SOUTH

RobotSLAM Engine Software User Manual

SOUTH SURVEYING & MAPPING TECHNOLOGY CO., LTD.

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Contents

1.Getting to Know RobotSLAM Engine

RobotSLAM Engine is a comprehensive handheld LiDAR data application software with robust point cloud processing capabilities, which can handle up to 300 GB of point cloud data and offers features like Point Cloud viewing, Point Cloud Rendering, Point Cloud Clipping, Point Cloud Measurements, Format Conversion, Point Cloud Statistics, Accuracy Assessment, Coordinate Transformation, Point Cloud Segmentation, Manual Point Cloud Classification, Earthwork Calculations and so on. Additionally, it supports importing and preprocessing data from the RobotSLAM series of handheld LiDAR Scanners, including image registration, trajectory optimization, global adjustment, point cloud colorization, and SLAM projects merge and point cloud export, etc.

1.1 Computer Configuration

Computer	Minimum	Recommended
Operating system	Windows10/Windows11 64-bit	
Graphics card	GTX-3060/RX6600M or above （NVIDIA series recommended）	
CPU	Intel i7-11800H/AMD R7-5800H or above	Intel i7-12700H/AMD R7-6800H or above
Internal Memory	16GB or above	32GB or above
SSD	1TB or above	2T or above

1.2 Software Installation

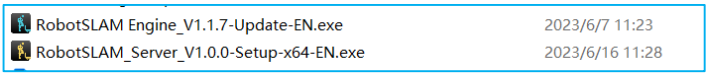
Before start, please note the followings:

1, it is better to install the software in the Disk D not in the system Disk(if the

client computer has two or more disks available;

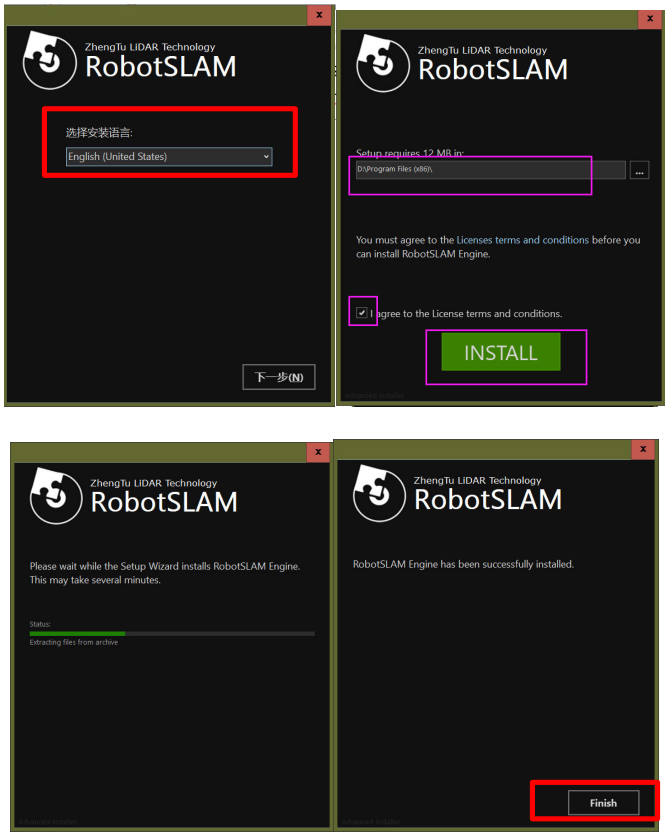
2, it is a must to create the installation path without SPACE or SPECIAL CHARACTERS, better only with English letters or numbers;

The postprocessing software is **RobotSLAM Engine**, it is necessary to install both the **Engine** and **Server** at the same time as follows:



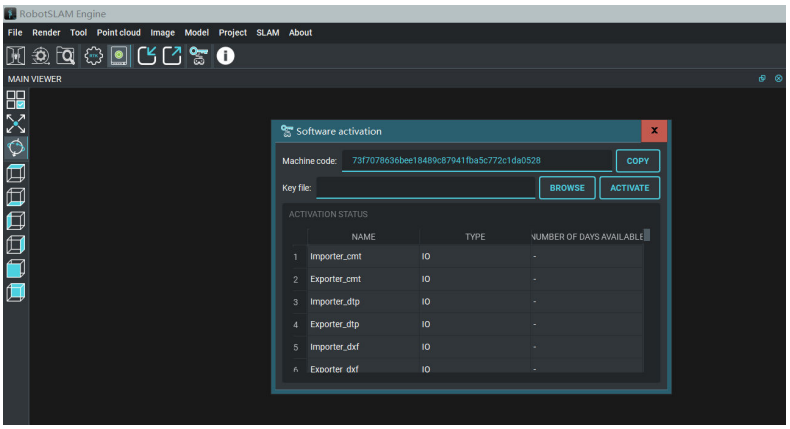
1st, double click" RobotSLAM_**Server**.exe" to install it;

2nd, double click" RobotSLAM **Engine**.exe" to install it, select "English(US) or English(UK)"; click "下一步(Next)"; set the installation path;



1.3 apply a software license

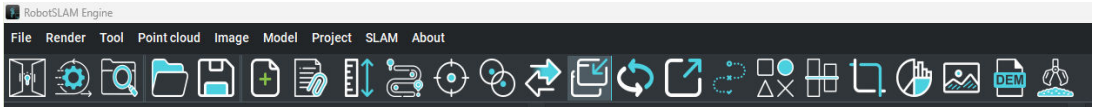
1. Please copy the machine code to apply a license file:



2.click "BROWSE" to import the license file and click ACTIVATE;

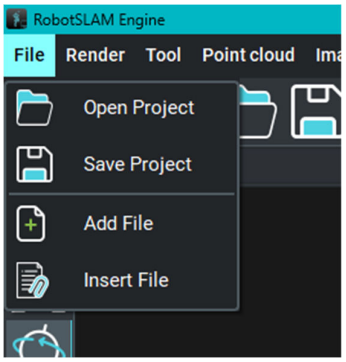
2.Main Modules

2.1 Icons introduction



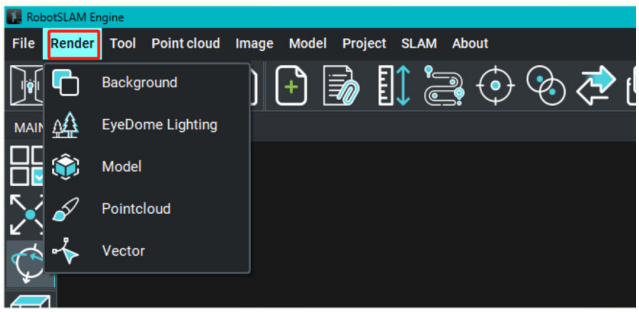
2.1.1 File

-includes Open Project, Save Project, Add File (txt format GCPs or Checkpoints coordinate file) and Insert file function:



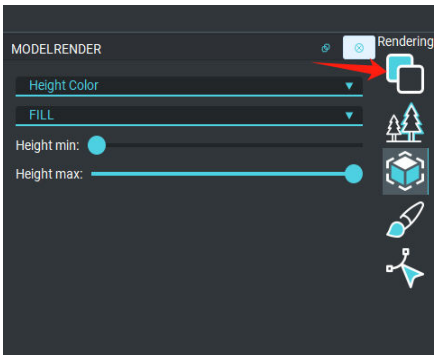
2.1.2 Render(Point Rendering)

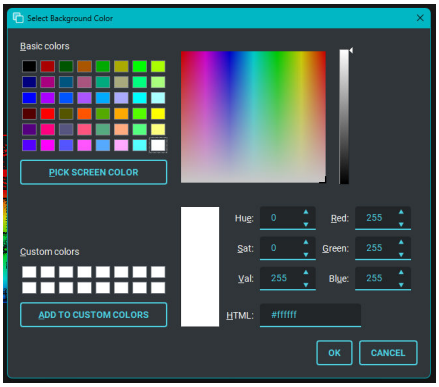
- includes Background, EyeDome Lighting, Model, Point cloud, Vector



Submenu-Background 

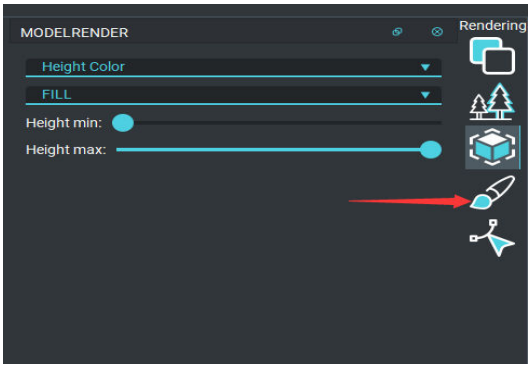
- give color to the main window:

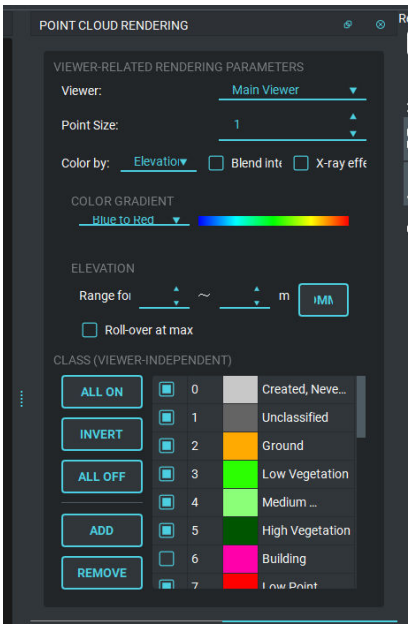




Submenu-Pointcloud 

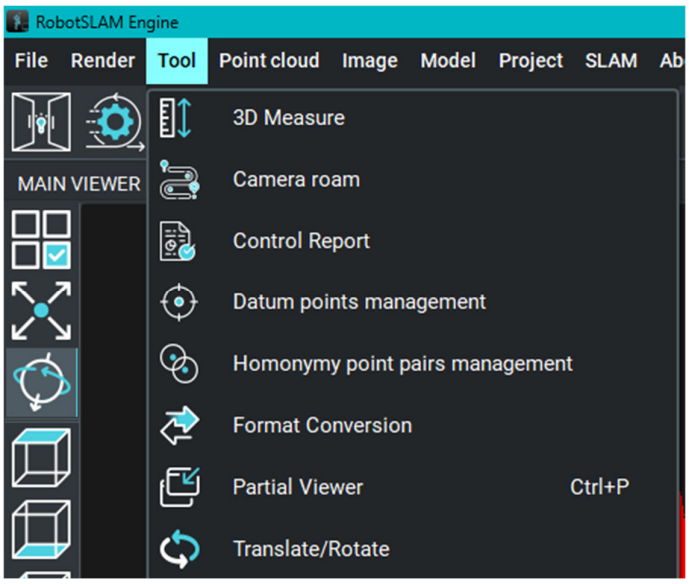
-give color to point cloud, and decide the class to display or not display:





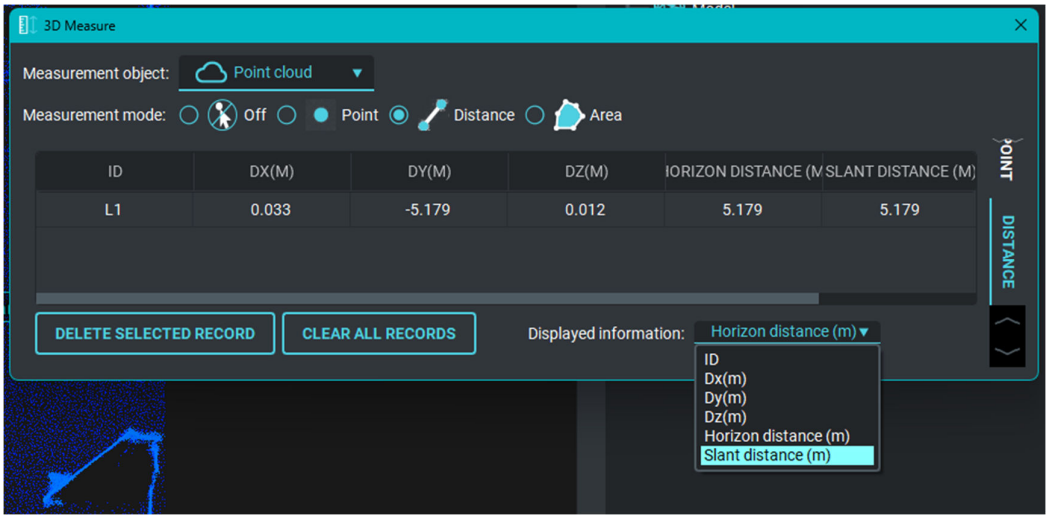
2.1.3 Tool

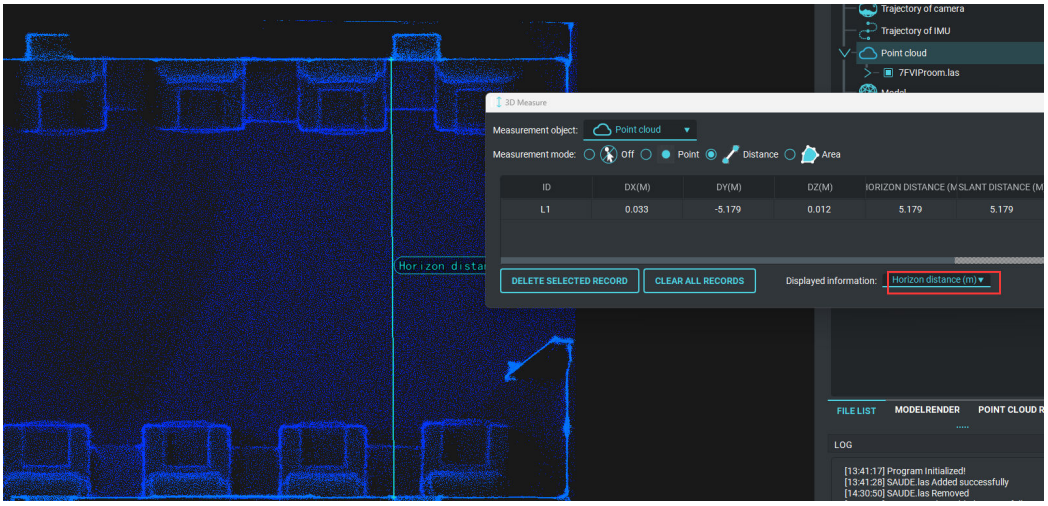
refer to the functions: 3D Measure, Camera roam, Control report output, Datum points management, Homonymy point pairs management, format conversion, Partial Viewer and Translate/Rotate.



2.1.3.1 3D Measure

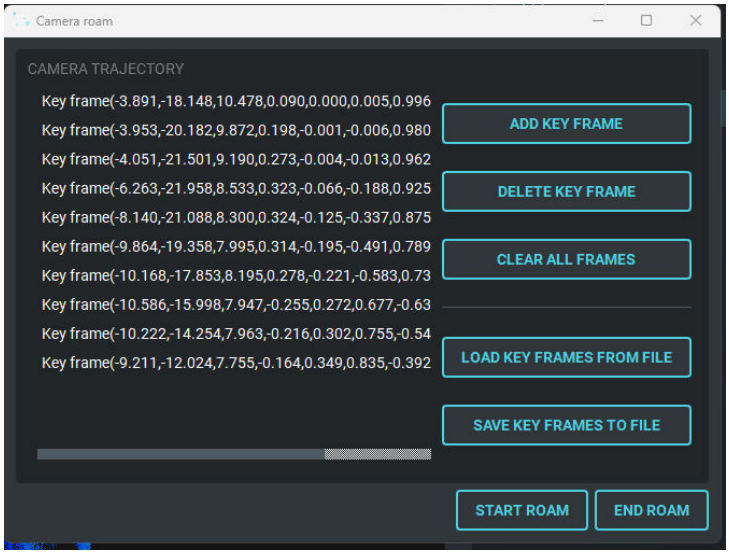
 -Horizontal distance, Slant distance Dx,Dy,Dz, Area, etc.



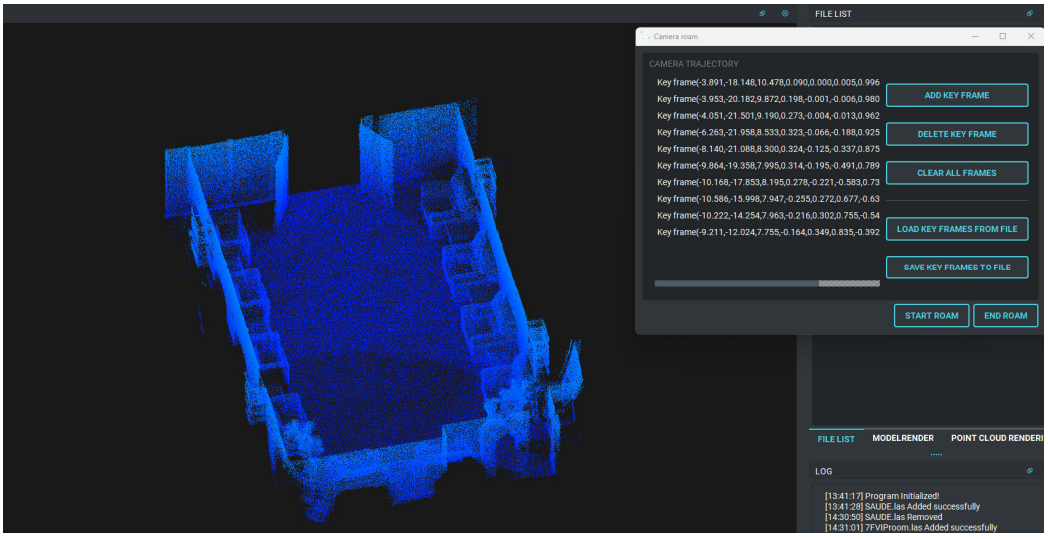


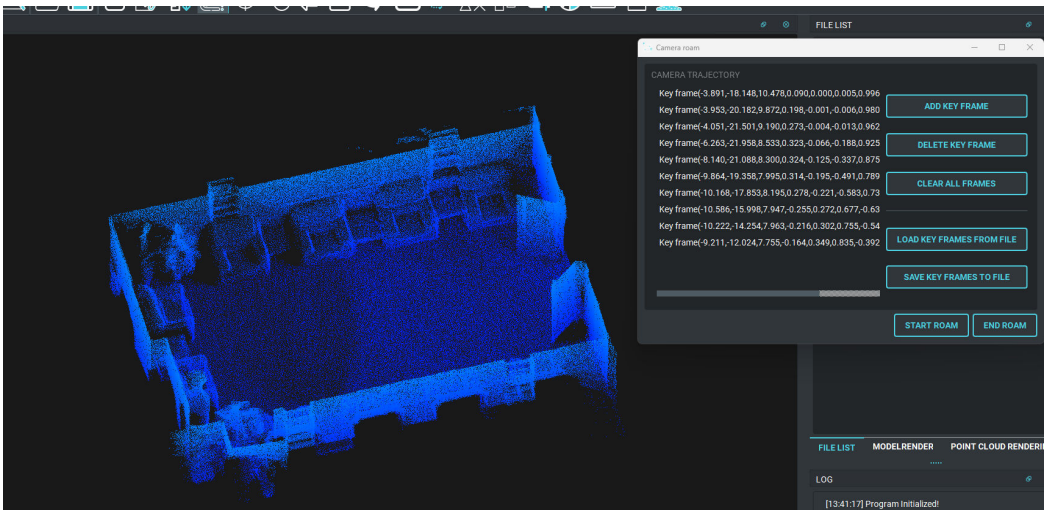
2.1.3.2 Camera Roam

 Hold the right mouse button, change the view direction of the 3D point cloud, and then Click" Add key Frame," continue to add several directions of the point cloud, and then click" Start Roam",



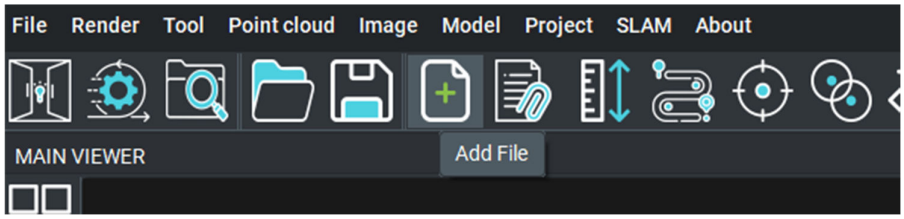
Then the point cloud will rotate like a small video. This roam function can work when the user tries to make a demo video.

