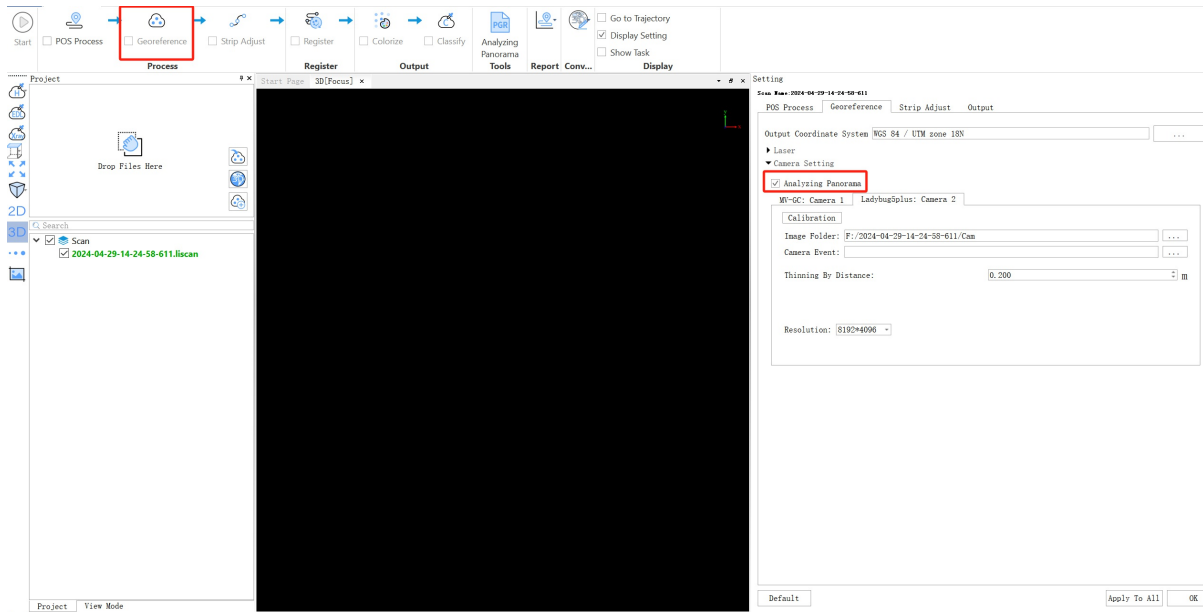
- (2) After processing the POS, the user can also click the Analyzing Panorama button to analyze the panoramic photo.
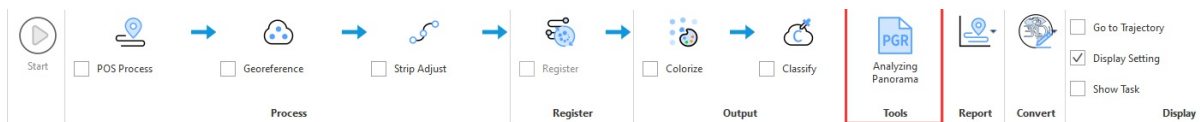
2.Is the panoramic camera setting interface normal as shown in the figure?

- The settings in the picture are correct. After analyzing panoramic, the software automatically generates the ladybug_caminfo.txt file and displays the path in the Camera Event.

3.How to select the planar camera for coloring?

- Set it in the Output interface, and then run the Colorize steps.

4.How to make a mask file?

- The software has a built-in mask file. If the mask cannot fit the collected panoramic photos, the user can use the Make Mask function button under the Raster module in the mapping project to create a custom mask. The mask style of the panoramic camera is as follows.
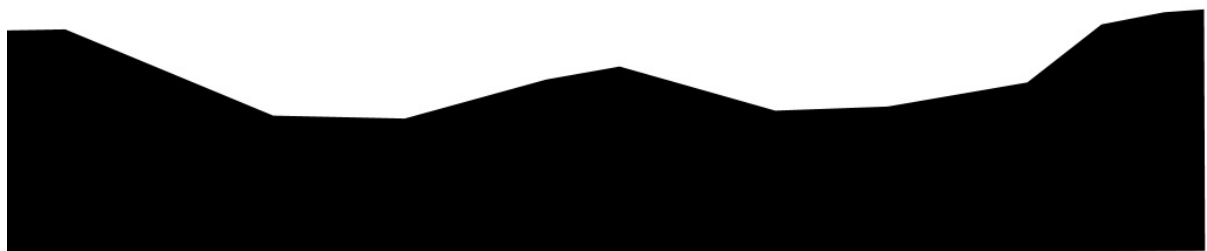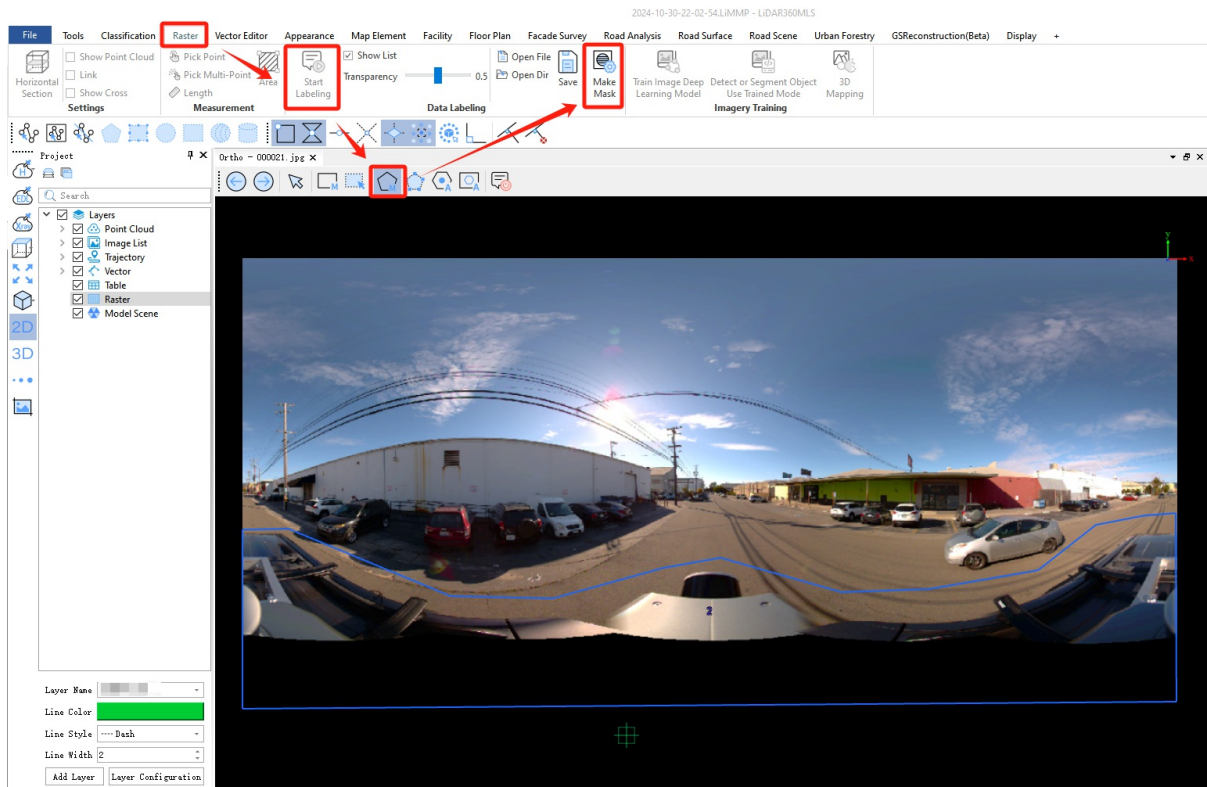
Strip Adjust

1.After adding control points, the position of the point cloud is greatly offset. What is the reason?

- (1) Check whether the coordinate system of the point cloud solution is set correctly and consistent with the control points.
- (2) Check whether the X and Y coordinate columns are selected correctly when importing the GCP file

2.If the Strip Adjust effect is not ideal, how to further optimize the data?

- (1) Try to change the Time Interval to 1 and try to run Strip Adjust task again.
- (2) Use the Register function to manually complete the point cloud adjusting.

```
Setting                                                    �competition ×
  Scan Name:2024-09-15-19-35-49

  POS Process    Georeference    Strip Adjust    Output

  ▼ Trajectory Split

    Min Length Of Segment:              25.0                    ⬍  m
    Max Length Of Segment:              60.000                  ⬍  m

  ▼ Registration

    Max Corresponce Distance:           2.000                   ⬍  m
    Voxel Size:                         0.100                   ⬍  m
    Min Distance From Ground To Trajectory:  0.500             ⬍  m
    Overlap Threshold:                  1                       ⬍  %
    Number of Threads:                  4                       ⬍

  ▼ Trajectory Optimization

    Time Interval:                      1                       ⬍  s
    Max Correction Of Orientation:      0.5                     ⬍  °
    Max Correction Of Position:         5.000                   ⬍  m

  ▶ GCP
```

3.When running flight strip stitching, how to select the pop-up window option?

- (1) Single: Each liscan project performs internal strip adjusting operations separately.
- (2) Multi: Not only each liscan project performs internal strip adjusting operations separately, but also strip adjusting operations are performed between liscan projects.

Project Organization

1.Relationship between mscan project and liscan project

- Mscan project can contain multiple liscan projects, each of which corresponds to a set of raw data collected. mscan project can be compared to outer folders, and liscan project to inner folders. This project organization structure can facilitate batch processing.

2.How to convert to mapping project to complete other data post-processing operations?

- The software has a function button for converting mapping project with one click. They are Convert to Mapping Project button and Organize into Mapping Project button. The Convert to Mapping Project function can convert a single activated *.liscan project into a mapping project, and the Organize into Mapping Project function can convert multiple* liscan projects into mapping projects together.
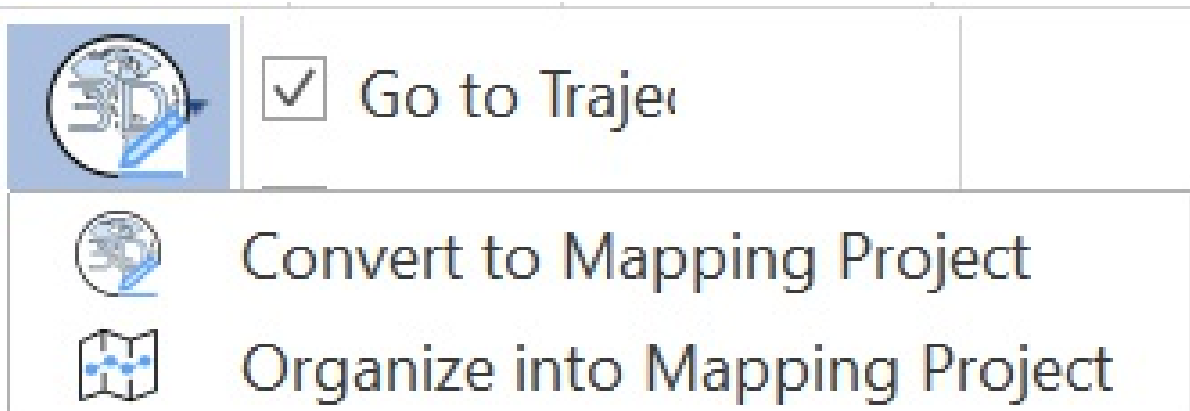
3.Why can't I remove the project?

- This may be because the liscan project is grouped. You need to cancel the grouping before removing it.
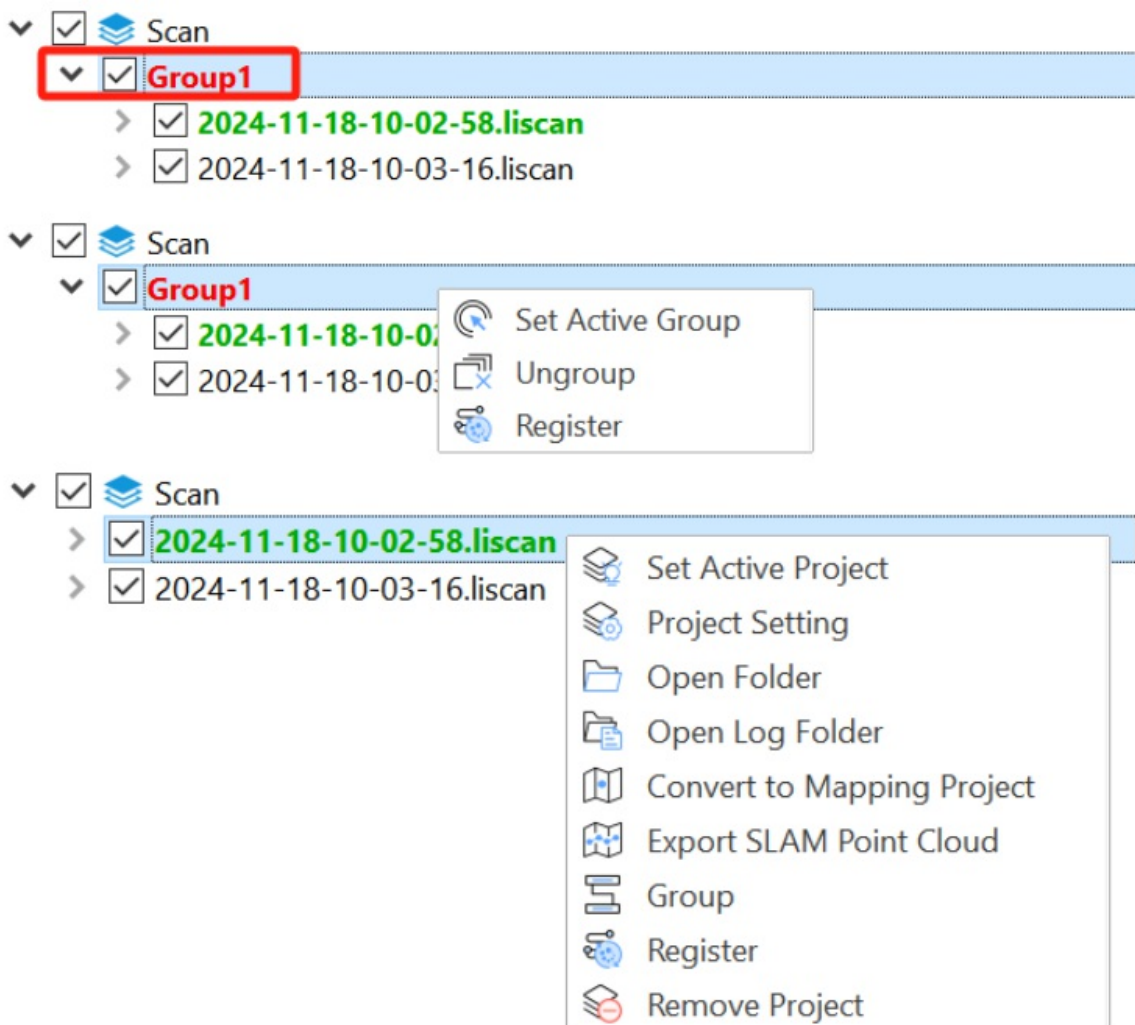
4.How to restore the project after the Strip Adujst are spliced?