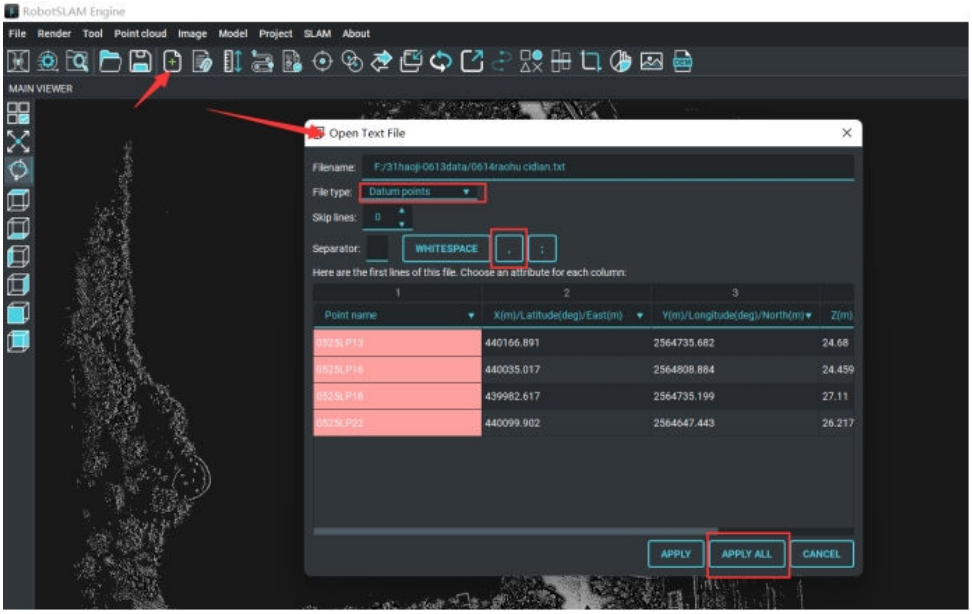




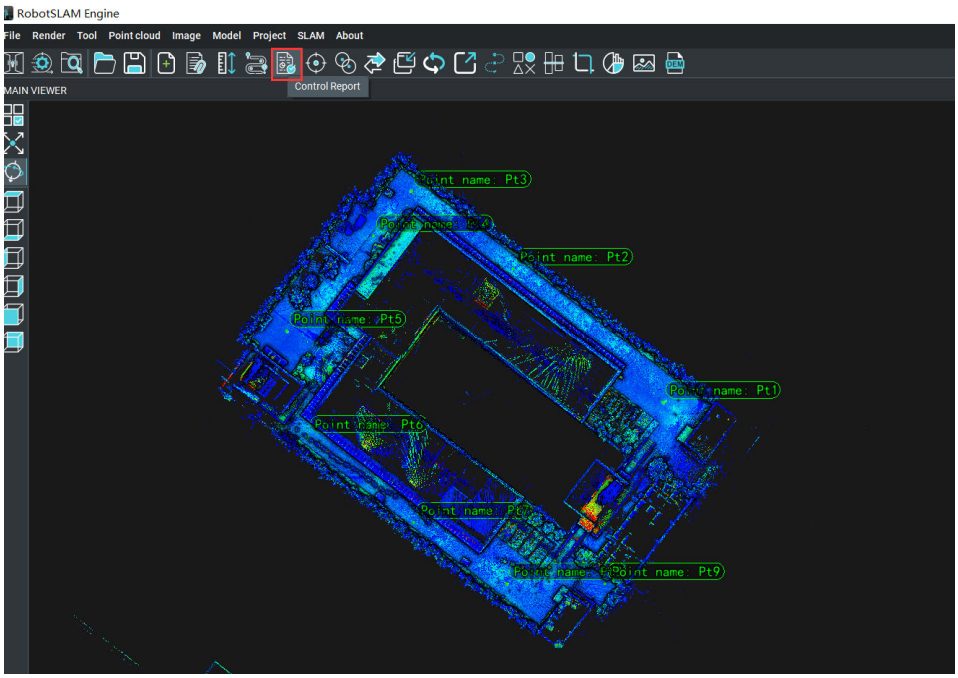
2.1.3.3 Control Report

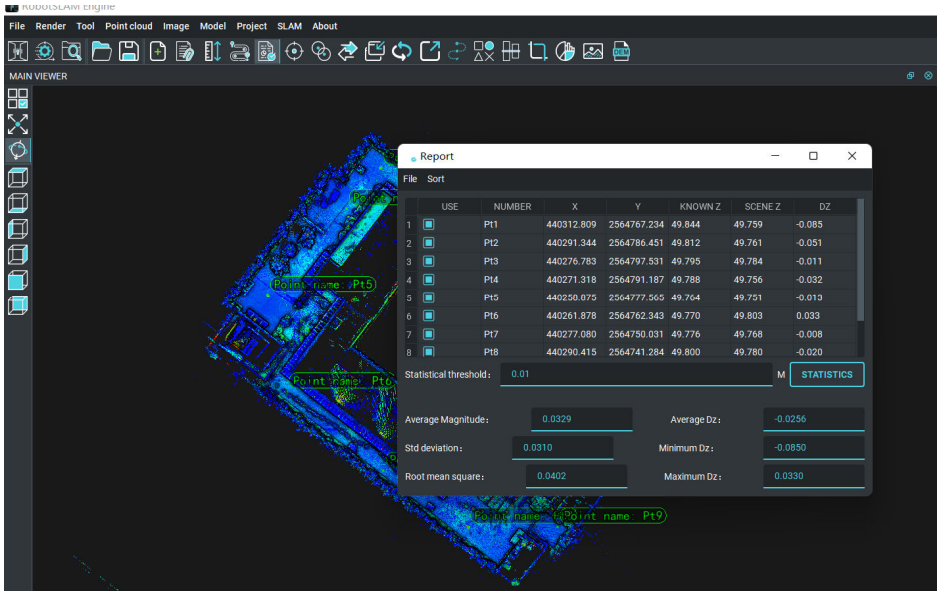
 After load the txt format Checkpoints coordinates list with "Add file",



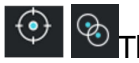


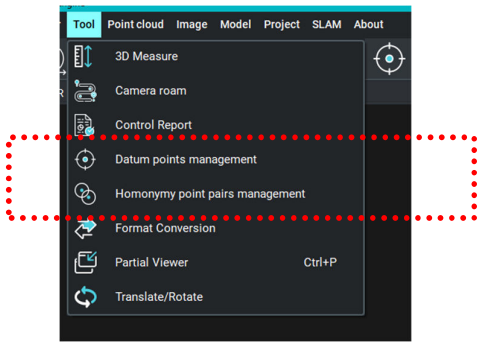
And then click "Control Report" to check the elevation control report:



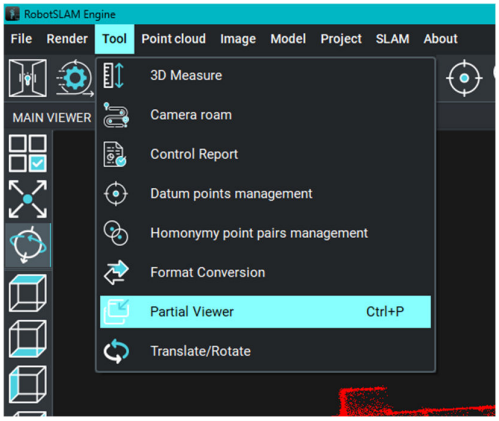


2.1.3.4 Datum Point Management and Homonymy point pairs management

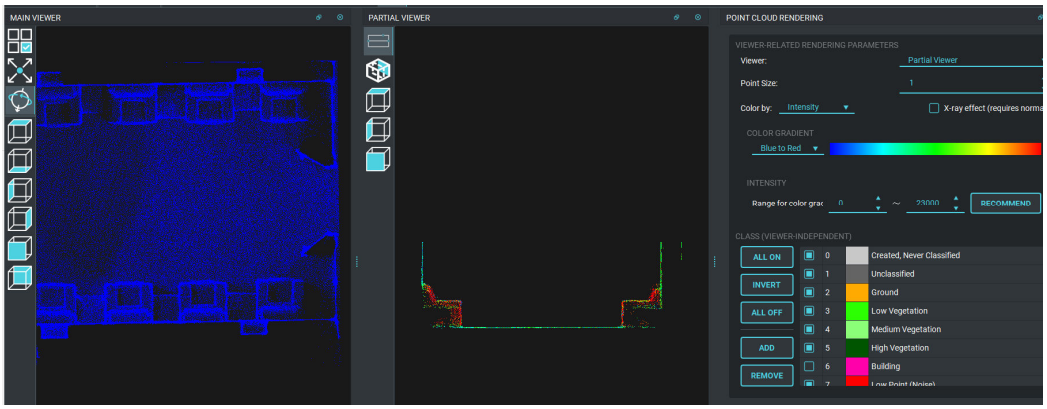
 These two functions normally use together to bind the GCPs with point cloud. This part will be described detailed in the Chapter 3.10.2(Horizontal and Vertical accuracy report generation).



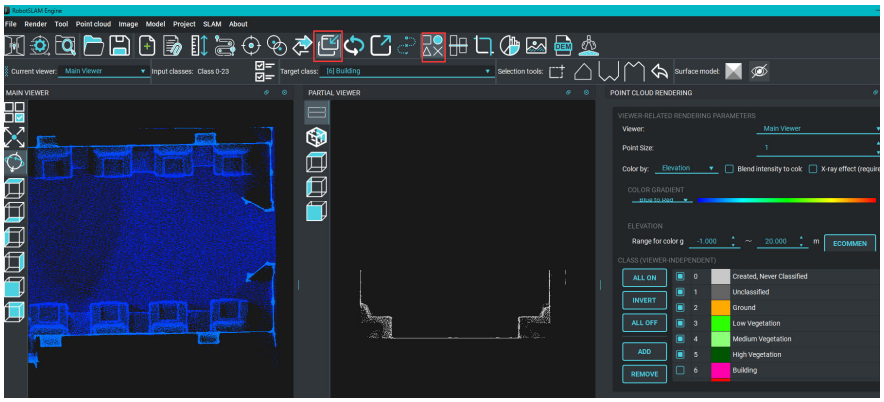
2.1.3.5 Partial Viewer



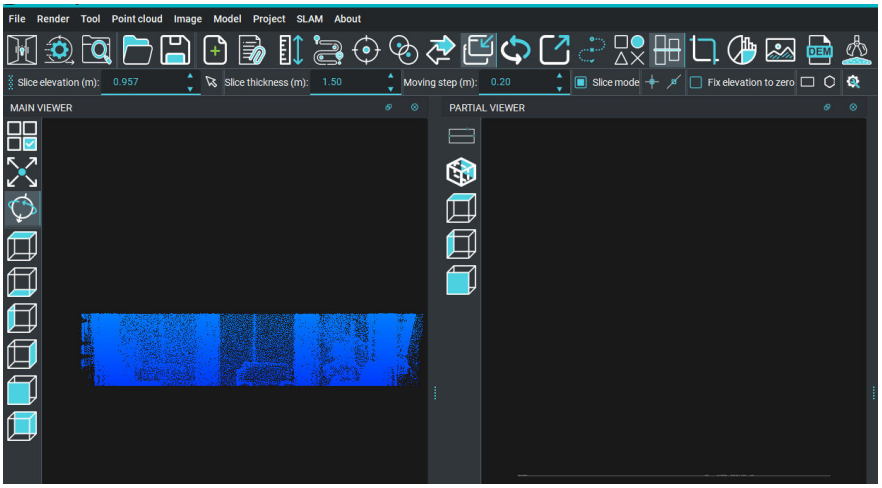
Partial viewer is a useful function, for example, before measure horizontal distance, open partial viewer to make a profile of the point cloud, so that can see inside,



Partial viewer to see details



work together with Manual classification

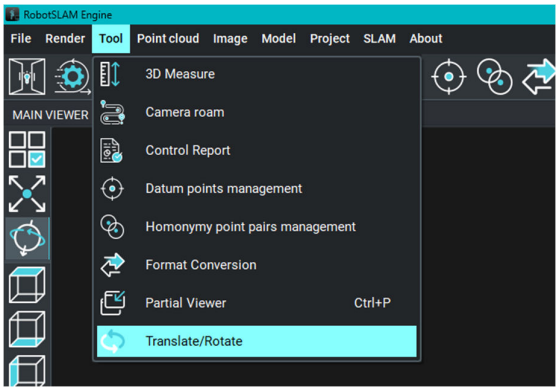


work with horizontal slice

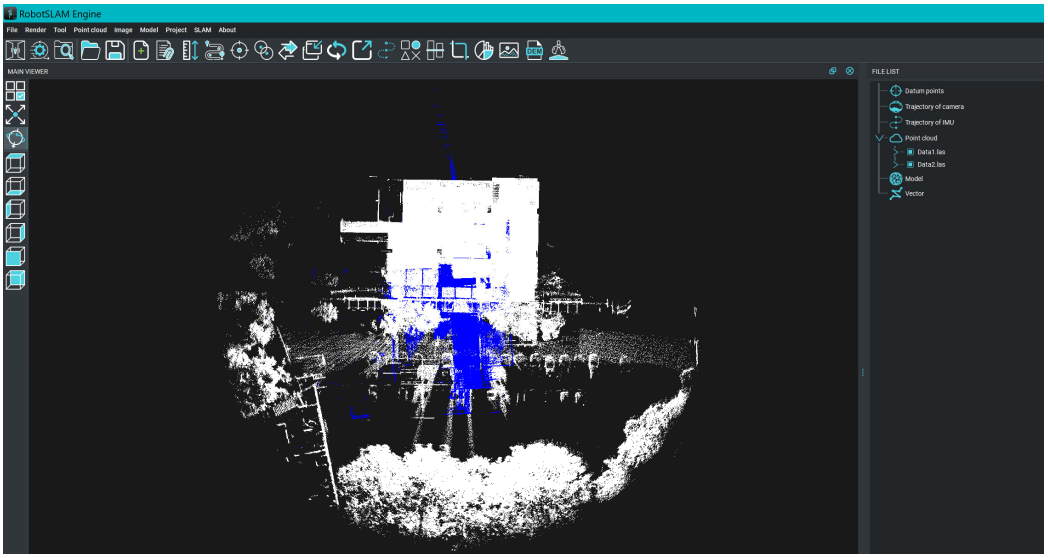
2.1.3.6 Translate/Rotate (Point cloud Stitching)

Point cloud stitching means to stitch the point cloud by dragging and rotating, this process involves adjusting the position and orientation of one group point cloud data to create a seamless composite.

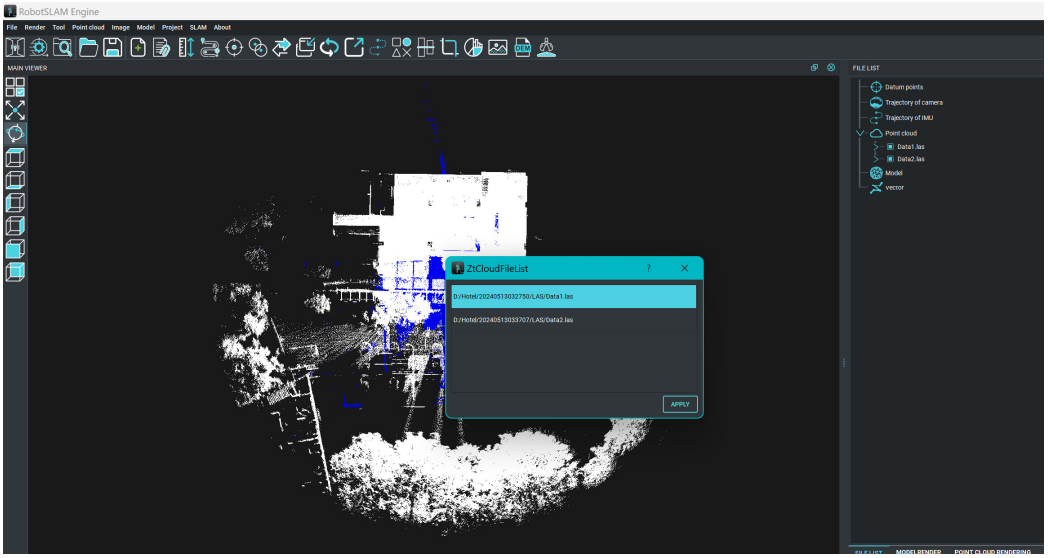
Notes: it is a must that the two-group data to stitch should have overlapping regions.



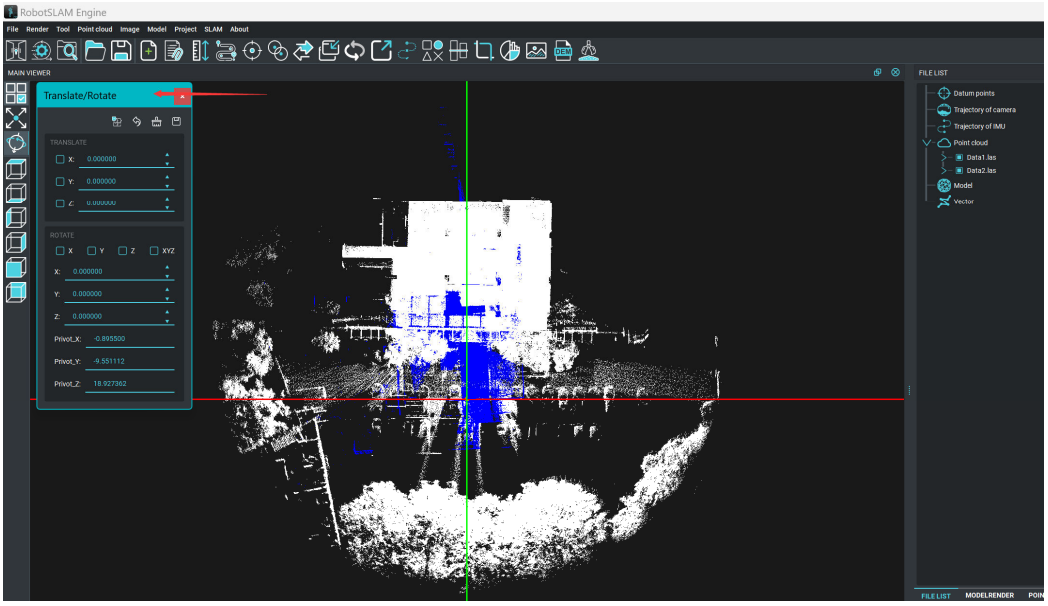
Import Data 1 and Data 2:



Select Data 1 to Drag and Rotate and click "APPLY":



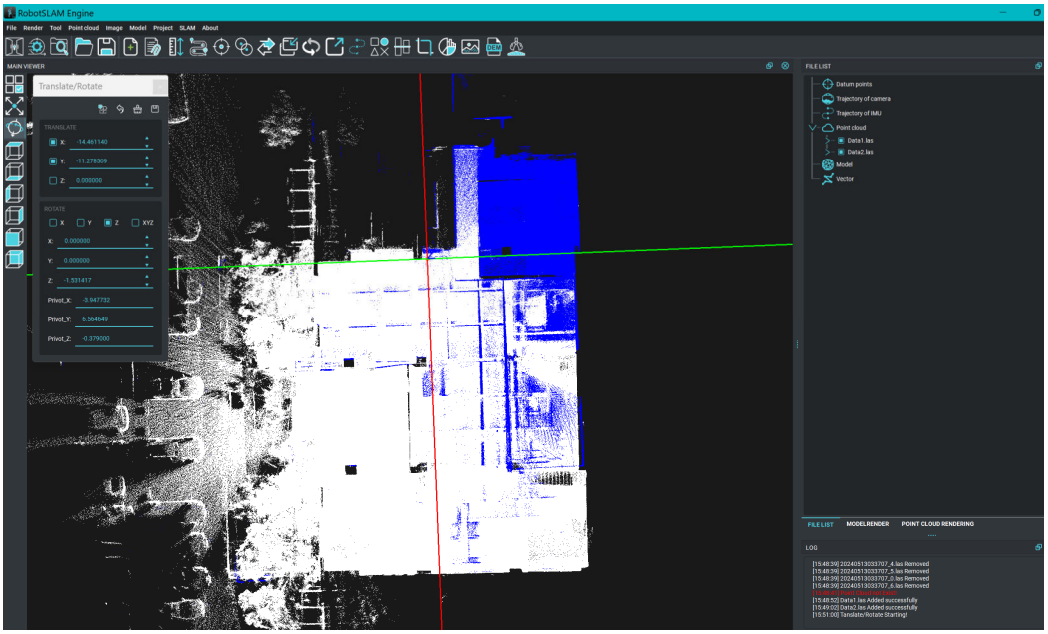
Then will pop up a toolbar-Translate/Rotate on the left:

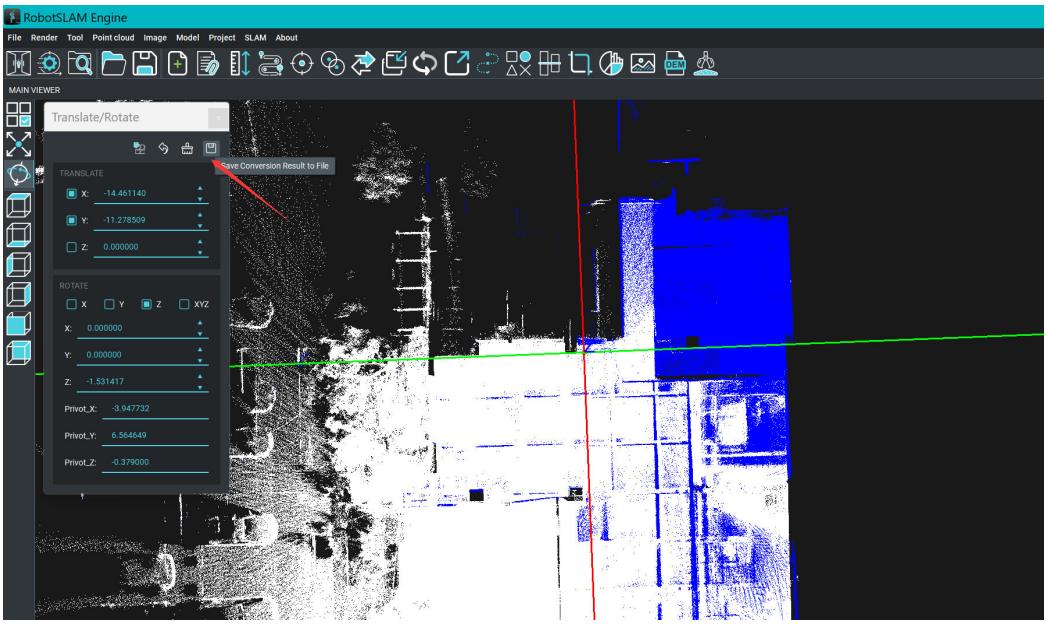


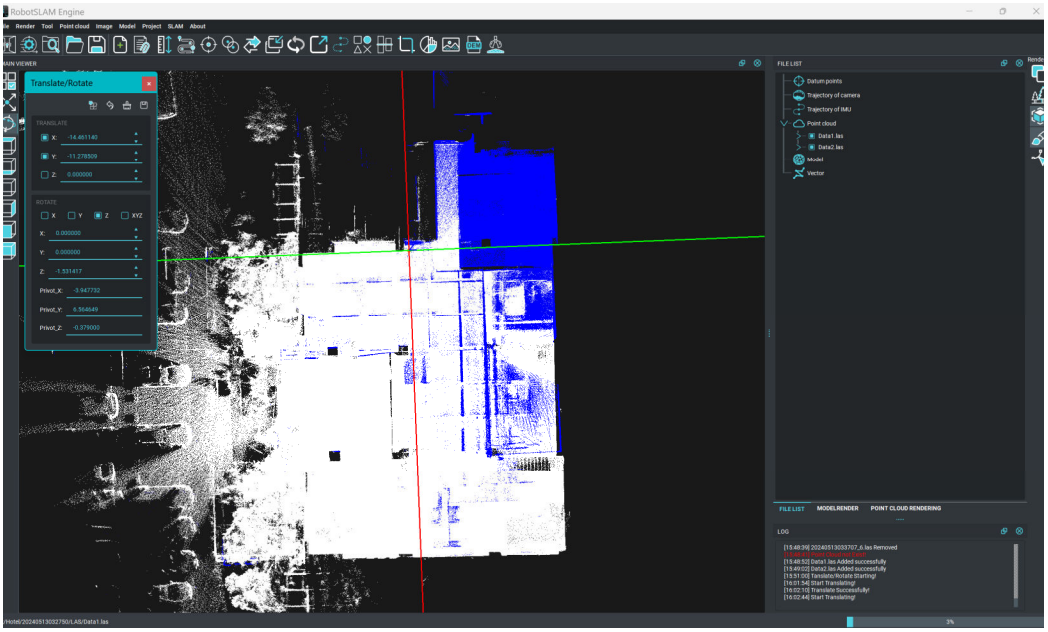
Hold **middle mouse button** to drag point cloud in Data 1 to the direction of up, down, left or right;

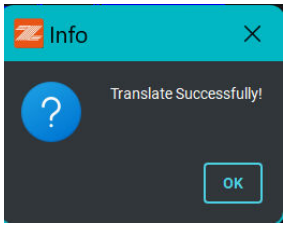
Hold **right mouse button** to rotate Data 1;

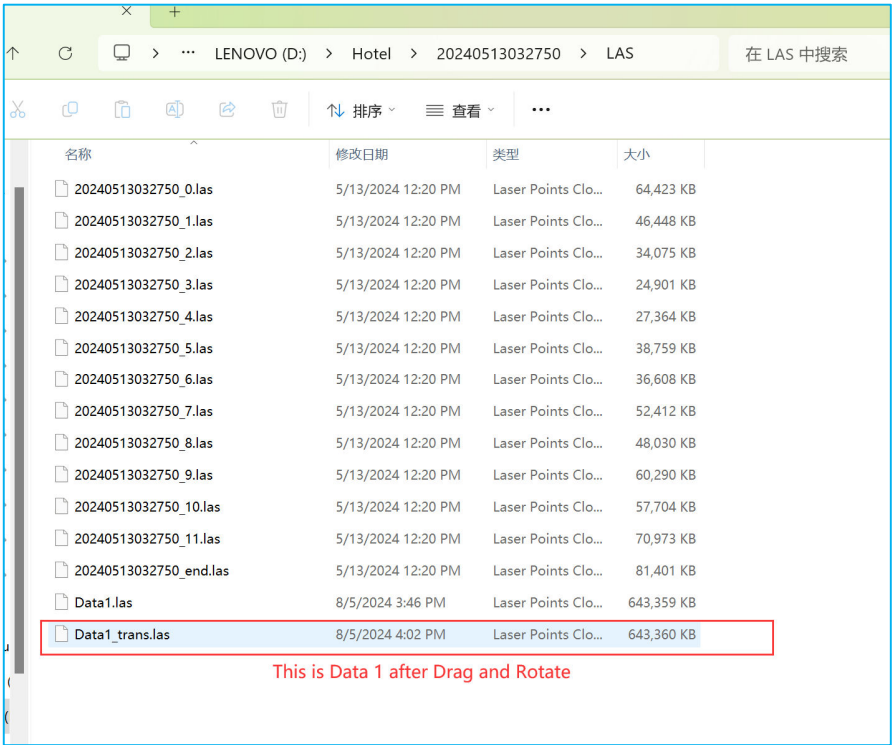
When drag and rotate to the proper location, then finish and export the point cloud,

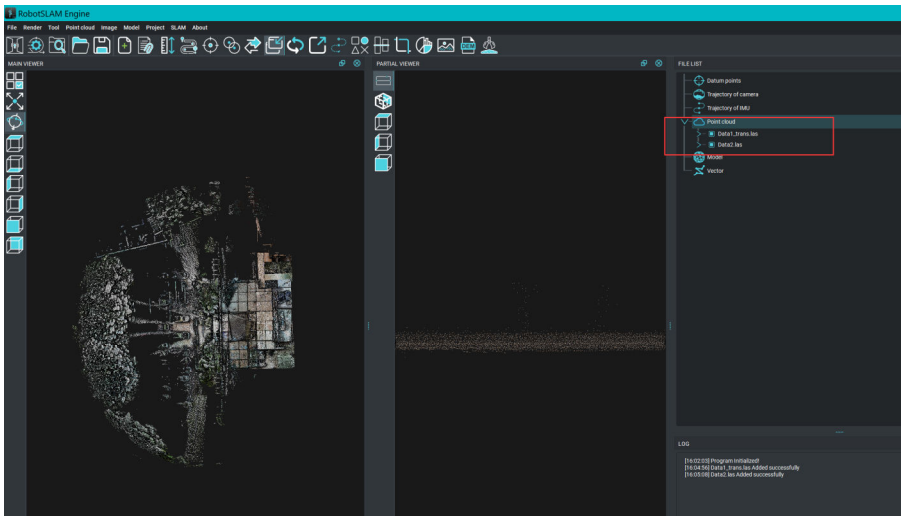



RobotSLAM Engine
File Render Tool Point cloud Image Model Project SLAM About
MAIN VIEWER
Translate/Rotate
Save Conversion Result to File
TRANSLATE
X: -14.461140
Y: -11.278509
Z: 0.000000
ROTATE
X Y Z XYZ
X: 0.000000
Y: 0.000000
Z: -1.531417
Privot_X: -3.947732
Privot_Y: 6.564649
Privot_Z: -0.379000


RobotSLAM Engine
Translate/Rotate
FILE LIST
Datum points
Trajectory of camera
Trajectory of IMU
Point cloud
Data1.las
Data2.las
Model
Vector
FILE LIST MODELRENDER POINT CLOUD RENDERING
LOG


Info
Translate Successfully!
OK

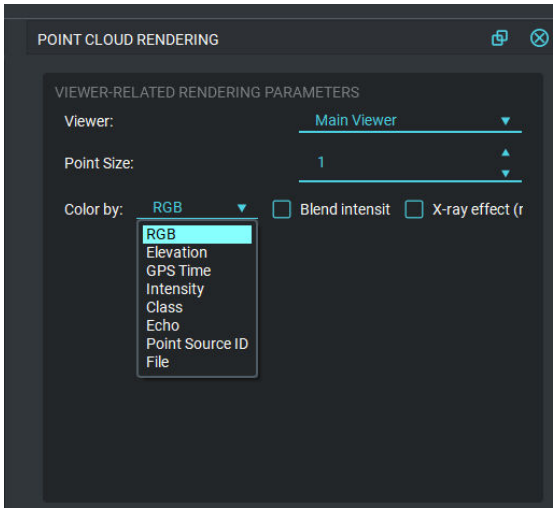




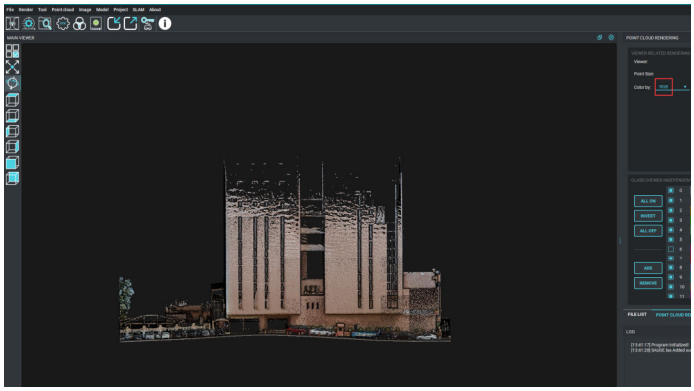
Data after Translate/Rotate

2.2 Point Cloud Rendering

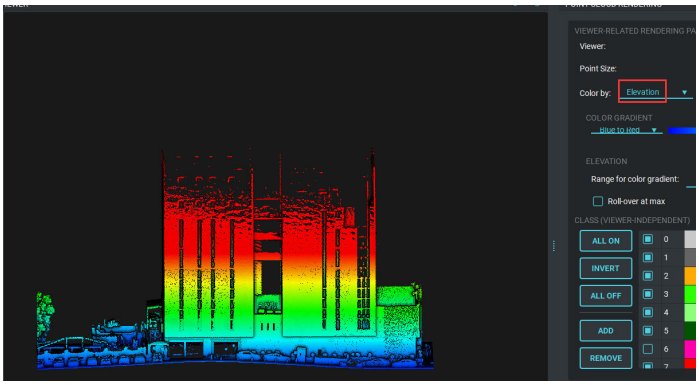
Point cloud rendering is to give color to point cloud by different methods, by RGB, Elevation, GPS time, Intensity, Class, File, and so on:



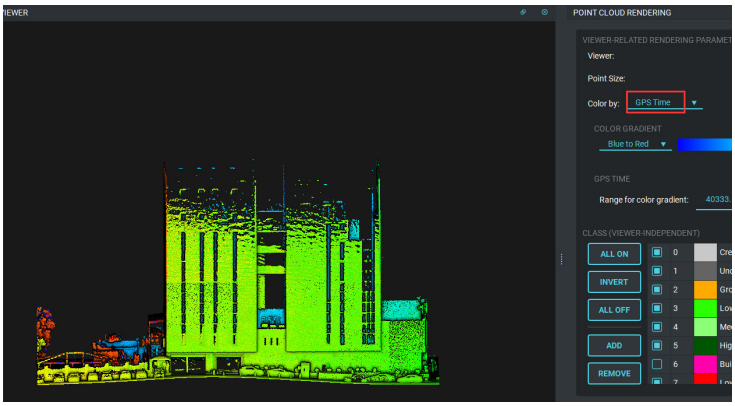
Color Method Selection



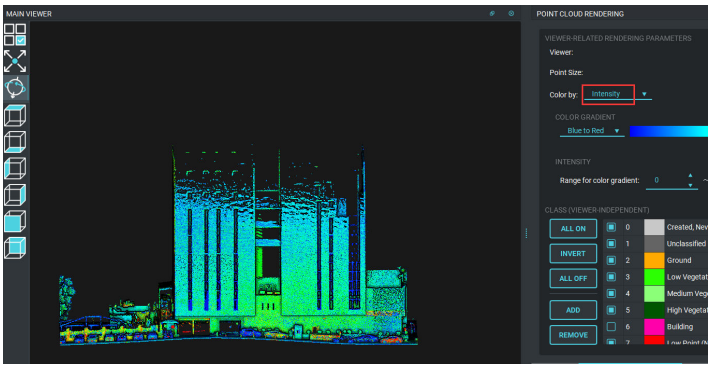
By RGB(True color, point cloud after colorized can be displayed with By RGB)



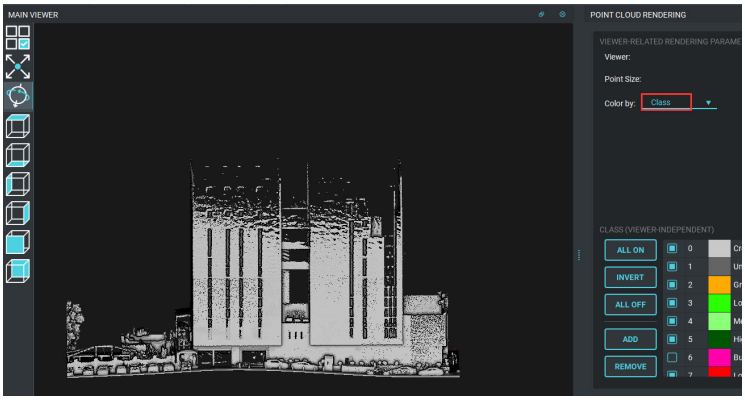
By Elevation



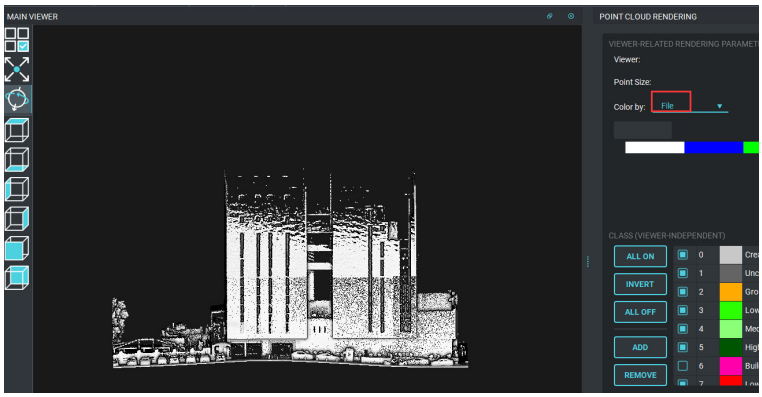
By GPS Time



By Intensity



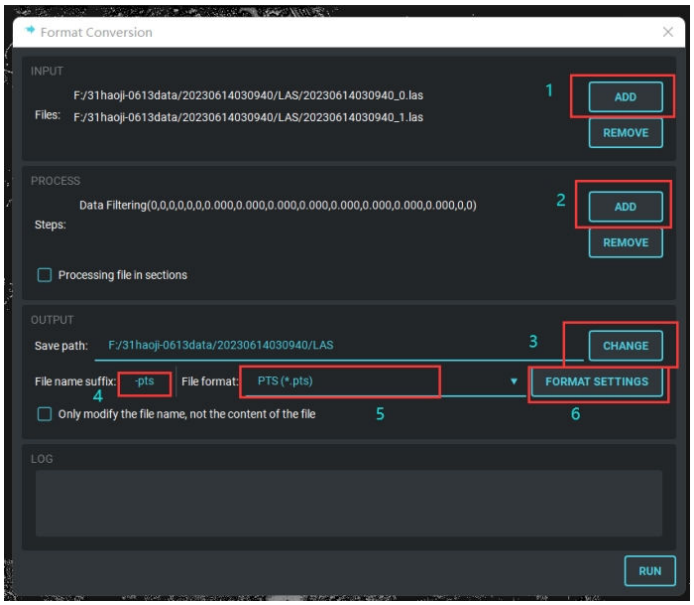
By Class



By File

2.3 Format Conversion

RobotSLAM Engine can export standard LAS format point cloud files, sometimes, the users may need other formats, txt, pts, xyz, or others. Here takes pts format conversion as an example:



1st, load the files;

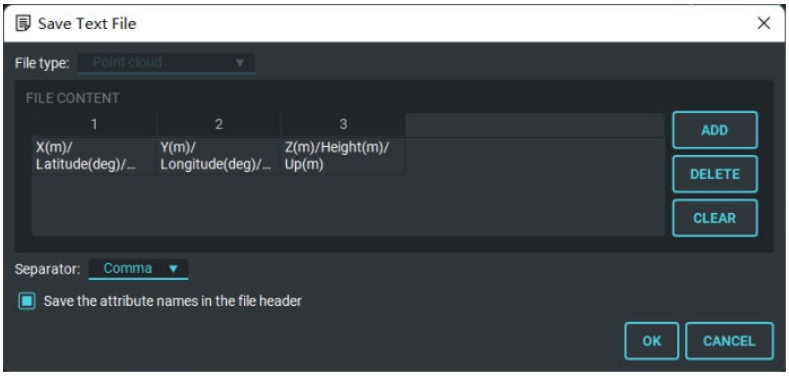
2nd, add the method "data filtering";

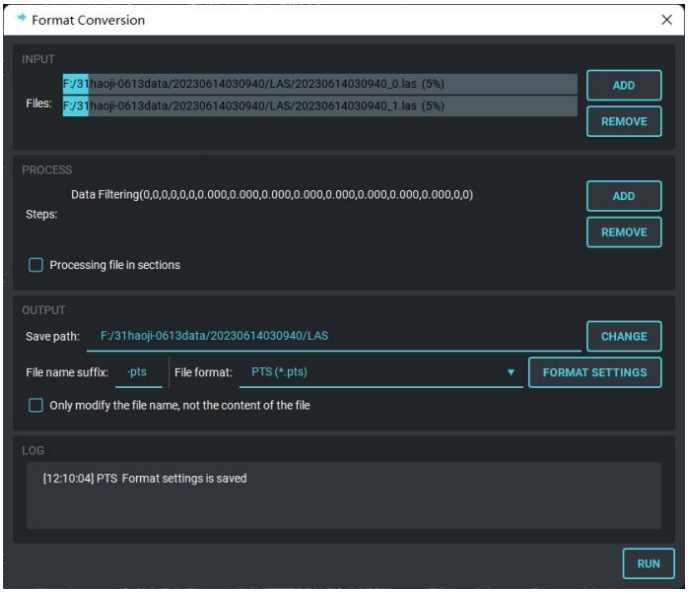
3rd, change the save path;

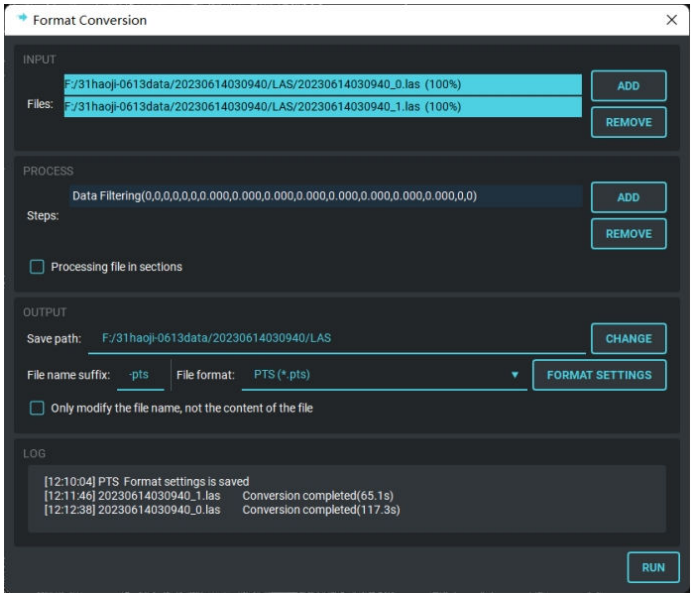
4th, add the file suffix;

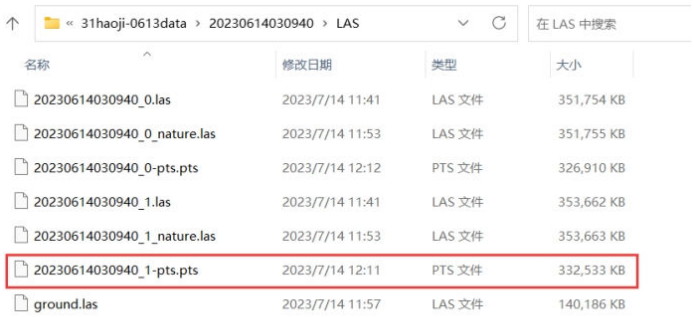
5th, select the format PTS;

6th, do the format settings, click ok to get the pts format file.