- First ungroup the projects, then right-click the project name and click the Restore Project button.
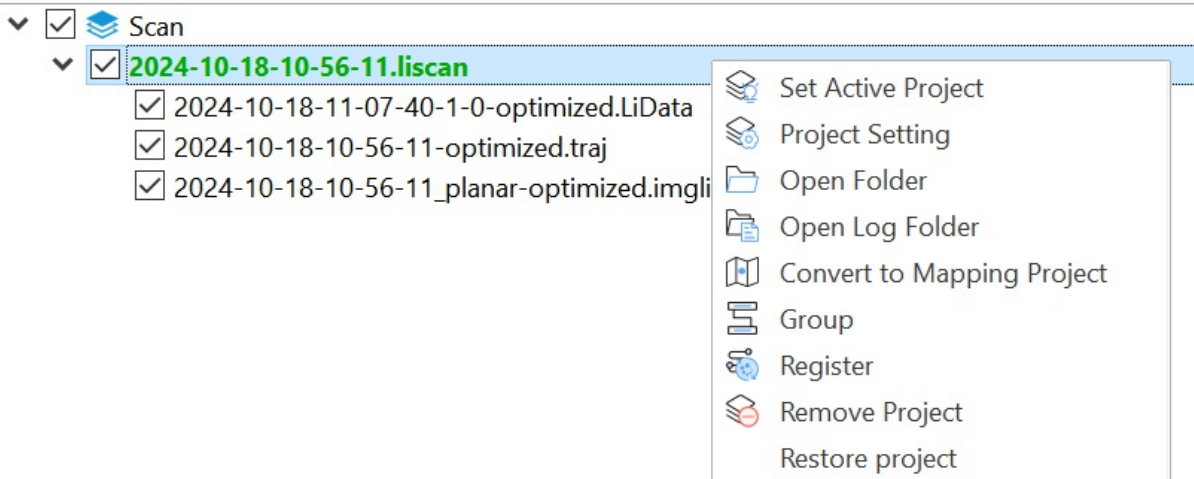
5.What do the brackets after the liscan project name represent?

- It represents the number of selected LiData files, and after the user selects, he can right-click to change the display mode and display settings of the selected point cloud.
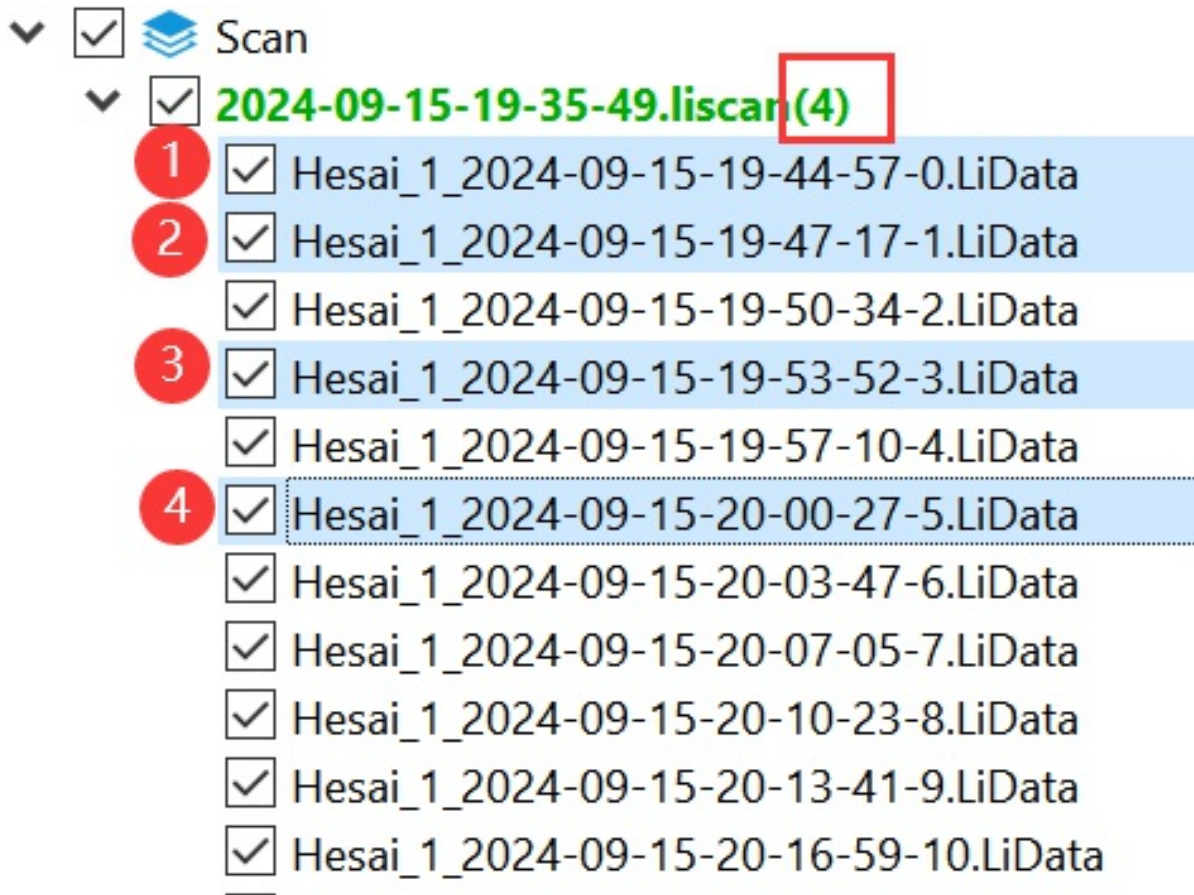
Asset Extraction Module FAQ

1.What is the efficiency of element extraction, and how does the AI method for element extraction adapt to various scenarios?

- In response to the problems of large data volume, multiple element types, and low extraction efficiency in mobile mapping point cloud processing, LiDAR360MLS software provides a variety of automatic extraction functions based on AI methods, such as point cloud classification, road marking extraction, and road facility extraction, etc. Among them, road facility extraction utilizes panoramic images and road signs for multi-target extraction. Among them, road facility extraction utilizes panoramic images and point clouds for multi-target extraction. The existing AI models in the software are trained using the existing data of Digital Green Earth. Since version V8.0, the software supports customized sample annotation and training of map elements and road facilities, so that users can train their own models according to their own data and recognition needs.

2.How can I check which layers are stored in all the element vectors automatically extracted from the Map Elements page?

- Use the point-and-click function in the vector selection, click on the object you want to query, and the software will automatically open the attribute table of the layer where the current project is located, so you can find out which layer it is stored in.

3.Can I store the automatically extracted vectors to the specified layer?

- Some of the automatic extraction functions of the software can't specify the layer to store inside the function, but the user can right click on the layer to rename the layer and modify it to the desired layer name to realize the purpose of specifying the layer to store.

Other specific functionality related issues and solutions for the asset extraction module can be found in detail:

- MapElement Module FAQ
- Facility Module FAQ

MapElement Module FAQ

Detect Lane Line

1. [Warning] "This file does not have intensity information"
   - Warning Reason: The current point cloud does not have intensity information.
   - Solution: Automatically skip point clouds without intensity information, no action required. You can manually check if the intensity information of the point cloud file is correctly saved.
2. [Warning] "Current action is not supported under ortho editing"
   - Warning Reason: Lane lines do not support orthographic view editing.
   - Solution: Turn off orthographic view editing.
3. [Error] "Seed Point Z is NOT correct! Please Repick" or "The seed is Not Correct! Please repick"
   - Warning Reason: The seed point is incorrect.
   - Solution: Switch views to ensure the seed point is selected on the lane line.

Detect Road side Line

1. [Warning] "Can not switch handler, please use the space bar to stop first"
   - Warning Reason: Manual operation mode cannot be switched during detection.
   - Solution: Press the Space bar to stop automatic detection first, then switch operation modes.
2. [Error] "Seed Point Z is NOT correct! Please Repick"
   - Warning Reason: The seed point is incorrect.
   - Solution: Switch views to ensure the seed point is selected on the pavement near the curb.

Generate Virtual Lane Centerline

1. [Warning] "Failed to generate Virtual Lane Centerline"
   - Warning Reason: The selected lane line geometry is incorrect, and centerline generation failed.
   - Solution: Check if the selected lane line geometry has errors: fewer than 2 points, backtracking, or incorrect internal point order.

Road Marking Training

1. [Warning] "Please draw symbol with three or more points"
   - Warning Reason: The number of points in the created template is too few.
   - Solution: Ensure the number of template points is greater than or equal to three.
2. [Warning] "Please draw symbol"
   - Warning Reason: The template has no valid points.
   - Solution: Ensure the number of template points is greater than or equal to three.
3. [Warning] "Data Open Failed"
   - Warning Reason: The data file being imported is corrupted, causing the data to fail to open.
   - Solution: Check if the data file is correct and reselect the data file.
4. [Warning] "Template.db file version is too high"
   - Warning Reason: A lower version of the software opened a .db database file used by a higher version of

the software.
- Solution: Lower version software cannot use .db files from higher version software; please use the higher version software.
5. [Warning] "Template.db file error"
- Warning Reason: The .db database file is corrupted.
- Solution: Replace the database file.

Road Marking Auto Matching

1. [Warning] "This file does not have intensity information"
- Warning Reason: The current point cloud does not have intensity information.
- Solution: Automatically skip point clouds without intensity information, no action required. You can manually check if the intensity information of the point cloud file is correctly saved.
2. [Warning] "Failed to open DB file"
- Warning Reason: The database file is corrupted.
- Solution: Replace the .db database file.
3. [Warning] "No corresponding model found"
- Warning Reason: The model file is missing or corrupted.
- Solution: Use the road sign training function to retrain and generate the corresponding model file.
4. [Warning] "Template.db file version is too high"
- Warning Reason: A lower version of the software opened a .db database file used by a higher version of the software.
- Solution: Lower version software cannot use .db files from higher version software; please use the higher version software.
5. [Warning] "Template.db file is incorrect!"
- Warning Reason: The .db database file is corrupted.
- Solution: Replace the database file.
6. [Error] "Error: Init Model Failed!"
- Warning Reason: Error initializing the deep learning model.
- Solution: GPU mode requires certain hardware specifications; try using CPU mode. If errors persist in CPU mode: 1. In self-training mode, the model file may be corrupted and needs retraining to regenerate the model file. 2. For built-in models, reinstall the software or contact technical support.
7. [Error] "Failed to Create SymbolDataBase"
- Warning Reason: Failed to create a new .db database file.
- Solution: Choose a different location and try again. If it still fails, reinstall the software or contact technical support.
8. [Error] "ERROR: Failed to access class name" or "ERROR: Failed to access class name path:"
- Warning Reason: Error with files required for deep learning.
- Solution: 1. In self-training mode, the model file may be corrupted and needs retraining to regenerate the model file. 2. For built-in models, reinstall the software or contact technical support.
9. [Error] "DB file is not correct"
- Warning Reason: The .db database file is corrupted.
- Solution: Replace the database file or reinstall the software.
10. [Error] "Table name does Not Match!"
- Warning Reason: The selected model table does not match the records in the .db database file.
- Solution: 1. Select a different model table. 2. Replace the database file.
11. [Warning] "Points is empty"
- Warning Reason: The number of point cloud points within the range is too few.

- Solution: Reselect to ensure the selected polygon is on the pavement and that the internal ground printing block points are clearly visible.