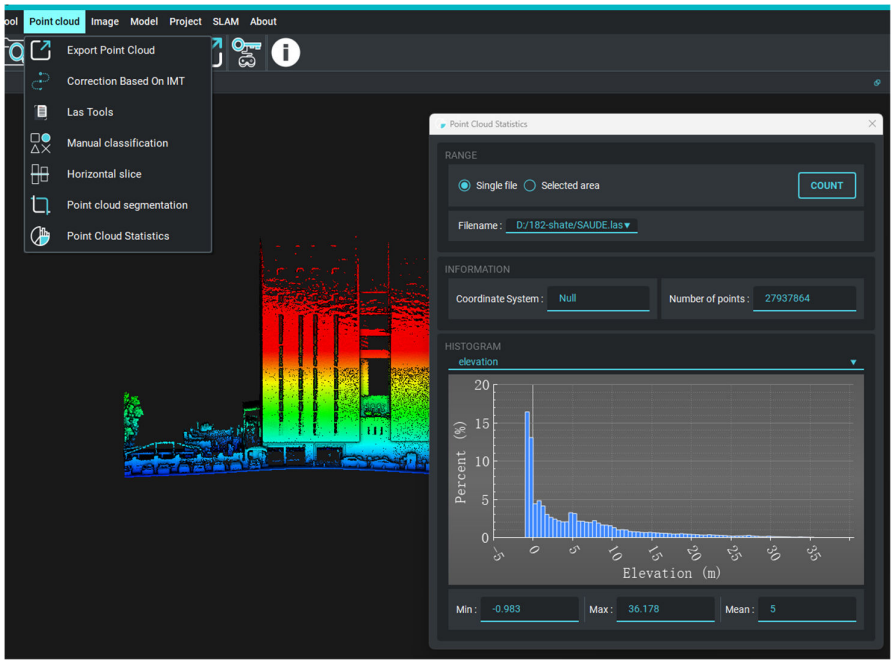






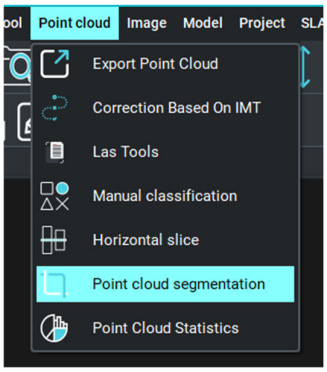
2.4 Point Cloud Statistics

Point cloud statistics is to calculate the number of the points in the LAS file.
Click "Point cloud"-> "Point Cloud Statistics", select "Single file" , find the file path, and click " Count" to "The number of points".

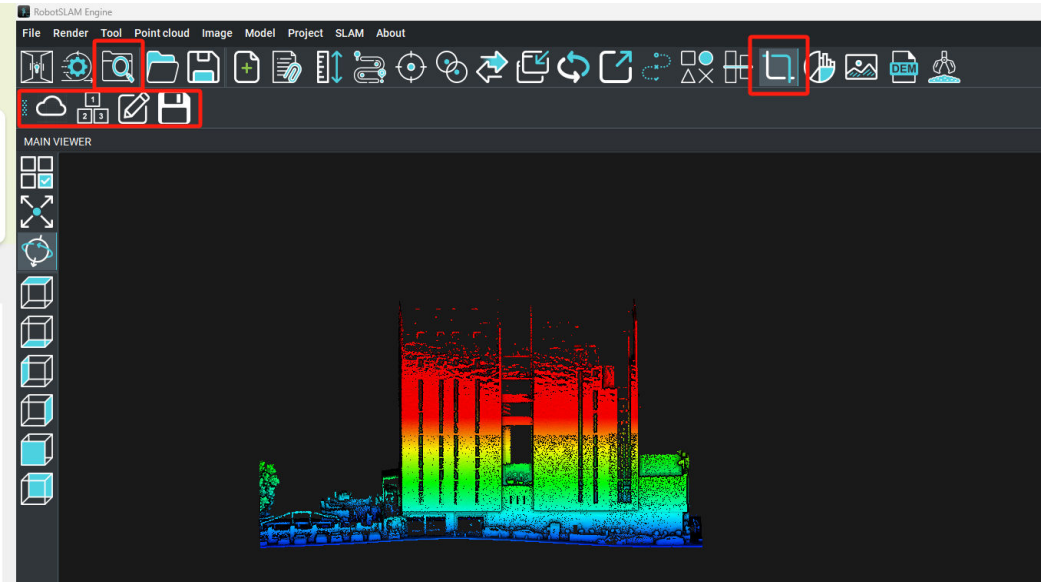


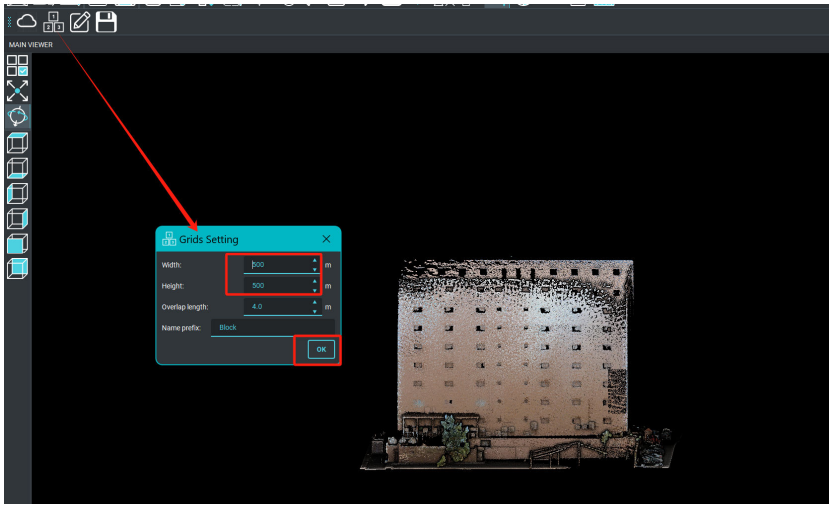
2.5 Point Cloud Segmentation

Point cloud segmentation is a tool, which can divide the point cloud file into several parts.
Please find the tool from **Main Menu Bar** *Point cloud->Point cloud Segmentation*

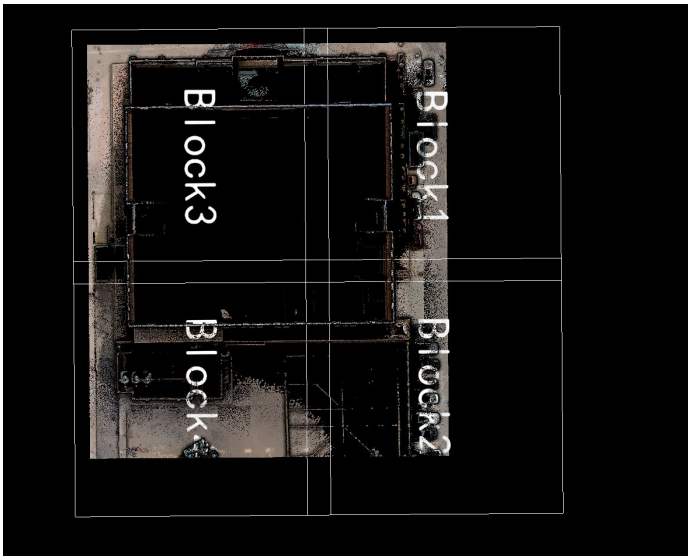


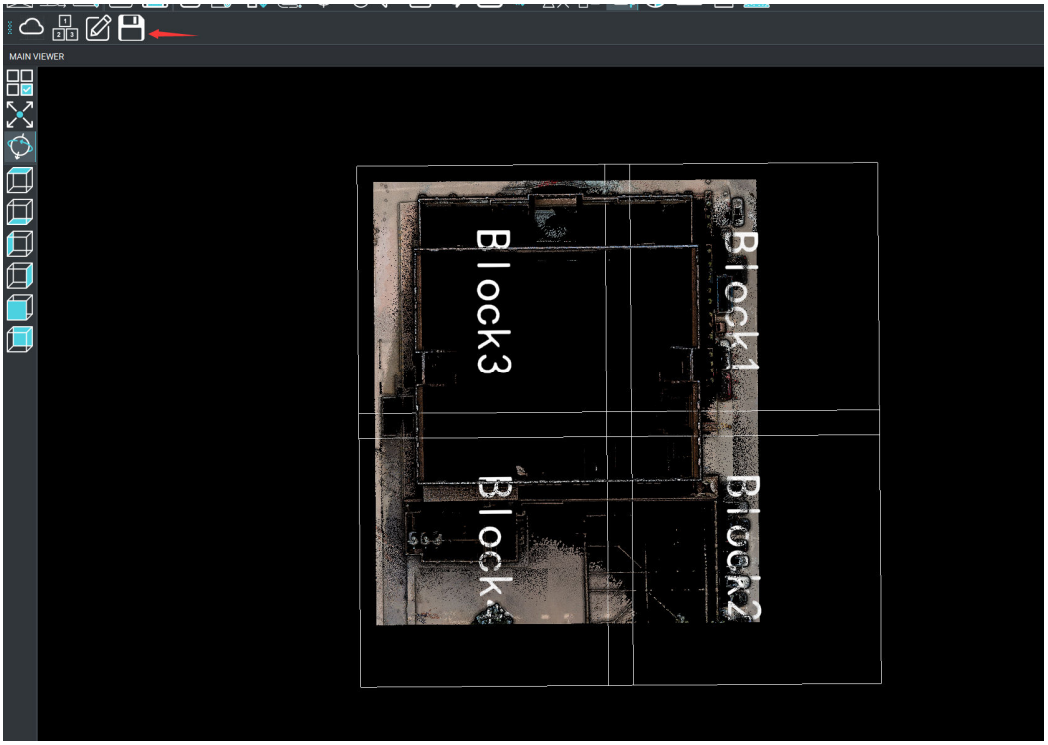
Or from *Browse page -> Point cloud Segmentation icon*  as follows:



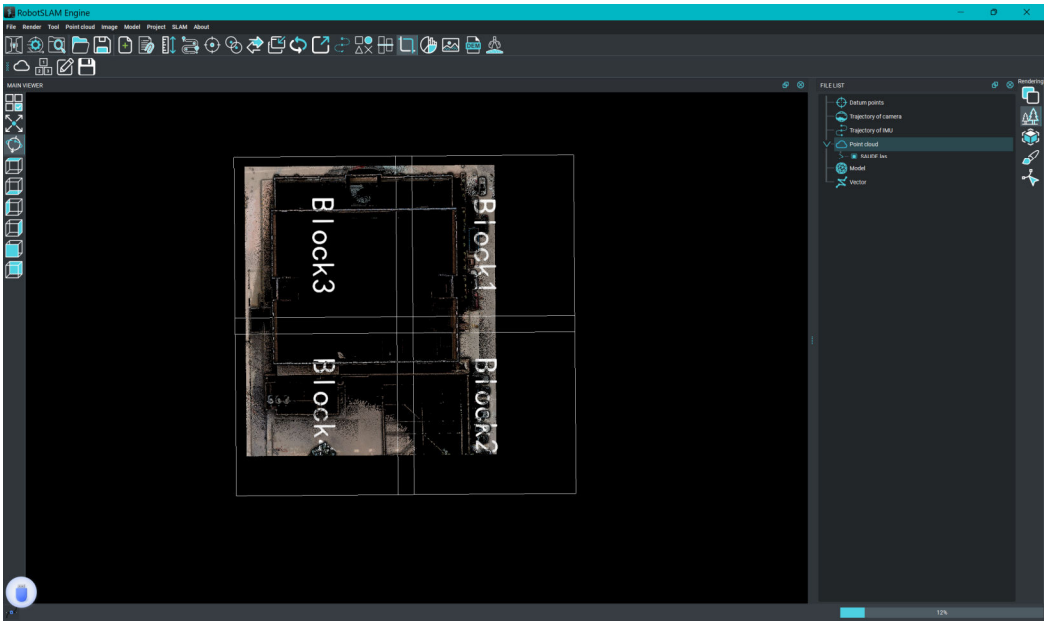


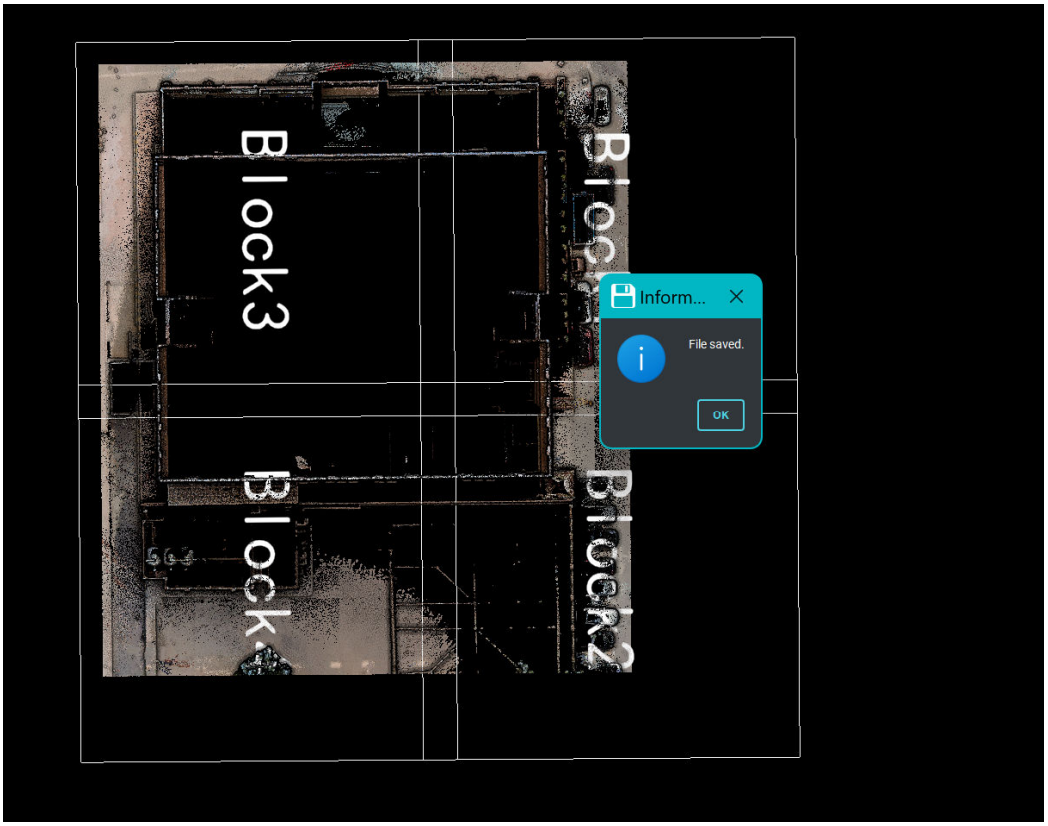
Input the width and Height value, here set 40m ,for example, and got four blocks as below:





Click save and set the save path

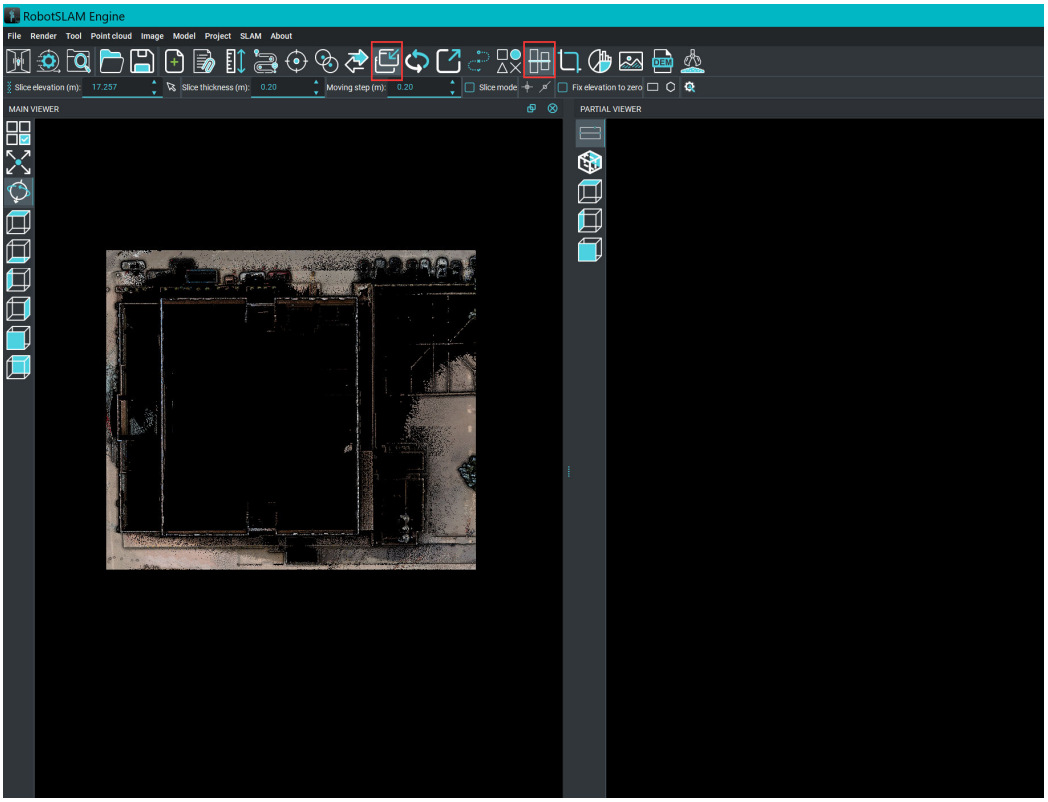


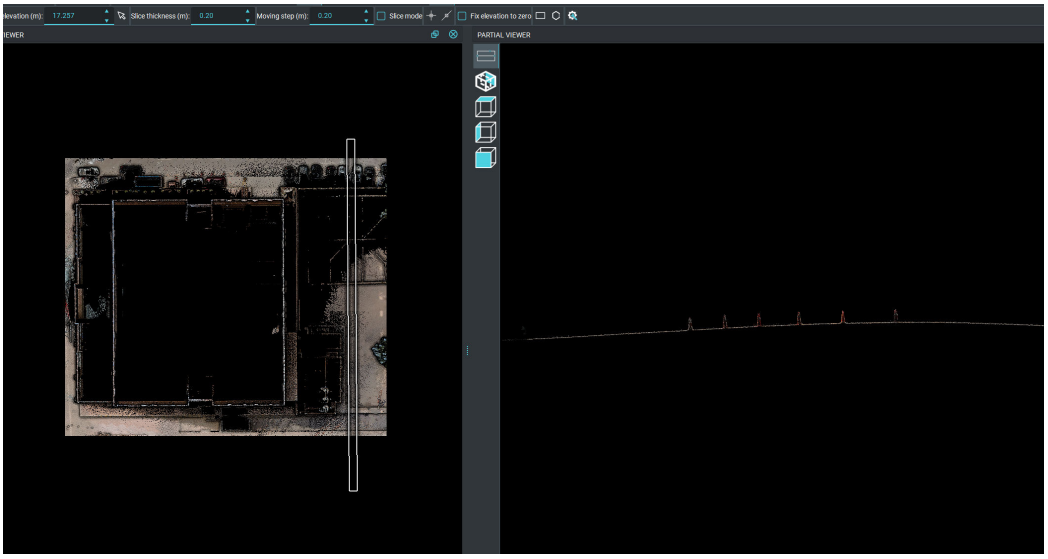


Block4.las	8/8/2024 11:50 AM	Laser Points Clo...	378,739 KB
Block3.las	8/8/2024 11:50 AM	Laser Points Clo...	370,518 KB
Block2.las	8/8/2024 11:50 AM	Laser Points Clo...	84,812 KB
Block1.las	8/8/2024 11:50 AM	Laser Points Clo...	202,130 KB