Road Vector

1. [Error] "RoadMarkingLane Model init failed"
   - Warning Reason: The lane line model file is missing or corrupted, causing initialization failure.
   - Solution: Reinstall the software or contact technical support. Automatic recognition of lane lines is not possible, but it does not affect the automatic recognition of arrows, crosswalks, and other ground printing blocks.
2. [Error] "Box Mode init failed" or "Key Points Model init failed" or "Error: Init Model Failed!"
   - Warning Reason: Model initialization failed.
   - Solution: GPU mode requires certain hardware specifications; try using CPU mode. If errors persist in CPU mode: 1. In self-training mode, the model file may be corrupted and needs retraining to regenerate the model file. 2. For built-in models, reinstall the software or contact technical support.
3. [Error] "Error: lane model is none, please re-init lane model"
   - Warning Reason: The lane line model file is missing or corrupted, causing initialization failure.
   - Solution: Reinstall the software or contact technical support. Automatic recognition of lane lines is not possible, but it does not affect the automatic recognition of arrows, crosswalks, and other ground printing blocks.
4. [Error] "ERROR: config path is none:" or "ERROR: model name is none" or "ERROR: config file must be json file" or "ERROR: File does not exist:"
   - Warning Reason: Model initialization failed.
   - Solution: Reinstall the software or contact technical support.
5. [Error] "Build Grid Failed"
   - Warning Reason: Failed to partition the point cloud range.
   - Solution: Ensure there is at least one visible point cloud data in the project.
6. [Warning] "Json folder does not exist"
   - Warning Reason: The selected Json folder does not exist.
   - Solution: Reselect the json folder.
7. [Warning] "No valid json files"
   - Warning Reason: There are no .json files in the selected Json folder.
   - Solution: Reselect the json folder.
8. [Warning] "Intensity image coordinate file folder does not exist"
   - Warning Reason: In custom mode, using json and intensity images, the corresponding coordinate folder for the intensity image was not found.
   - Solution: Data materials are missing; regenerate the data materials.
9. [Warning] "No valid intensity image coordinate file (.xml)"
   - Warning Reason: No .xml format coordinate file was found in the corresponding coordinate folder for the intensity image.
   - Solution: Data materials are missing; regenerate the data materials.
10. [Warning] "Cannot access ... .json coordinate file"
    - Warning Reason: No corresponding .json file was found in the coordinate folder for the intensity image.
    - Solution: Data materials are missing; regenerate the data materials.

Generate Intensity Image

1. [Warning] "Not enough memory"
   - Warning Reason: Insufficient memory space.
   - Solution: Reduce the area size or increase the resolution parameters.
2. [Warning] "Too few points to create an image"
   - Warning Reason: Too few points to generate an image.
   - Solution: No action required, this is just a notification.
3. [Warning] "Fail to save the coordinate file"
   - Warning Reason: Failed to save the coordinate file corresponding to the intensity image.
   - Solution: Ensure the selected path exists and has enough space, then regenerate the intensity image.

Merge To Lane

1. [Warning] "Cannot add an object in a different layer"
   - Warning Reason: The mouse picked an object from another layer.
   - Solution: Turn off the display of other layers to prevent incorrect mouse selection.
2. [Warning] "Please pick a line object"
   - Warning Reason: The mouse picked an object of a different type.
   - Solution: Turn off the display of other layers to prevent incorrect mouse selection.

Facility Module FAQ

Detect Pole Struct

1. [Error] "No valid class selected"
   - **Error Reason**: In polygon mode, no source category has been selected.
   - **Solution**: Check at least one required source category.
2. [Warning] "There is a horizontal reference plane, please close it to ensure the current function operates correctly"
   - **Warning Reason**: The horizontal section tool is enabled or other horizontal section functions are present.
   - **Solution**: Close all functions that create horizontal sections.
3. [Warning] "The Last Pattern Is Running, Please Wait"
   - **Warning Reason**: Attempting to switch detection modes while the rod detection is running.
   - **Solution**: Wait for the current mode detection to finish.
4. [Error] "Orig Point Select Is Not Correct, Please Repick"
   - **Error Reason**: The seed point selection is incorrect, either too low, too high, or mistakenly selected on other features, resulting in the inability to find rod point clouds nearby.
   - **Solution**: Use multiple viewpoints to ensure the seed point is selected on the rod.
5. [Error] "The Polygon Is Not Correct, Please Repick"
   - **Error Reason**: When manually drawing the polygon range, the number of polygon points is less than 3, making the polygon incorrect.
   - **Solution**: The polygon area must have at least three points.

Detect PowerLine

1. [Warning] "There is a horizontal reference plane, please close it to ensure the current function operates correctly"
   - **Warning Reason**: The horizontal section tool is enabled or other horizontal section functions are present.
   - **Solution**: Close all functions that create horizontal sections.

Add TrafficSign

1. [Warning] "Please select a plane to draw rect"
   - **Warning Reason**: No drawing plane exists when drawing a rectangular sign.
   - **Solution**: With mouse hover enabled, click the left mouse button based on the fitted plane at the mouse hover position to create the drawing plane for the rectangular sign.

Road Facility Detection

1. [Warning] "Panoramic image data is null, the built-in model is not available"
   - **Warning Reason**: The panoramic image does not exist, and the built-in deep learning model is unavailable.

- **Solution**: Add the corresponding panoramic data.
2. [Warning] "The built-in model ONLY handles panoramic images, the built-in model is not available"
   - **Warning Reason**: The panoramic image does not exist, and the built-in deep learning model is unavailable.
   - **Solution**: Add the corresponding panoramic data.
3. [Warning] "Distance setting is incorrect"
   - **Warning Reason**: In the distance settings, the minimum effective distance is greater than the maximum effective distance.
   - **Solution**: The minimum effective distance must be less than the maximum effective distance.
4. [Warning] "Failed to build 'point cloud'"
   - **Warning Reason**: The point cloud does not exist, and reading failed.
   - **Solution**: Select the correct point cloud.
5. [Error] "Rebuild Lidata File Failed"
   - **Error Reason**: The point cloud file does not exist.
   - **Solution**: Select the correct point cloud.
6. [Error] "Project info init failed"
   - **Error Reason**: An error occurred during software installation, leading to projection information initialization failure.
   - **Solution**: Reinstall the software or contact technical support for resolution.
7. [Error] "No from class"
   - **Error Reason**: At least one input category has not been selected.
   - **Solution**: Select at least one input category.
8. [Error] "No camera"
   - **Error Reason**: The camera option has not been selected.
   - **Solution**: Select the correct camera.
9. [Error] "No valid json file"
   - **Error Reason**: Under the custom model, using the Json mode, there are no json files in the selected Json folder.
   - **Solution**: Select the correct Json file path.
10. [Error] "Failed to set fields of the output layer"
    - **Error Reason**: Adding fields to the result layer was unsuccessful.
    - **Solution**: Close the attribute table editing or switch to another layer.
11. [Error] "Failed to get image size"
    - **Error Reason**: Error reading the image.
    - **Solution**: The erroneous image will be automatically filtered out, no action required. Manually check if the image is corrupted.
12. [Error] "Failed to load '.imagelist'"
    - **Error Reason**: The imagelist file does not exist or is in an incorrect format.
    - **Solution**: Select the correct imagelist file or rebuild the project.