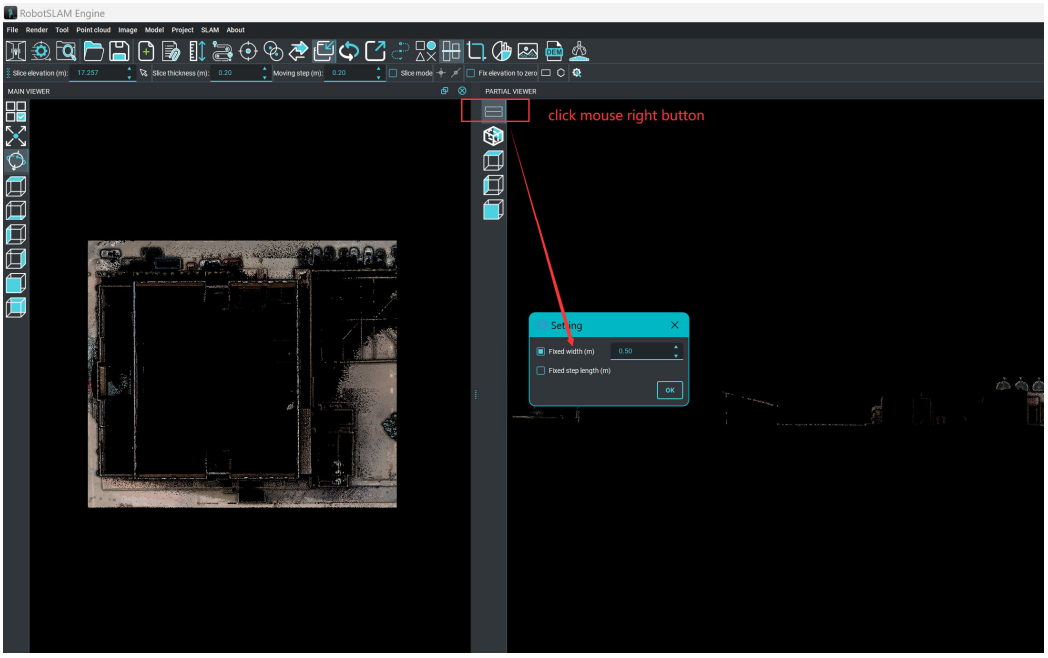
2.6 Horizontal Slice

Horizontal Slice function- helps to check the point cloud by horizontal or vertical view





Right click Partial viewer setting icon to set the Fixed width value:

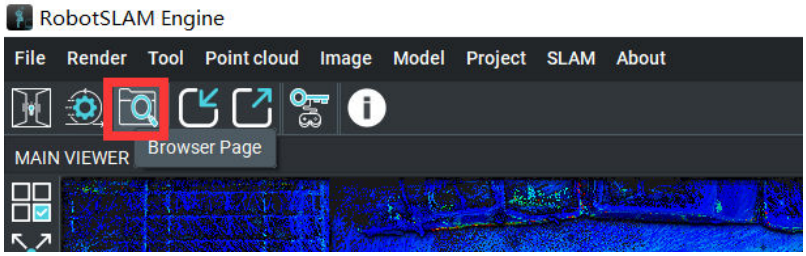


2.7 Manual Classification

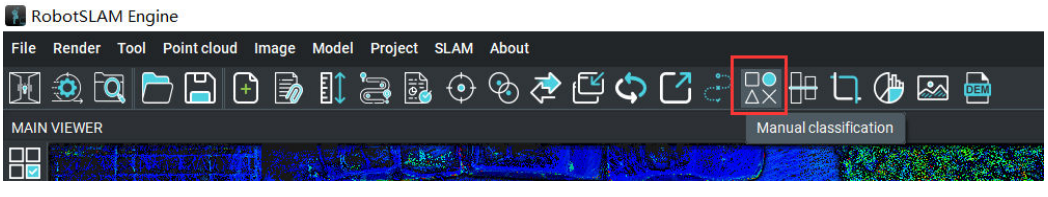
This function is used to classify the point cloud manually, for example class one unclassified point cloud to ground, vegetation, building, noise and so on.

***Notes**: Also this function will helps to remove the moving people, cars or other objects.*

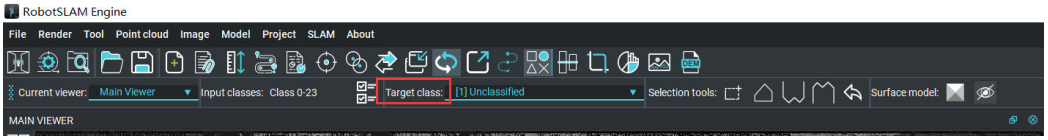
Take Low point(noise points) classification as an example:



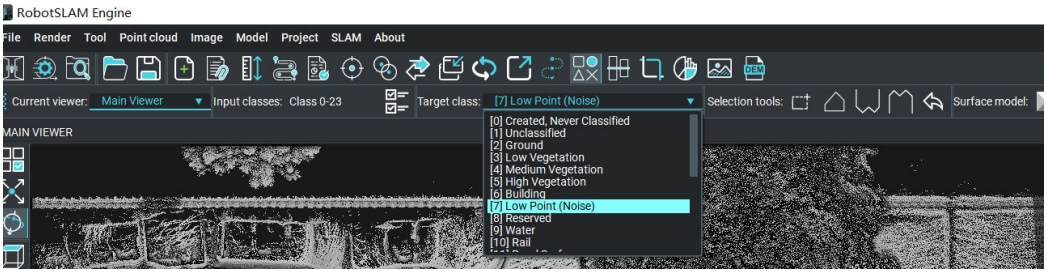
Browser Page



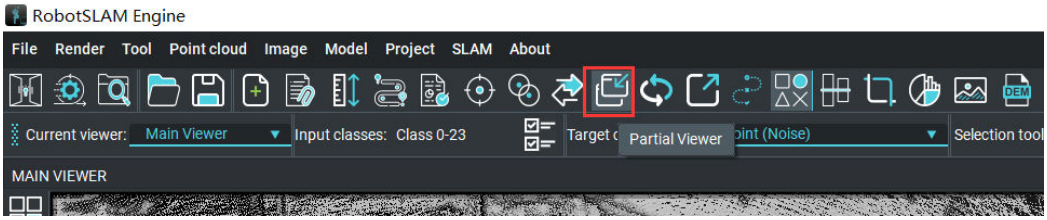
Manual classification



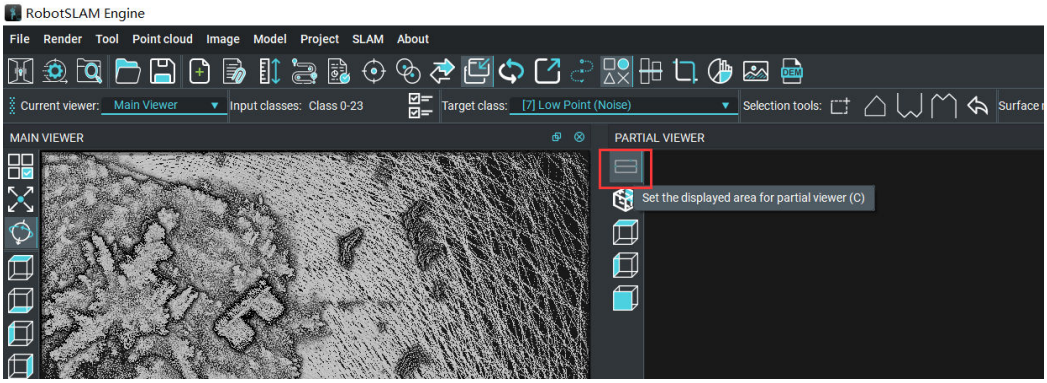
set Target class



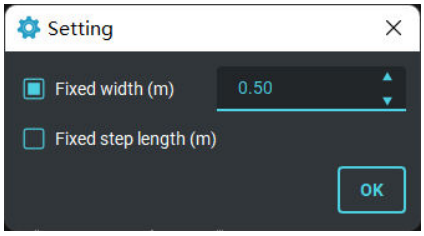
select "Low point(noise)" for example(or other class)



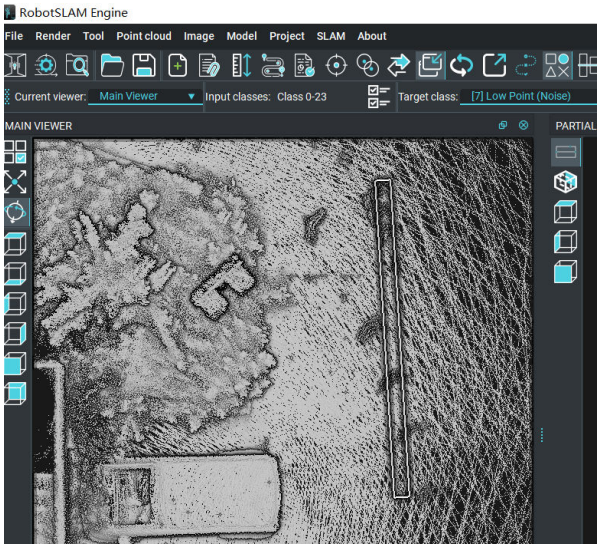
click "Partial Viewer"



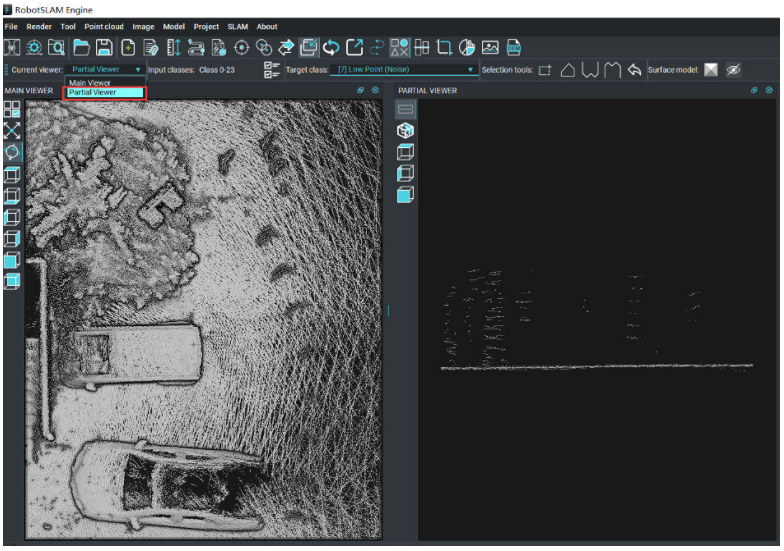
right click" Set the displayed area for partial viewer"



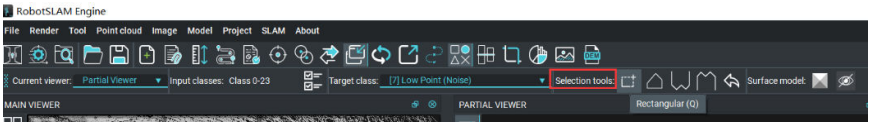
set Fixed width value(0.1-0.5)



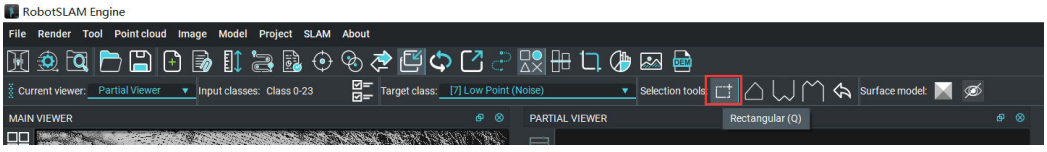
make a slice in left window with left mouse button



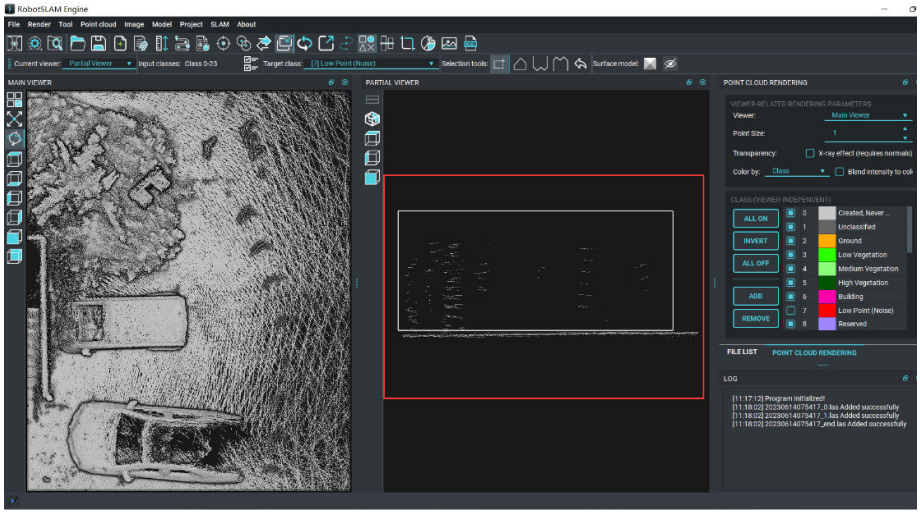
change the classification window to Partial Viewer (it is the right window)



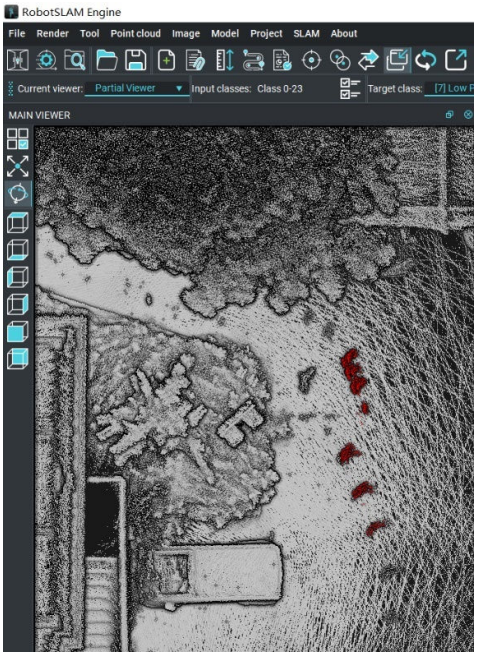
Select the "Selection tools"



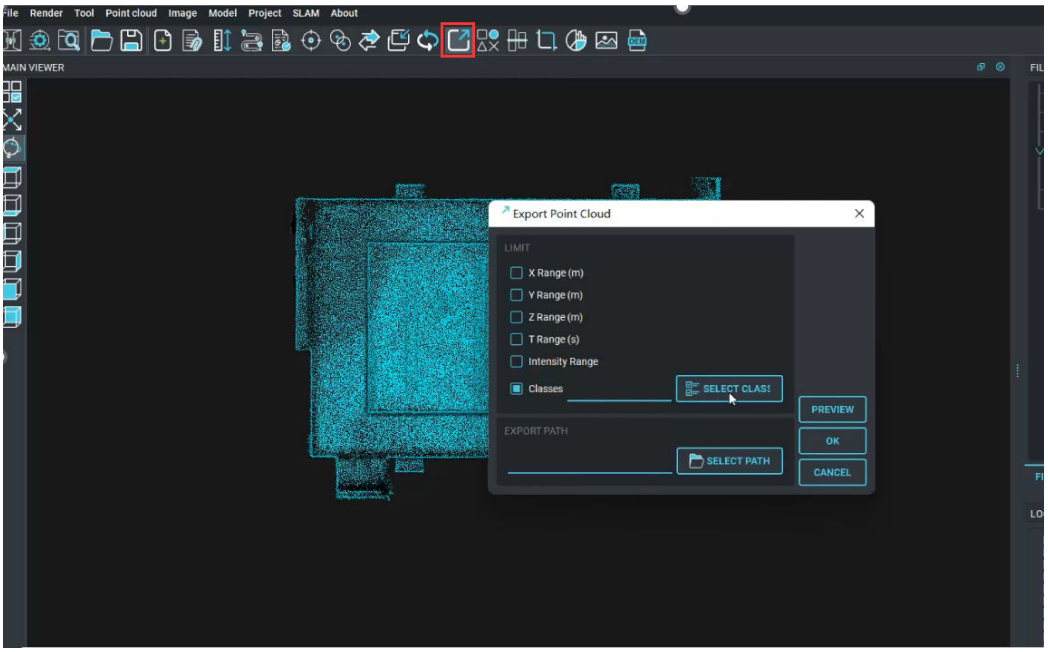
Select tool "Rectangular" or other tools on the right



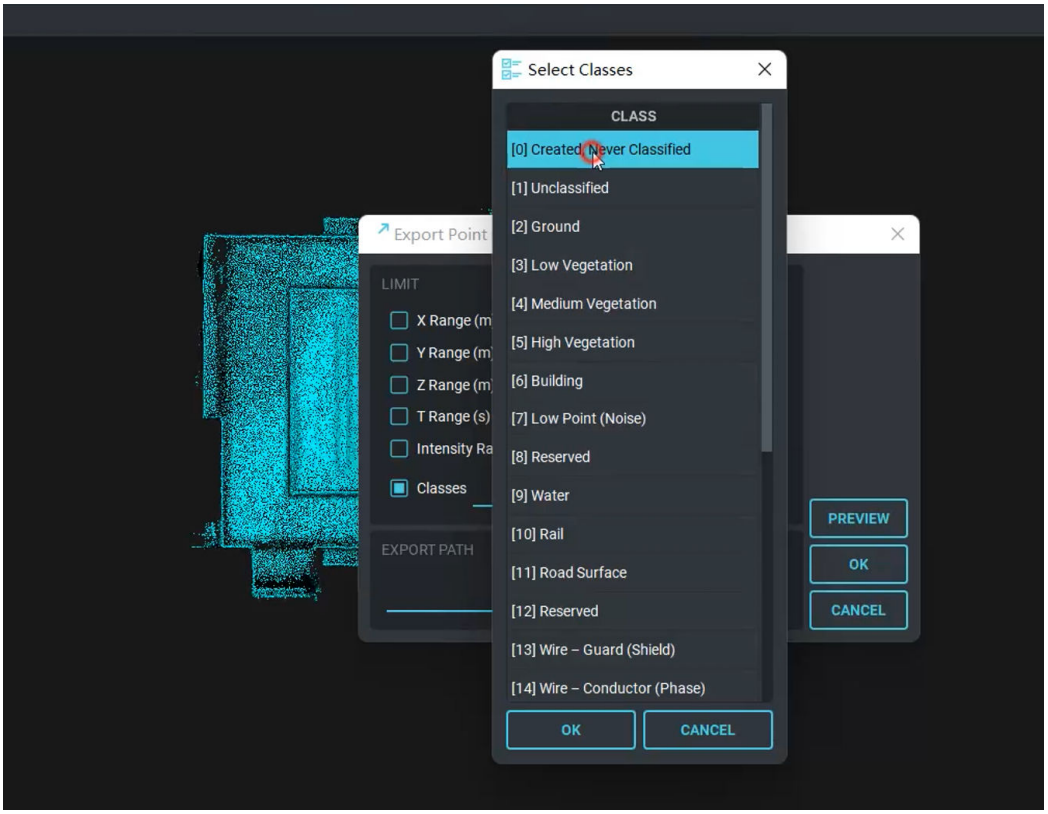
class the noise point cloud to Low point class



The low point class (in red color in left window)