Detect Railway

1. [Warning] "There is a horizontal reference plane, please close it to ensure the current function operates correctly"
   - **Warning Reason**: The horizontal section tool is enabled or other horizontal section functions are present.
   - **Solution**: Close all functions that create horizontal sections.
2. [Warning] "No peak found, please retry"

- **Warning Reason**: No peak position of the rail was found near the seed point.
- **Solution**: Select the seed point on the rail.

Architectural Drawings Module FAQ

Problems and solutions related to specific features of the Architectural Drawing module can be found in detail:

- Floor Plan Module FAQ
- Facade Survey Module FAQ

Floor Plan Module FAQ

Auto Vectorization

1. [Warning] "Point cloud is not visible"
   - **Warning Reason**: No visible point cloud.
   - **Solution**: Display at least one point cloud.
2. [Warning] "Floor plan layer creation failed"
   - **Warning Reason**: Failed to create the floor plan layer.
   - **Solution**: The floor plan layer name should be composed as follows: FloorPlan_MinZ. First, check if there is a custom-created layer with the same name, and try deleting or renaming the custom manually created layer.

Close Line

1. [Warning] "No floor plan layer"
   - **Warning Reason**: The closed line function can only operate on floor plan vector layers. This function cannot be enabled when the floor plan does not exist.
   - **Solution**: Use the automatic vectorization function first to generate the floor plan vector layer.
2. [Warning] "Only floor plan line objects"
   - **Warning Reason**: The closed line function can only select line objects within the floor plan vector layer.
   - **Solution**: Re-select line objects within the floor plan vector layer (you may first close the display of unnecessary vector layers).
3. [Warning] "Line objects only"
   - **Warning Reason**: The closed line function can only select line objects.
   - **Solution**: Re-select line objects within the floor plan vector layer (you may first close the display of unnecessary vector layers).
4. [Warning] "Too few points"
   - **Warning Reason**: The line object has fewer than 3 points, making it impossible to complete the closure operation.
   - **Solution**: Select other line objects with 3 or more points, or use the vector editing function to add points to the current segment, ensuring that the number of points in the line object is 3 or more.

DXF

1. [Error] "Failed to create the dxf file"
   - **Warning Reason**: DXF export failed.
   - **Solution**: 1. Check if the selected path is correct; 2. Check if there is enough disk space in the specified path; 3. If overwriting an existing DXF, check if the original DXF is open or occupied by the software or other software.

Blue Print

1. [Warning] "Image export failed"

- **Warning Reason**: Image export failed.
- **Solution**: 1. Check if the selected path is correct; 2. Check if there is enough disk space in the specified path.

Facade Survey Module FAQ

Tectonic line collection

1.[Warning] "Only support polygon layer."

- Reason: Tectonic line collection is only applicable to polygon layers.
- Solution: Select the polygon layer in the directory tree.

Draw Base Line

1.[Warning] "Need a baseline layer !"

- Reason: No layer are currently selected.
- Solution: Click on the baseline layer in the directory tree.

2.[Warning] "Invalid layer "

- Reason: The current layer is not a vector layer.
- Solution: Select the vector layer.

3.[Warning] "Current layer is not a custom layer"

- Reason: The baseline layer can only be converted by a custom layer, and the inherent layer is currently selected.
- Solution: Select a custom layer.

4.[Warning] "Current layer is not a polygon layer"

- Reason: The custom layer selected is not a polygon layer.
- Solution: Select the polygon layer.

5.[Warning] "Current vector layer is not empty"

- Reason: The current layer to be converted is not empty, and the vectors in the current layer will be exported according to the baseline during subsequent export.
- Solution: Create a new custom polygon layer.

6.[Warning] "Base line need a horizontal reference plane !"

- Reason: Baseline collection requires setting a horizontal reference plane.
- Solution: Activate the horizontal section function to set the reference plane.

Draw Boundary Line

1.[Warning] "Buffer width shall not greater than 100m or smaller than 0.1m!"

- Reason: Buffer width should be between 0.1 units (meters) and 100 units.
- Solution: Adjust the width to fit.

2.[Warning] "Base line is not valid."

- Reason: The number of points of the range line generated by the baseline is inconsistent after the offset operation, which means that the number of facades is incorrect.
- Solution: Adjust the width to prevent the crossing edges from disappearing.

3.[Warning] "Create boundary line layer failed !"

- Reason: There is only one range line layer for a single project with a fixed name. There is currently no layer with that name but creation failed.
- Solution: The reason is unknown.

4.[Warning] "FacadeBoundaryLine is not a boundray line layer !"

- Reason: A layer with the name "FacadeBoundaryLine" already exists, but it is not a scope lines layer.
- Solution: Rename an existing vector layer.

Facade Move Rotate

1.[Warning] "Need a facade surface !"

- Reason: A facade surface is required for facade movement vectors.
- Solution: First construct a facade using Line Facade.

Road Condition Module FAQ

The Road Condition module contains two sub-modules, Road Analysis and Road Surface, for details of the problems associated with each function, see:

- Road Analysis FAQ
- Road Surface FAQ

Road Analysis Module FAQ

Clearance Analysis

1. [Clearance Analysis] Failed to register scalar field 'ClearanceID'.
   - Error Reason: Failed to register additional attribute fields. The point cloud may be occupied by another program, or the LiData version is lower than 2.0.
   - Solutions: Close the occupying program and upgrade the LiData file version.

Hight Limit Analysis

1. [Hight Limit Analysis] No ground points to drape.

   - Error Reason: The analysis location lacks ground points.
   - Solution: Ensure that ground points exist in the analysis location and that the ground point category is correctly specified.
2. [Hight Limit Analysis] Layer '' was deleted.

   - Error Reason: The power line layer has been deleted.
   - Solution: Re-analyze and recalculate using **Hight Limit Analysis**.
3. [Hight Limit Analysis] Config record was deleted.

   - Error Reason: The relevant configuration for the analysis has been deleted.
   - Solution: Re-analyze and recalculate using **Hight Limit Analysis**.

Place Tile Array

1. [Place Tile Array] No trajectory segments.
   - Error Reason: No trajectory segments.
   - Solution: Select the trajectory segments on the 3D view trajectory first, then proceed with processing.

Section Analysis

Section Engineering Management

1. [Warning] "Cannot switch active project now"
   - Error Reason: The section engineering cannot switch the active project while the calculation is in progress and the 2D display window is open.
   - Solution: Wait for the calculation to finish and close the 2D display window.

Calculation Attribute

1. [Warning] "No valid data"
   - Error Reason: Measurement section has not been generated.
   - Solution: Generate the measurement section for the current group.