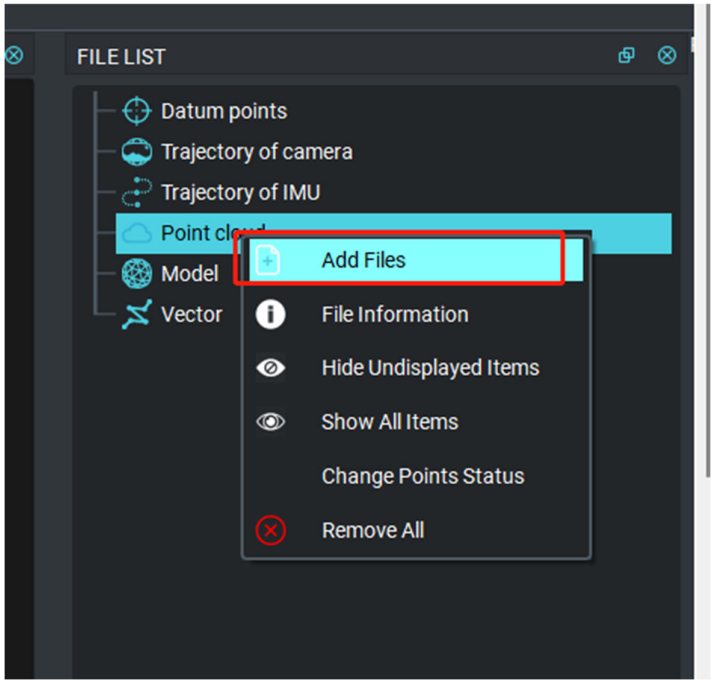
Export point cloud



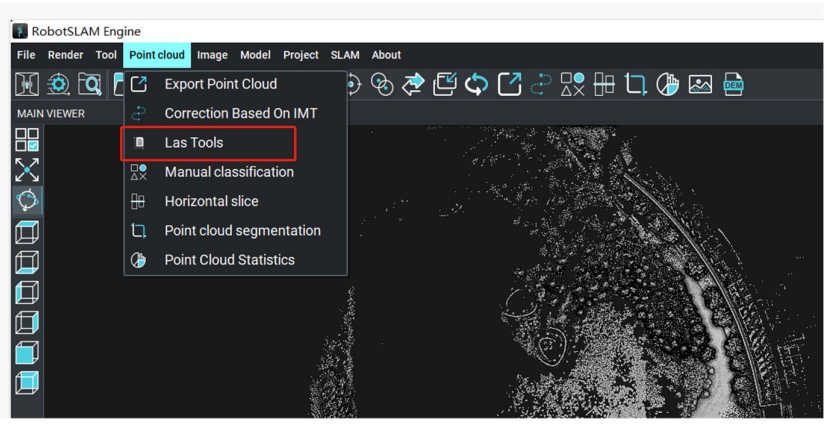
Select "**Created, Never Classified**", click **OK** and set the save path to export the point cloud

2.8 Ground Points Extraction (LAS tools)

If the user needs to extract the ground point cloud, there is a function called Las Tools.
1st, import the point cloud(right click "Point cloud",

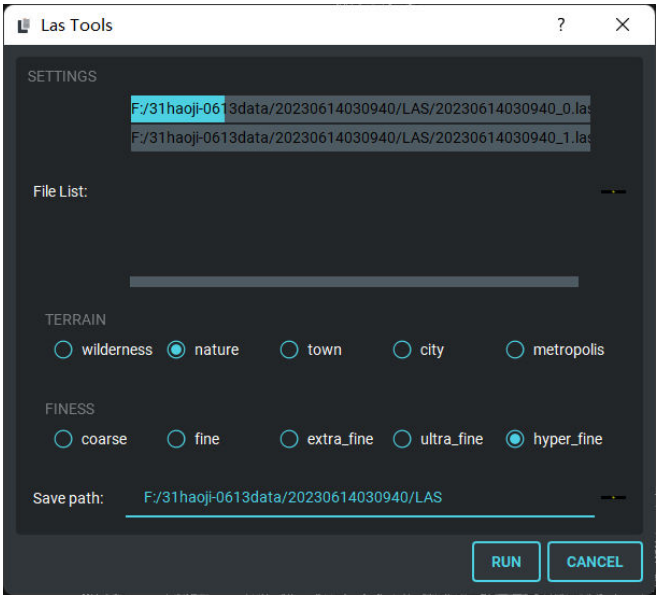


2nd, Point cloud/Las Tools,

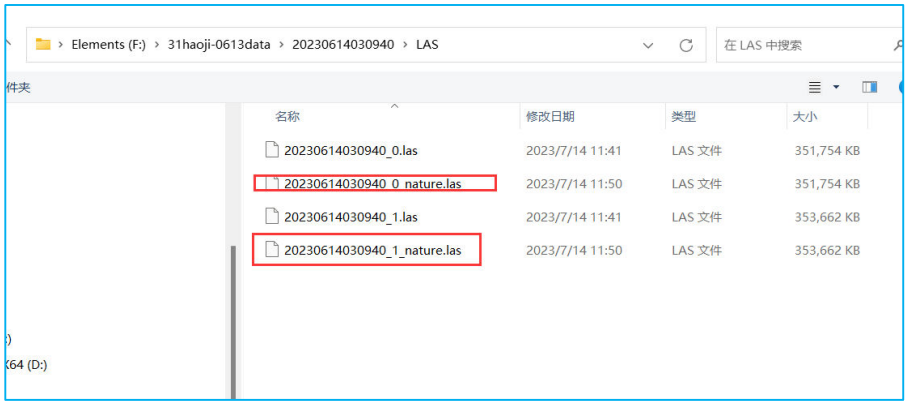


Las Tools

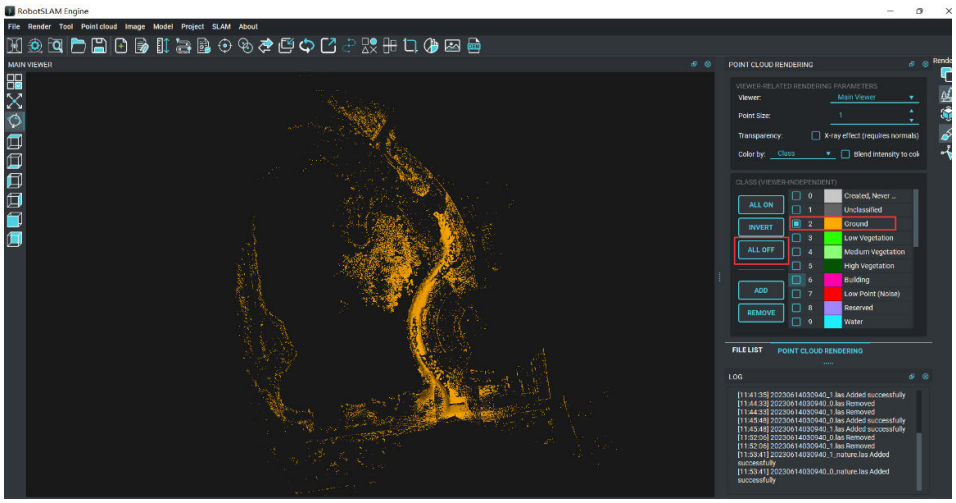
3rd: select terrain type and fine type, set Save Path, and then run.



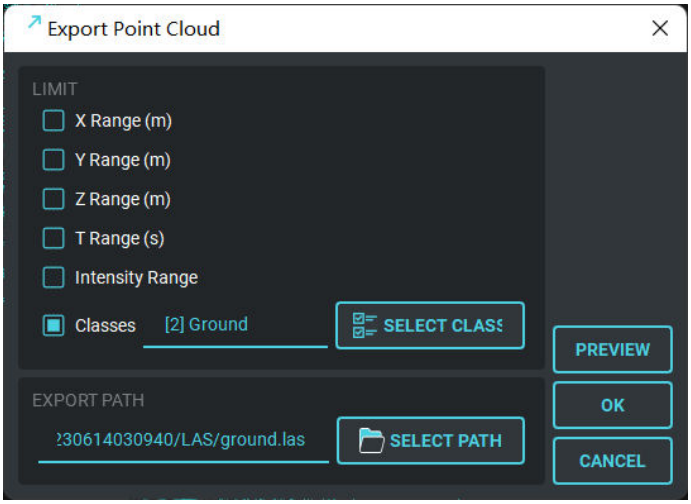
4th: load the las file saved for the previous step,



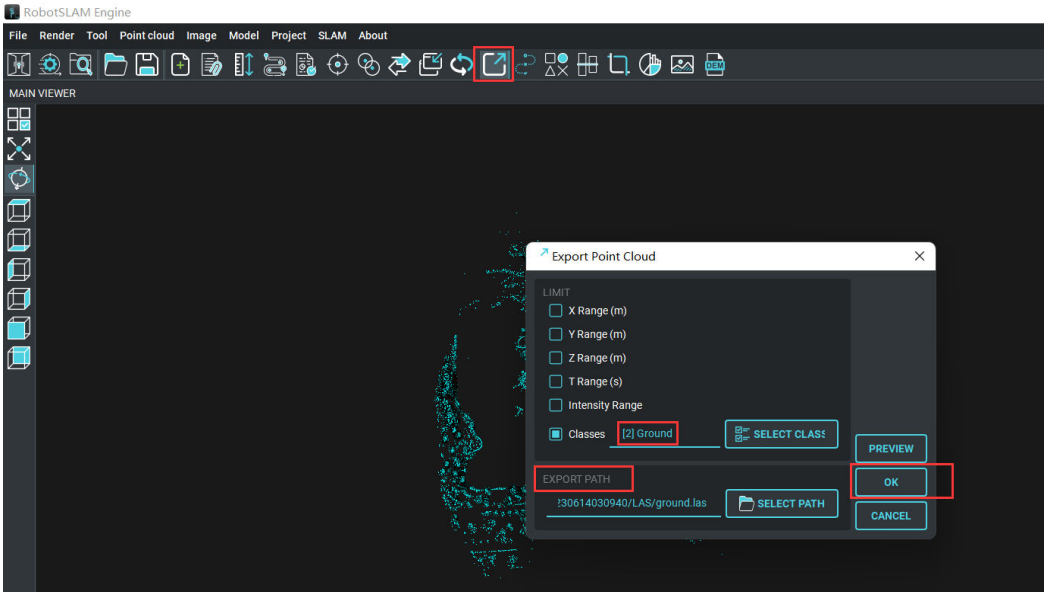
5th: check "ALL OFF", only display Ground to check it as below:



6th, export ground class.



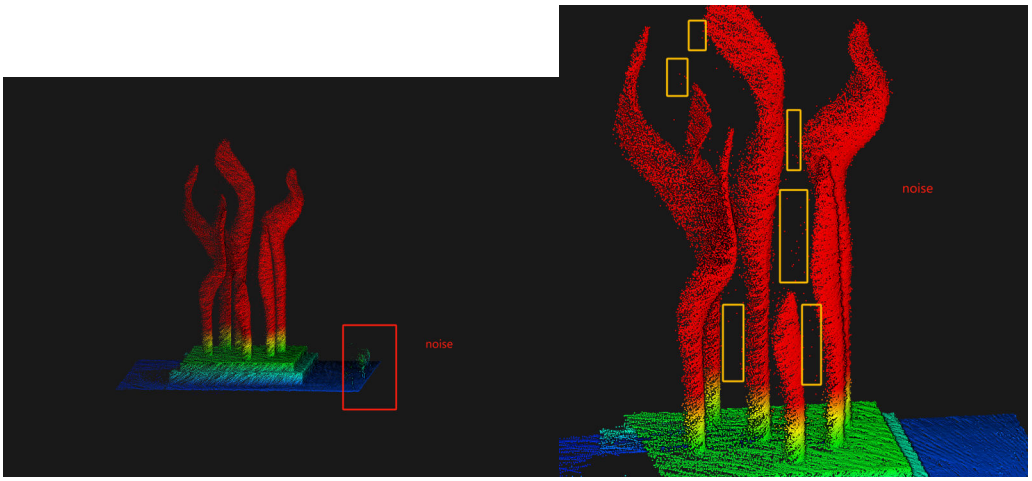
Export ground class



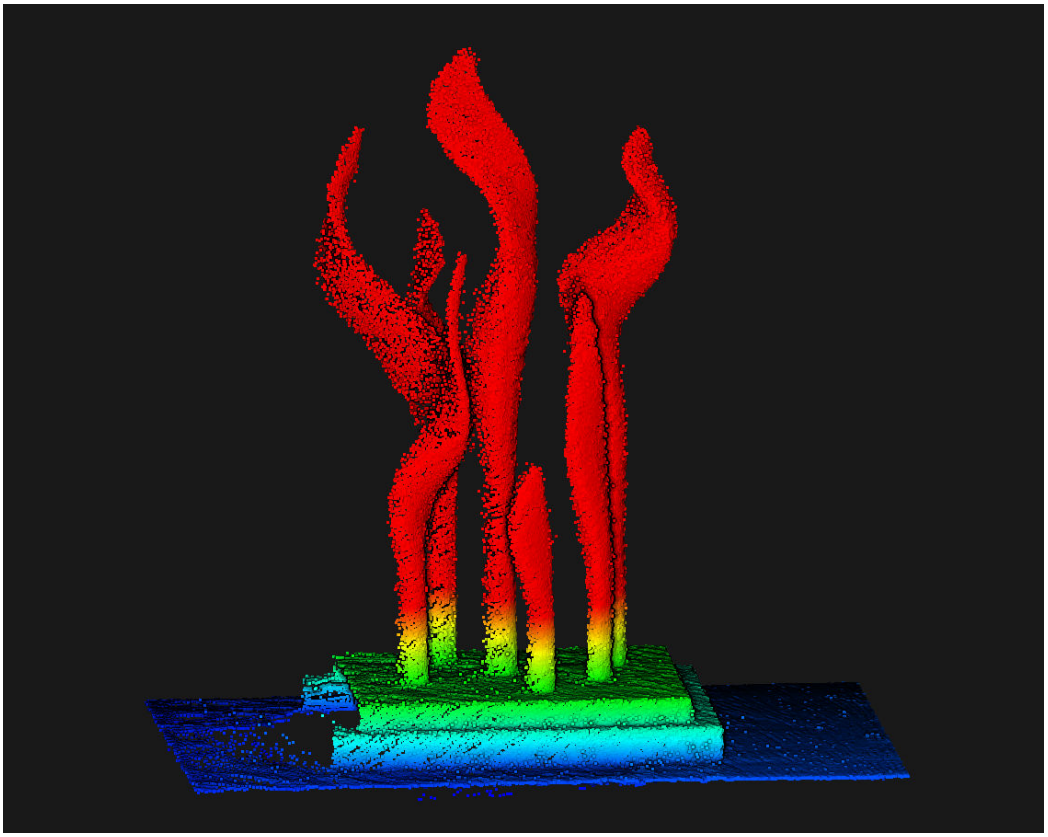
2.9 Earthwork calculations

First, please choose the point cloud to calculate volume. And remove noise point as much as possible.

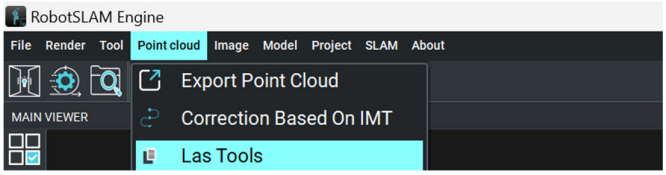
This data is not complete, but you can learn how to remove the point.



Removed the noise point by the Manual classification tool:

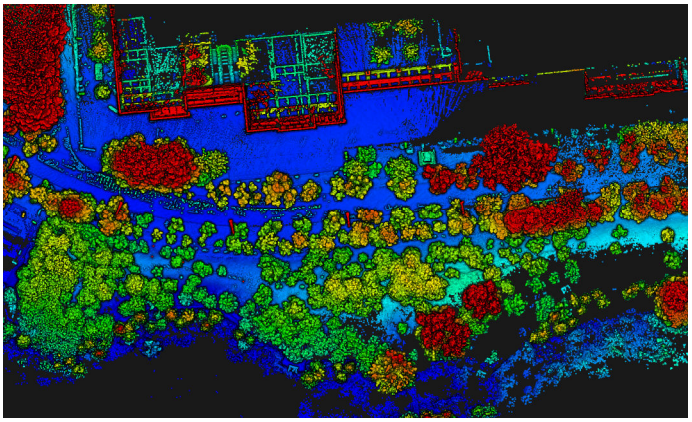


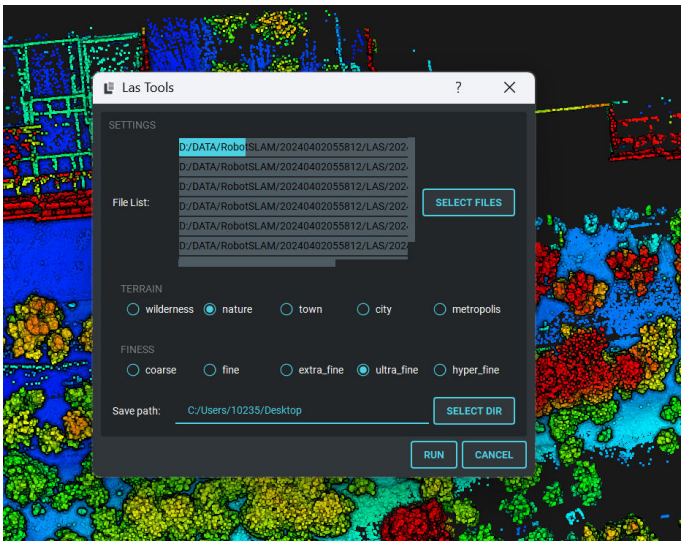
Las tools will extract ground points automatically,



For example, I choose a data like this. And I want to calculate the volume of the ground.

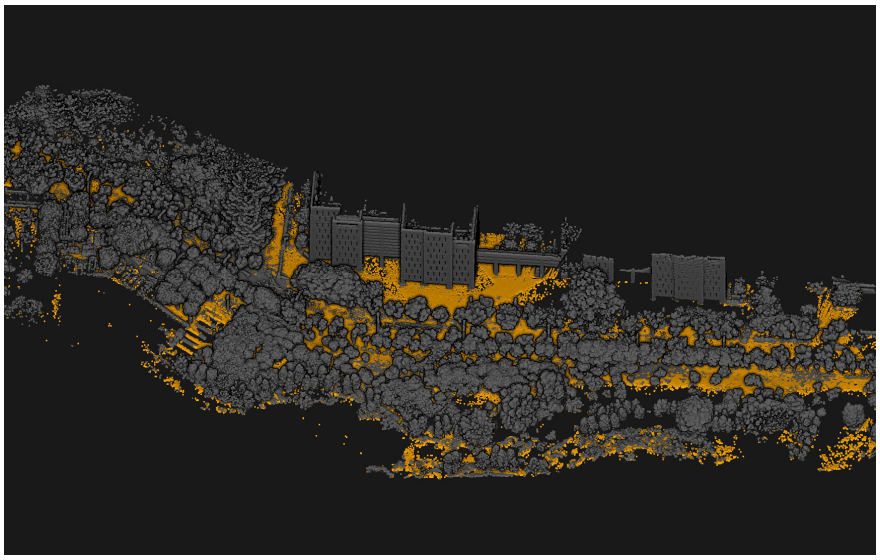
And I use the **las tools** to remove the trees.

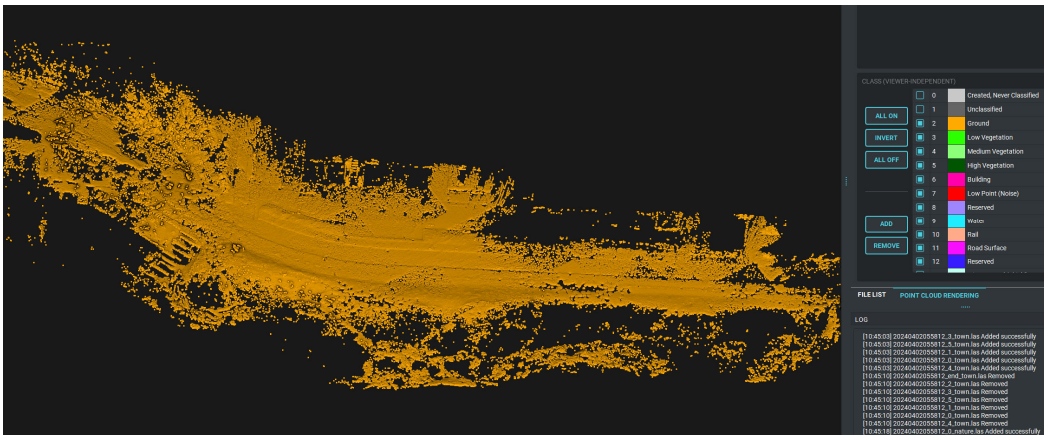




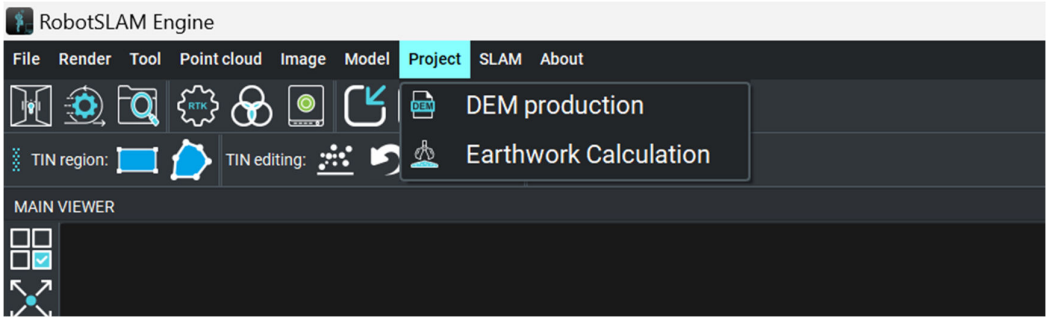
And after this step, we will get the ground point.

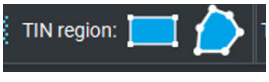
Yellow point.



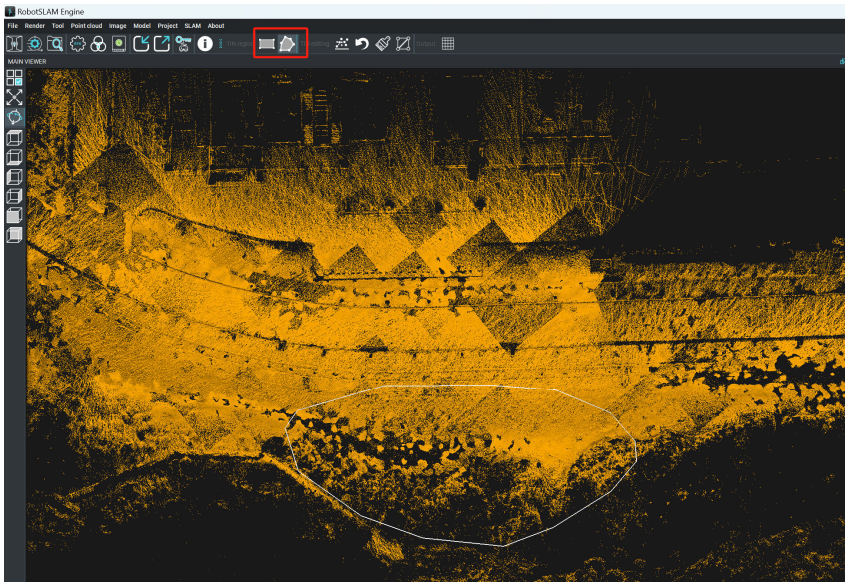


After load the point clouds, click DEM production. And then to create TIN.

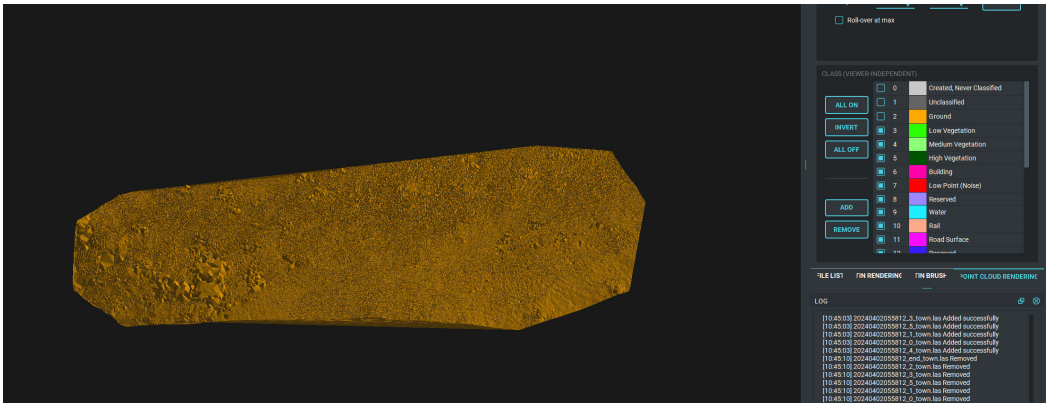




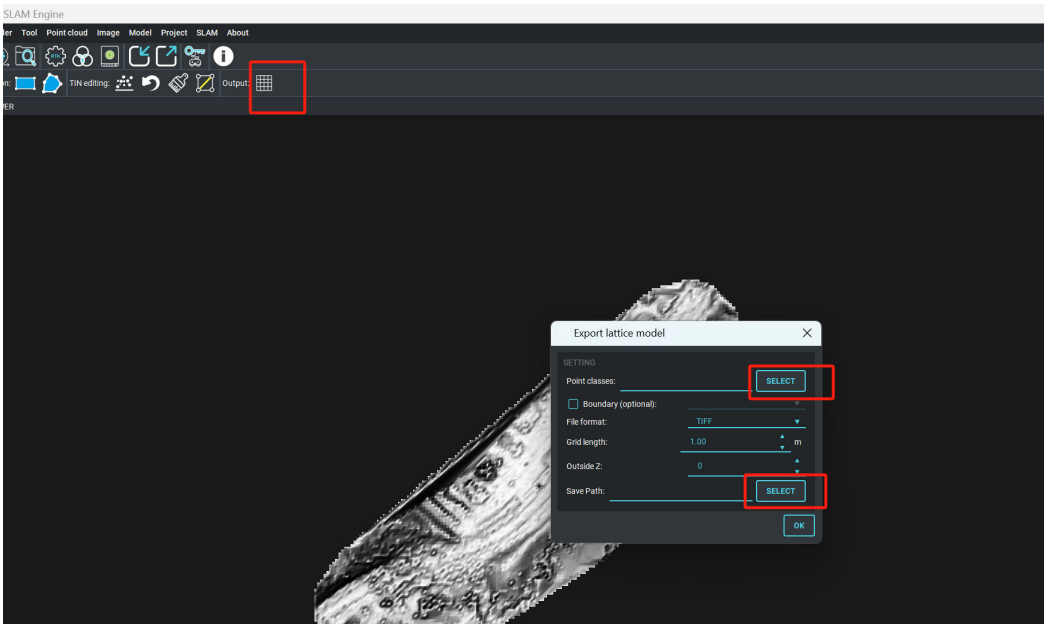
Choose the scope to calculate.



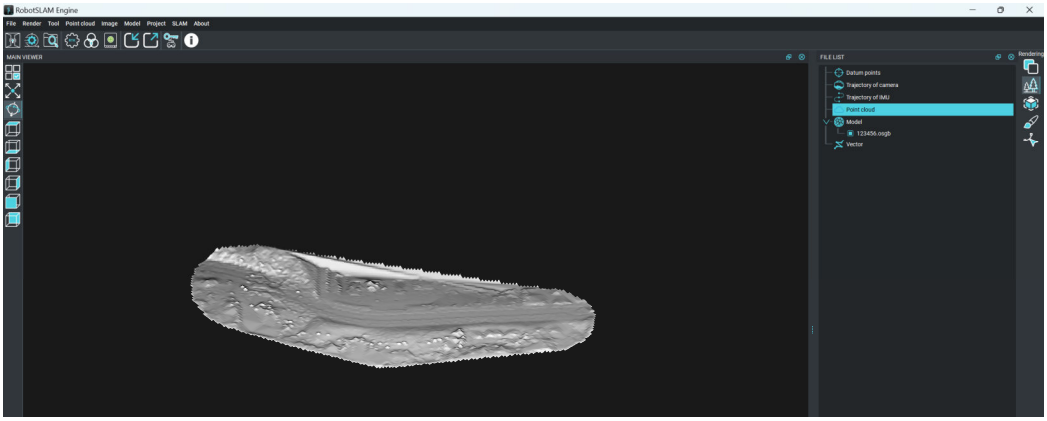
Then DEM is generated,



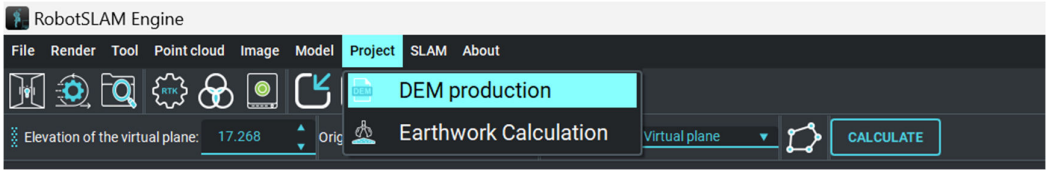
After that, Output the DEM model. Don’t forget to choose the class- ground.



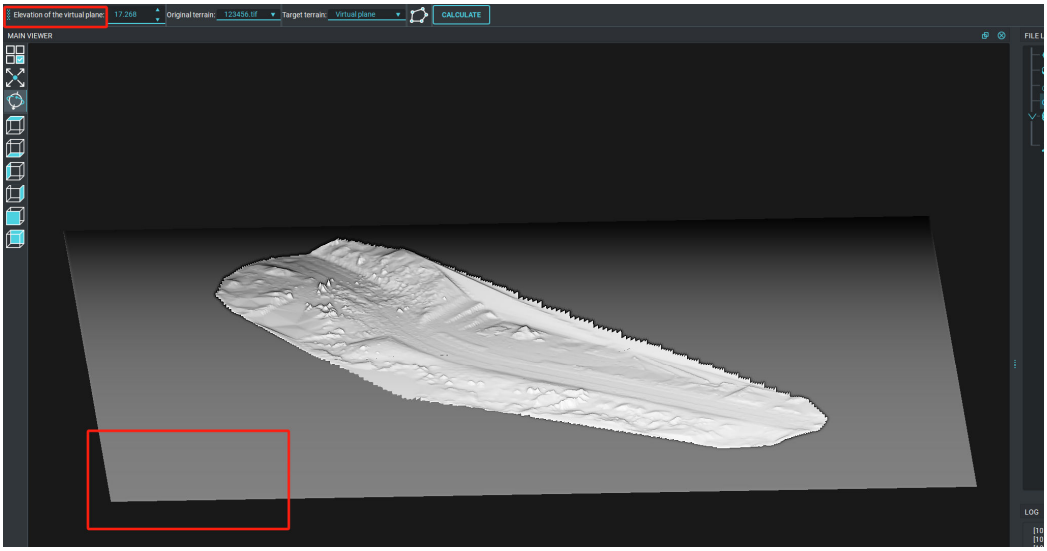
And load the DEM model and start to calculate volume.



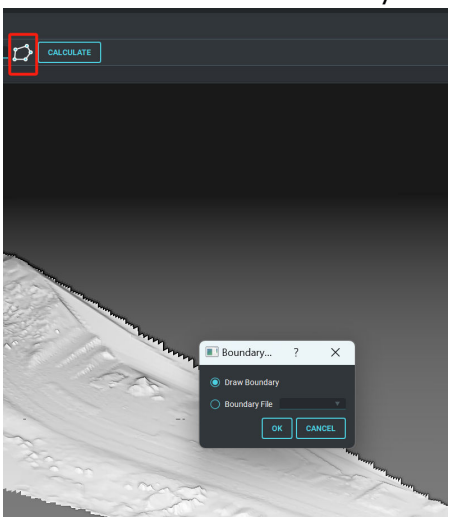
Then choose this function.



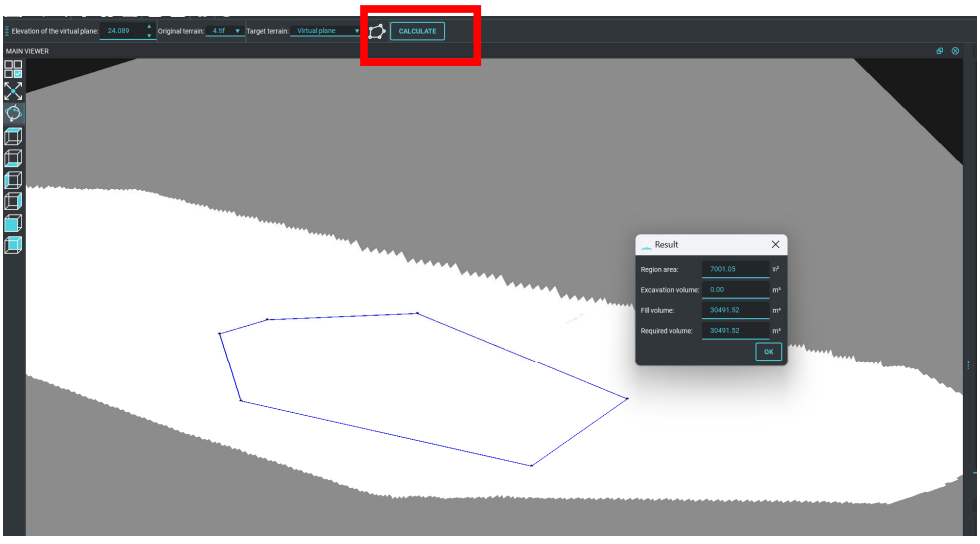
The elevation of the virtual plane representative datum.

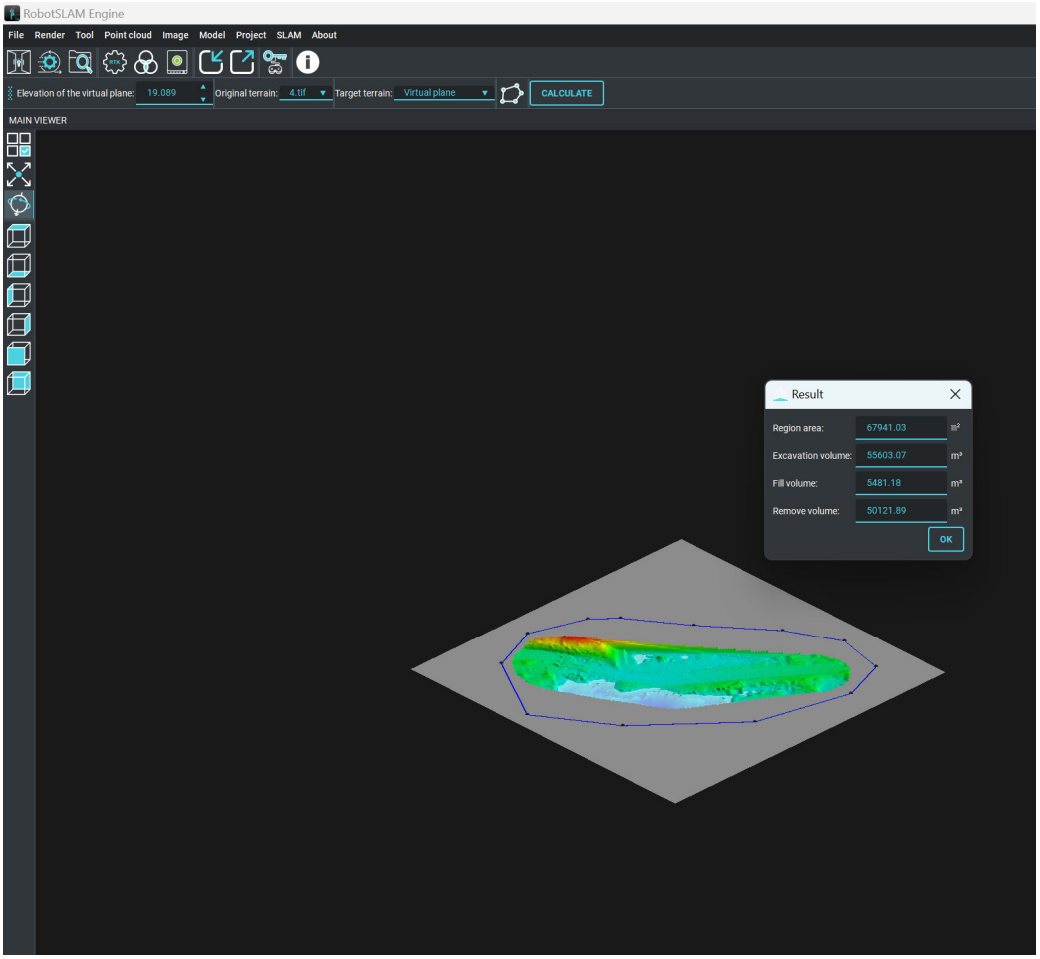


Choose this can choose boundary.



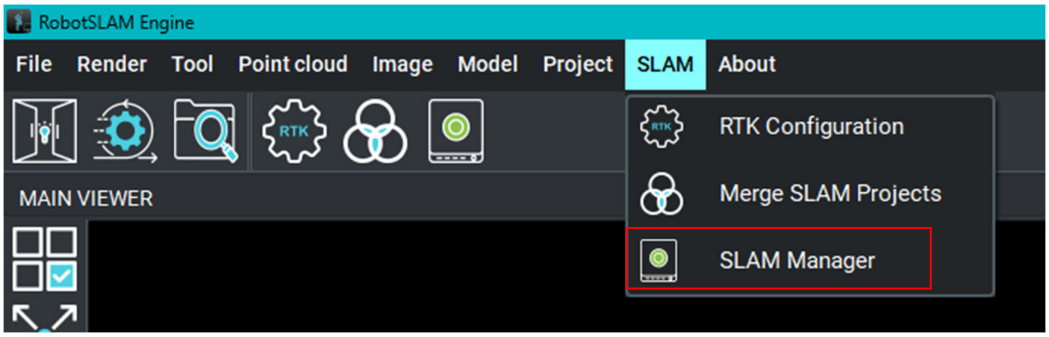
And click the calculate.

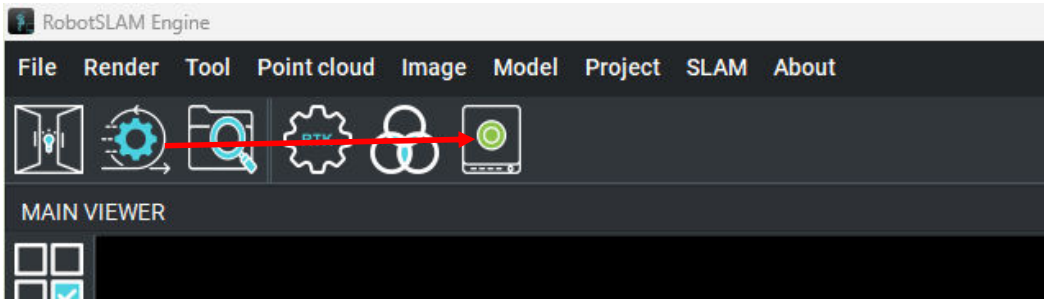


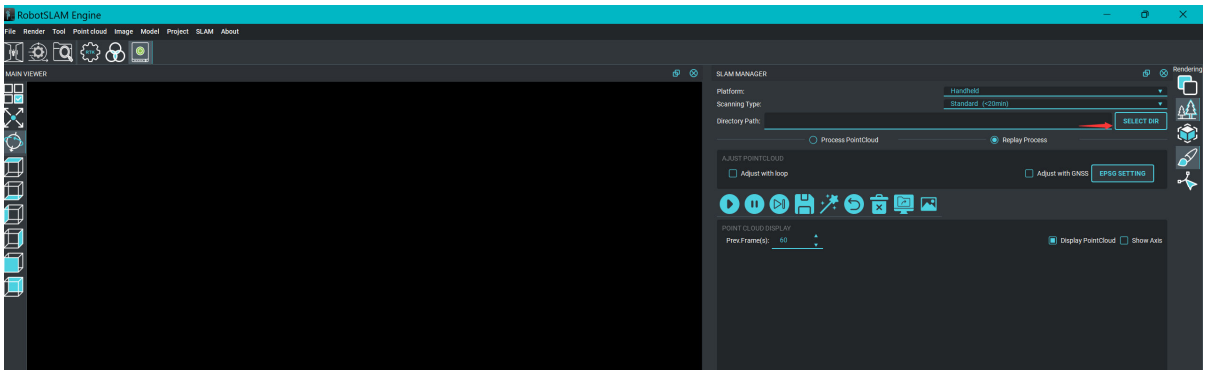

RobotSLAM Engine
File Render Tool Point cloud Image Model Project SLAM About
Elevation of the virtual plane: 19.089
Original terrain: 4.tif
Target terrain: Virtual plane
CALCULATE
MAIN VIEWER
Result
Region area: 67941.03 m²
Excavation volume: 55603.07 m³
Fill volume: 5481.18 m³
Remove volume: 50121.89 m³
OK

3. Data processing in RobotSLAM Engine software

Before Process data, open SLAM Manager, and load the project Folder,



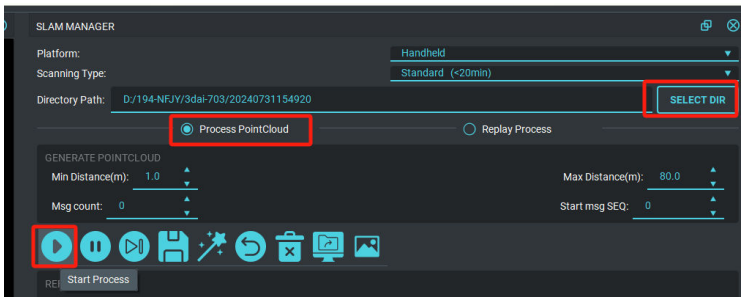




3.1 Data Processing (handheld mode)

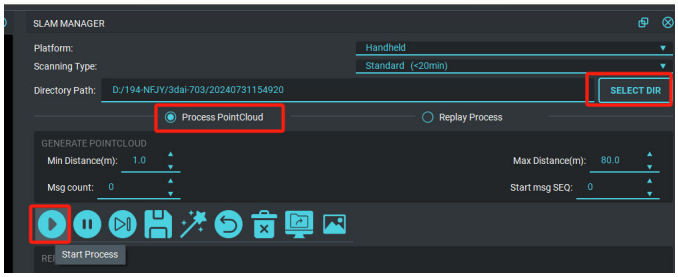
Case 1: handheld data WITHOUT RTK,

just open the project by clicking "SELECT DIR", tick "Process Pointcloud", and then click "Start Process"; after that, wait processing finish, and export the point cloud.