Export Section

1. [Warning] "Something wrong happens when exporting sections"
   - Error Reason: Export failed.
   - Solution: Remake the sections or contact technical support.
2. [Warning] "Export failed"
   - Error Reason: There is currently no active section project, leading to export failure.
   - Solution: Right-click on the section directory management number to activate the active project.
3. [Warning] "Import failed"
   - Error Reason: 1. There is currently no active section project, leading to export failure; 2. The data input path is empty.
   - Solution: 1. Right-click on the section directory management number to activate the active project; 2. Enter the correct data path.
4. [Warning] "No valid section"
   - Error Reason: No measurement section for the cross-section.
   - Solution: Generate the measurement section.
5. [Warning] "Exporting section failed in: ..."
   - Error Reason: The specified measurement cross-section was not found.
   - Solution: Rerun the calculation of the measurement section to synchronize the data.

Road Surface Module FAQ

Create TIN

1. [Warning] "Too few key points, cannot create a TIN struct"
   - Warning Reason: The number of key points is too few, resulting in the failure to create a TIN.
   - Solution: Ensure that the selected layer or area has at least 3 key points.
2. [Warning] "No object in selected layer"
   - Warning Reason: There are no objects in the selected vector layer, leading to the failure to read key points.
   - Solution: Ensure that there is at least one object in the selected layer or area.

Vehicle Passability Analysis

1. [Warning] "Failed to load simulation file"
   - Warning Reason: The simulation file is corrupted.
   - Solution: Recreate a new passability analysis to regenerate the simulation file.

Based on Point Cloud

1. [Warning] "A layer with the same name already exists"
   - Warning Reason: The raster image has the same name, causing the addition to the project to fail.
   - Solution: Change the name or remove the existing raster with the same name.
2. [Error] "Unable to open raster: ..."
   - Warning Reason: The raster image is corrupted, causing the addition to the project to fail.
   - Solution: Regenerate the raster image.

Based on TIN

1. [Warning] "A layer with the same name already exists"
   - Warning Reason: The raster image has the same name, causing the addition to the project to fail.
   - Solution: Change the name or remove the existing raster with the same name.
2. [Warning] "No 'Road Pavement' exists"
   - Warning Reason: There is no valid Road Pavement model scene available.
   - Solution: Use road surface grid points and the create TIN function in advance to create the road surface model.
3. [Error] "Unable to open raster: ..."
   - Warning Reason: The raster image is corrupted, causing the addition to the project to fail.
   - Solution: Regenerate the raster image.

Forestry Module FAQ

Azimuth

1. [Azimuth] The picked point is not tree seed.
   - Error Reason: The selected point is not in the tree layer or is not a seed point generated by the forestry module function. -Solution: If the selected point is not in the tree layer, it needs to be imported into the tree layer before being converted to a seed point using the **Seed Point Conversion** function. If the selected point is in the tree layer, use the **Seed Point Conversion** function directly to convert it to a seed point.

Segmentation

1. The individual tree segmentation result is incorrect. Only a small section in the middle of the trunk is segmented.
   - Error Reason: The error is primarily due to the point cloud used for individual tree segmentation not being normalized, while the **Normalized** option was selected in the software interface. This mismatch caused the incorrect segmentation result. The **Normalized** option should only be selected if the point cloud has actually been normalized.
   - Solution: If the data has not been normalized, uncheck the **Normalized** option and then run the **Segmentation**.

Issues related to road modeling module

Road Auto Facility

1.[Warning] "Height field not exists in *layer*" -Reason: When generating a road facility layer from a vector layer, the vector does not contain the **Height**attribute. -Solution: Use pre-functions or manually assign height attributes to vector features.

2.[Warning] "MCode field not exists in *layer*" -Reason: When generating a road facility layer from a vector layer, the vector does not contain the **MCode**attribute. -Solution: Use pre-functions or manually assign coding attributes to vector features.

Model symbols

1.[Warning] "Open model failed *error message*" -Reason: Failed to open the model in the symbol editing interface. -Solution: Use other tools such as 3dmax to verify whether the model file is available.

Add Road Facility Layer

1.[Warning] "Pick a valid symbol" -Reason: A model symbol that does not exist in the symbol library was entered in the settings interface. -Solution: Modify to the correct encoding or select it in the symbol interface.

Export Road Scene

1.[Warning] "Invalid directory" -Reason: The output directory is incorrect. -Solution: Re-select the correct output path.

2.[Warning] "Create shp file failed" -Reason: Export of road facilities to shp failed. -Solution: Check whether the existing shp file is occupied and cannot be overwritten.

Import Road Scene

1.[Warning] "Invalid data" -Reason: The indexed xml file does not exist in the data folder or the xml is damaged. -Solution: Select the correct model to export data.

Export Road Models

1.[Warning] "Invalid directory" -Reason: The output directory is incorrect. -Solution: Re-select the correct output path.

2.[Warning] "Invalid path" -Reason: File paths are incorrect when merging exports. -Solution: Re-select the correct output path.

3.[Warning] "Texture directory create failed" -Reason: When merging and exporting, a folder with the same name as the file will be created in the same directory as the file to store texture images. The creation failed for unknown reasons. -Solution: Re-select the correct output path, or delete the conflicting file.

Symmetric Rotation

1.[Warning] "Need choose a road facility layer" -Reason: This function requires specifying the facility layer. -Solution: Click the facility layer to be edited in the directory tree.

Set Code

1.[Warning] "Invalid symbol" -Reason: Model symbol not found. -Solution: Enter the correct encoding or select the model in the sidebar.

Add Model

1.[Warning] "Current layer is not a custom model layer" -Reason: The manual drawing function requires setting the custom model layer as the current layer. -Solution: Select or create a custom model layer in the directory tree.

Extract Texture

1.[Warning] "No panorama image" -Reason: There is no panoramic image in the project. -Solution: Project loading panorama.

2.[Warning] "Current layer is not valid" -Reason: Automatic texture extraction can only extract model textures within custom model layers. -Solution: Select a custom model layer in the directory tree.

3.[Warning] "Wrong type" -Reason: Cone or cylinder selected when manually extracting texture. -Solution: The current manual texture only supports extracting cube or polygon models.

GSReconstruction Module FAQ

General Questions

1.GSReconstruction Model Looking Blurry?

- Ensure that LiDAR360MLS and LiDAR360MLS_DL_Server are the latest versions downloaded from the official website.
- Ensure that the reconstructed model corresponds to the panoramic camera video and the point cloud project collected (pay attention to the path where the video is stored and confirm it is correct when selecting the video).
- If the model looks great from one angle and not from another, it could be that data was collected with the camera facing one way only, and the scanning was not performed from multiple angles, resulting in insufficient information.
- The camera lens is obstructed, for example, by RTK cables or contaminants.
- Review the recorded video to check for reflections or overexposure in the scene.

2.Does GSReconstruction Model Support OBJ and OSGB?

- GSReconstruction models are not traditional mesh surface models and are not suitable for conversion to common 3D Mesh formats such as OBJ or OSGB

3.What devices are currently supported?

- Currently, O1_Lite and H300 devices are supported.

4.How long is the data collection time in general?

- Generally, at least 5 minutes and less than 30 minutes of data should be collected. Reconstruction is not possible if the data collection time is too short or too long.

5.There are many artifacts in the reconstruction.

- The acquisition site should not have a high number of moving targets, and it is better to choose a time period when there are fewer moving targets to acquire.

Requirements for Running Gaussian Reconstruction

- **Memory (RAM)**: 32GB or higher.
- **Central Processing Unit (CPU)**: Intel® Core™ i5/i7 is recommended; eight-core, sixteen-thread processor with single-core performance of 3.7GHz or higher.

- **Graphics Card**: A high-performance NVIDIA graphics card is recommended, with at least 8GB of memory. Recommended models are as follows:

- **Server**: Tesla V100, A100, H800
  - **Desktop**: 2080Ti, 3060, 3080Ti, 4080, 3090, 4090
- **Mobile**: 3080Ti, 4080Ti

Error Messages and Solutions When Opening a Reconstruction Project

1.[GSReconstruction]Load project file :F:/Data/0625/2024-06-25-07-12-28/2024-06-25-07-12-28.liscan failed!

- **Error Reason**: The selected project file is corrupted.

  Solution: Select a valid project file to proceed with Gaussian reconstruction.

2.[GSReconstruction]Reconstruction do not support this platform!

- **Error Reason**: The selected liscan file platform is not of the SLAM type.
- **Solution**: Select a liscan file with a SLAM-type platform for Gaussian reconstruction.

3.[GSReconstruction] Open file D:\Data\2023-08-17-16-51-37\SLAMProcess\temp\device.info failed!

- **Error Reason**: The file storing device information for the selected liscan file is missing.

  Solution: Use the Open Georeference Project button in the software to open the liscan file, re-calculate and reassign colors before proceeding with Gaussian reconstruction.

4.[GSReconstruction] Reconstruction only support O1_Lite or H300 device!

- **Error Reason**: The selected liscan file device model does not match O1_Lite or H300.

  Solution: Select a liscan file with a device model of O1_Lite or H300 for Gaussian reconstruction.

5.[GSReconstruction] Project do not have point cloud!

- **Error Reason**: The selected liscan file does not contain any point cloud data.
- **Solution**: Open the liscan file using the Open Georeference Project button in the software, recalculate and reassign colors, and then proceed with Gaussian reconstruction.

6.[GSReconstruction] Project do not have have imglist!

- **Error Reason**: The selected liscan file does not contain any images.

  Solution: Open the liscan file using the Open Georeference Project button in the software, recalculate and reassign colors, and then proceed with Gaussian reconstruction.

7.[GSReconstruction] Selected camera folder is invaild! F:/Data/0625/2024-06-25-07-12-28/Cam

- **Error Reason**: The selected camera folder does not contain a valid original camera folder.

  Solution: Select a valid original camera folder. If the liscan collection device is O1_Lite, the camera folder must contain two or more `.bin` files, and one of them must be `image_time.bin`. If the liscan collection device is H300, the camera folder must contain two or more `.insv` files.

image_time.bin	2024/3/11 17:44	BIN	20 KB
pic_0.bin	2024/3/11 17:41	BIN	56,482 KB
pic_1.bin	2024/3/11 17:42	BIN	53,508 KB
pic_2.bin	2024/3/11 17:44	BIN	45,306 KB

VID_20231225_094543_00_016.insv		2023/12/25 9:51
VID_20231225_094543_00_016.insv.gyro.std.txt		2024/9/24 17:15
VID_20231225_094543_00_016.insv.metadata.json		2024/9/24 17:15
VID_20231225_094543_00_016.insv.timelapse.txt		2024/9/24 17:15
VID_20231225_094543_00_016.MP4		2024/9/24 17:17
VID_20231225_094543_10_016.insv		2023/12/25 9:51

Error message and solution when running Gaussian reconstruction

1.[Downsample] Failed to load the point cloud, the point cloud file may not exist or could be missing RGB information.

- Error reason:The point cloud corresponding to the liscan file does not exist or lacks RGB information.

- Solution:If the point cloud corresponding to the liscan file exists, click the *Open Calculation Project* button to open the liscan file, reassign the colors, and then proceed with Gaussian reconstruction.

  If the point cloud corresponding to the liscan file does not exist, click the *Open Calculation Project* button to open the liscan file, calculate and assign colors, and then proceed with Gaussian reconstruction.

2.[GSReconstruction] C:\Program Files\GreenValley Suite\LiDAR360MLS\8.1.0.0\plugins\DLModels\reconstruction.json dosen't exist!

- Error reason:The Gaussian reconstruction parameter template file is missing in the Deep Learning module.

- Solution:Reinstall the Deep Learning module following theInstallation of Deep Learning Extension Modules.

3.[GSReconstruction] Images path is invalid: *.jpg

- **Cause of the Error**: When running Gaussian reconstruction, the image file to be parsed is missing.
- **Solution**: Please check if there is enough disk space and then re-run the function.

4.[GSReconstruction] offset file is invalid: *.txt

- **Cause of the Error**: The offset file output by the SFM during Gaussian reconstruction is invalid.
- **Solution**: Please check if the reconstruction project is complete, review the logs to ensure the SFM function executed correctly, and make sure not to manually delete this file during software execution.

5.[GSReconstruction] GPU out of memory. Please use a GPU with more memory.

- **Error cause**: Insufficient GPU memory when running the Gaussian reconstruction function.
- **Solution**: When running Gaussian reconstruction, try not to use other functions on the computer, especially other memory-intensive software, as it can reduce the available GPU memory for this function.

6.[GSReconstruction] Out of memory. Too much input data or memory is too small.

- **Error cause**: Insufficient memory when running the Gaussian reconstruction function.
- **Solution**: When running Gaussian reconstruction, try not to use other functions on the computer, especially other memory-intensive software, as it can reduce the available memory for this function.

7.[GSReconstruction] LiSplat file is invalid.

- **Error cause**: The model file created after the Gaussian reconstruction is missing
- **Solution**: Ensure that there is enough disk space and that files are not manually deleted. Restart the

function. Also, make sure the data collection time is longer than 5 minutes.

8.[GSReconstruction] GPU driver version in too old. Please update to version 465.89 or above.

- **Error cause**: The GPU driver version on the computer is too outdated.
- **Solution**: Download the latest GPU driver and update it.

9.[GSReconstruction] SFM result invalid.

- **Error cause**: Too few matching points for camera poses after SFM reconstruction.
- **Solution**: Follow the data collection guidelines in the manual.

10.[GSReconstruction] splitPly path is invalid:

- **Error cause**: The point cloud file is invalid.
- **Solution**: Check the point cloud files (.lidata) in the project to ensure they are valid. If not, recompute the data.

11.[GSReconstruction] depth_params.json file not found at path: *.json

- **Error cause**: Missing *.json file.
- **Solution**: Ensure that the file has not been manually deleted and rerun the program.