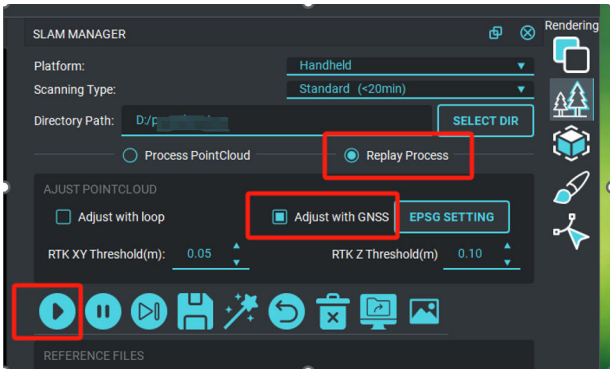
Case 2: Handheld Data with RTK Fixed

Step 1: open the project by clicking "SELECT DIR", tick "Process Pointcloud", and then click "Start Process";

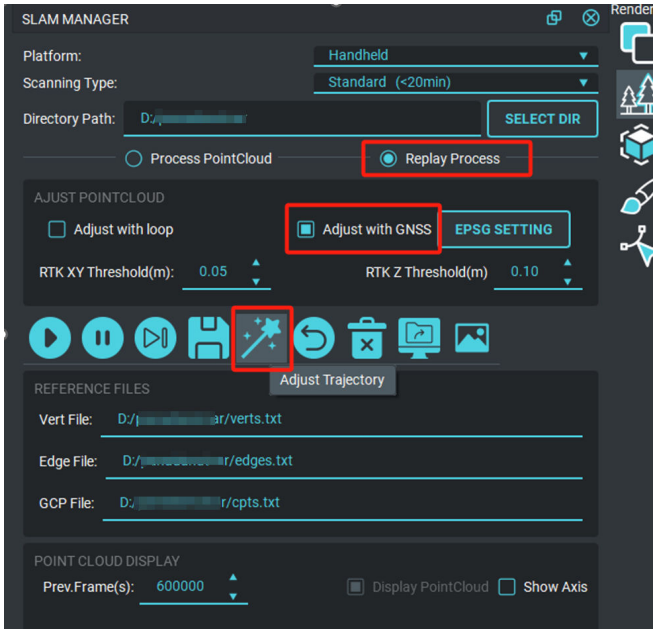


Step 2: Reply the data with GNSS adjustment,

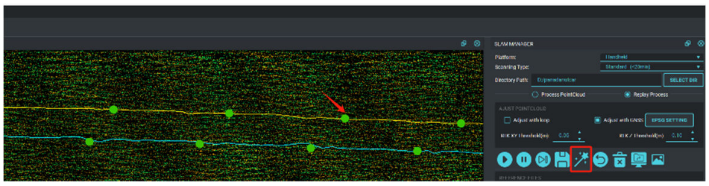
tick " **Reply Process**" and "**Adjust with GNSS**", after that, click **Start Process** to reply the data,



After reply, it is necessary to Adjust Trajectory, click Adjust Trajectory icon to start the adjustment:



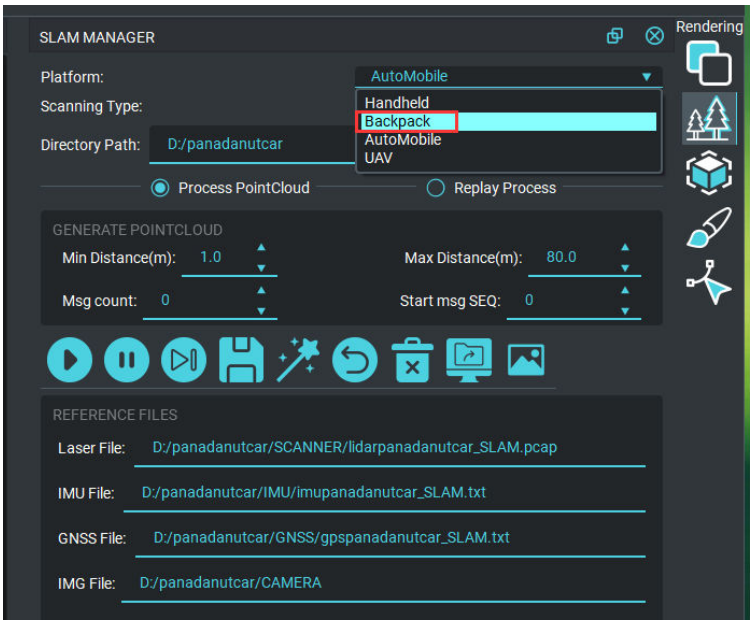
After adjustment trajectory, the RTK points will show on the trajectory as below:



3.2 Data Processing (Backpack-mode)

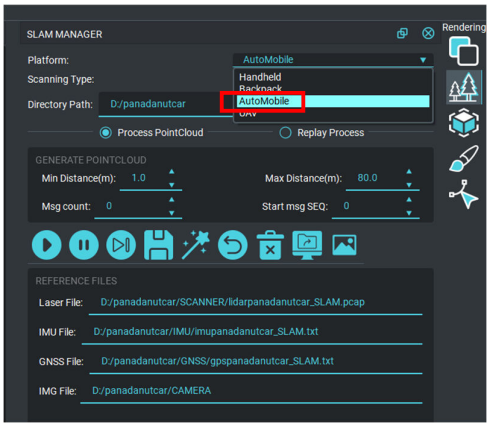
For backpack working mode, set Platform to "Backpack", and then click "**Start Process**",

Backpack working mode



3.3 Data Processing (SUV-mode)

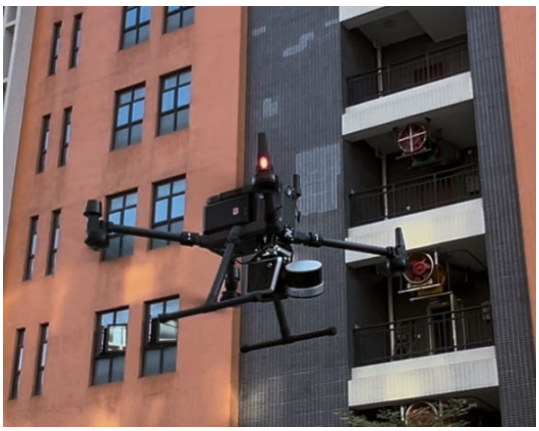
SUV- mode

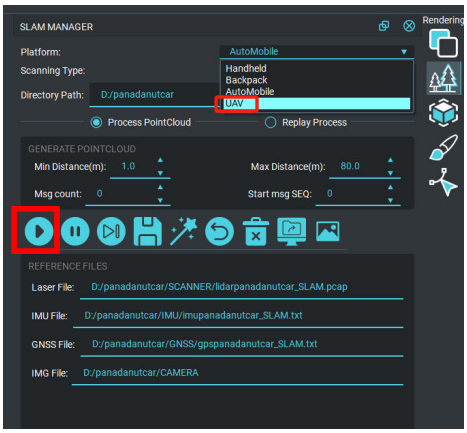


Set Scanning Type-AutoMobile

3.4 Data Processing (UAV-mode)

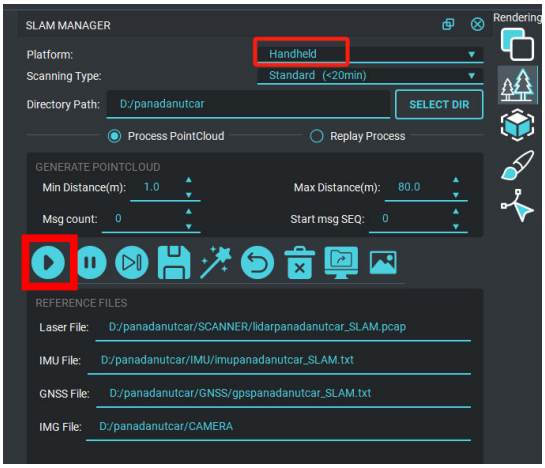
Before process UAV-based RobotSLAM data, set Scanning type "**UAV**", other settings keep in default, and click "Start Process",





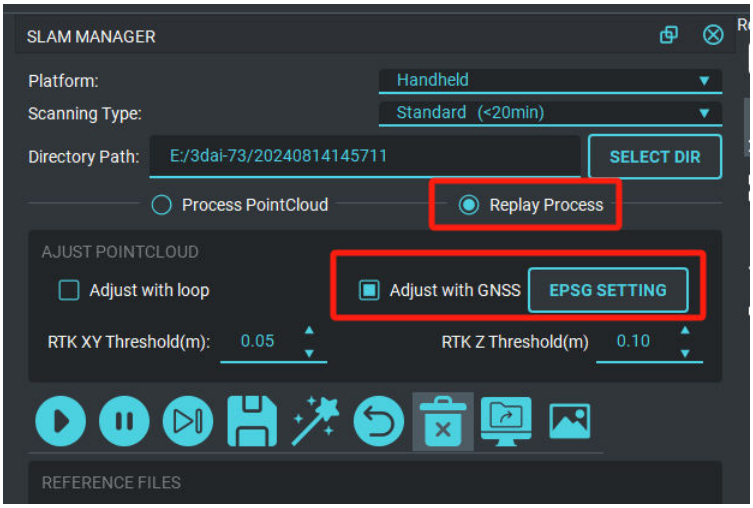
Before process, set Platform to "**UAV**"

3.5 Data Processing (USV-mode)



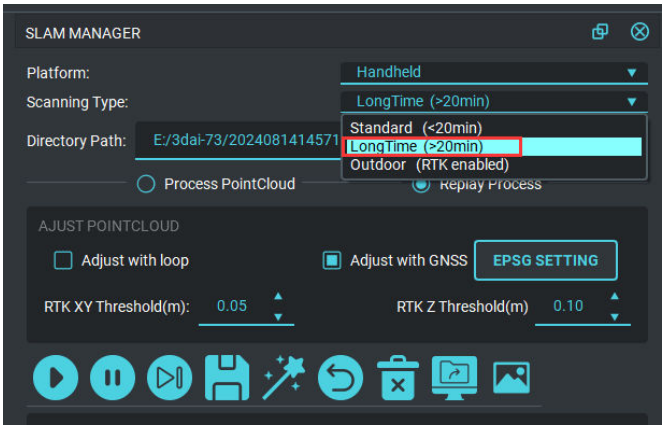
USV-mode Use default setting

If RTK function works during the scan, when finish process, set the EPSG, and click "Reply Process",



3.6 Data Processing (long time)

If the scan time is more than 20 mins, normally, it is better to make a scan within 20minutes, if a single scan time is more than 20 mins, please set the Scanning Type to LongTime(>20 min).

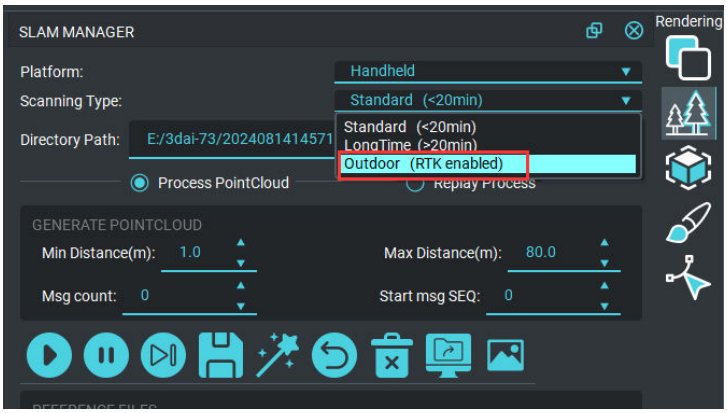


3.7 Data Processing (Outdoor RTK enabled)

For outdoor open scenarios, if when try to process with the default setting, there is something wrong with the process, please try with the Scanning type: Outdoor(RTK Enabled);

Road Application

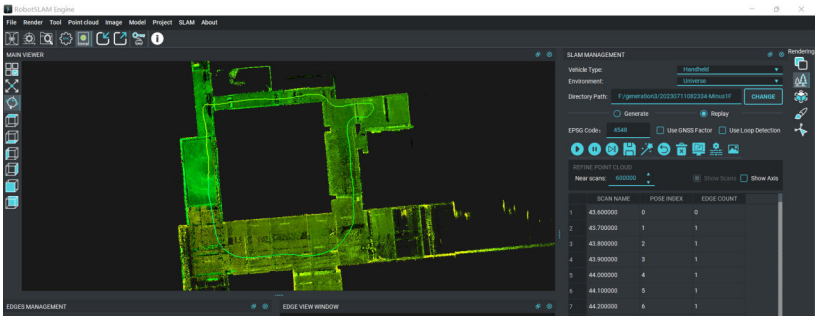
Outdoor scenarios with less features (Like road or outdoor Mining, or etc.)

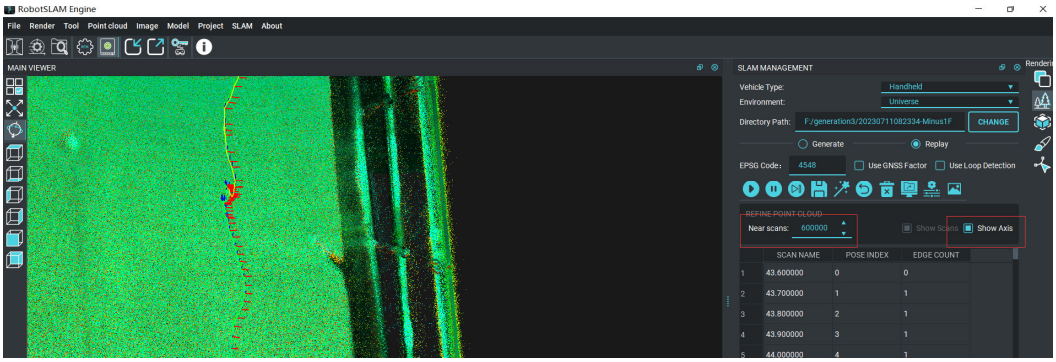


3.8 Trajectory Optimization (loop optimization)

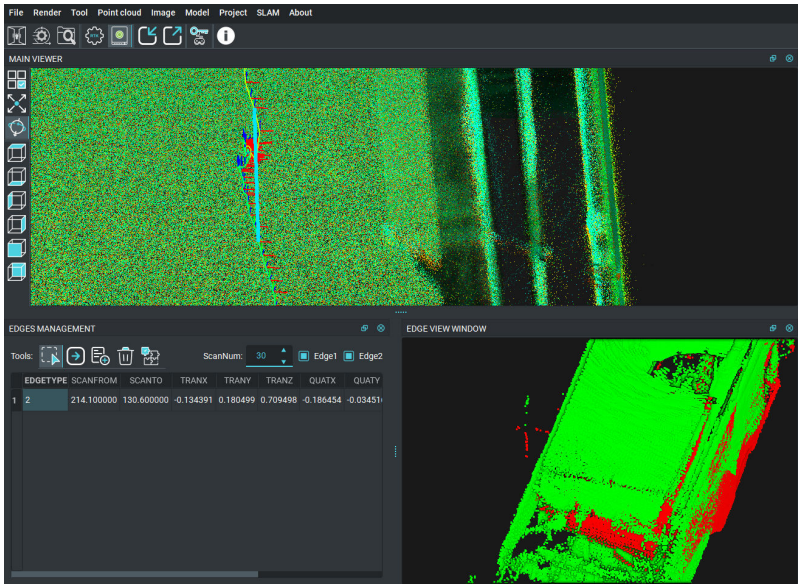
Sometimes, while finish processing, zoom in the left window to the location of start scanning point, increase the value of "**Near scans**" and check "Show Axis",

when finish processing, the start scanning point or the ending point doesn't go the location as scheduled or the point cloud appears offset at the end of the trajectory, in that case, it is necessary to do the trajectory optimization.

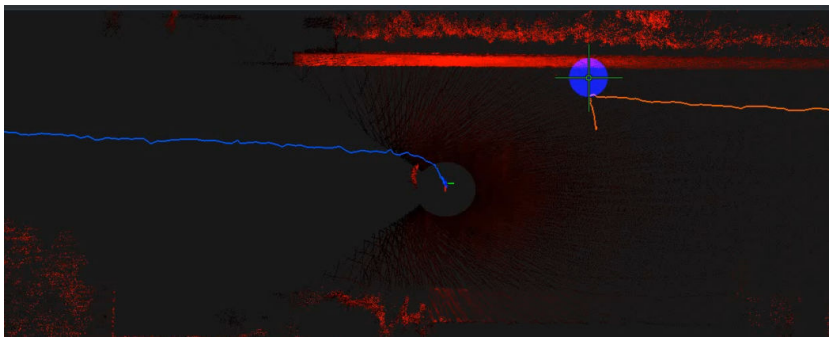




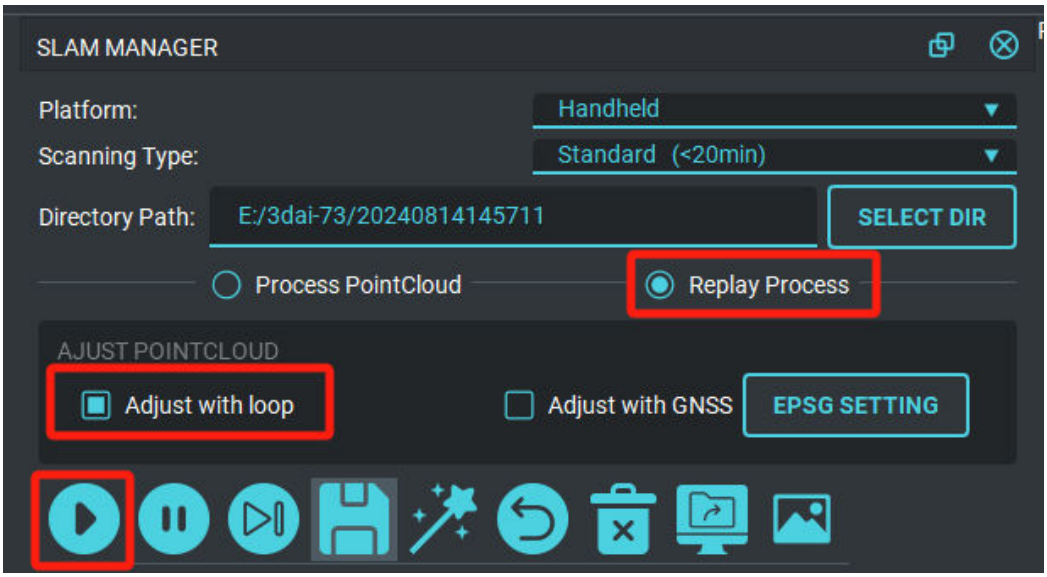
Click one point on the starting line, and the other point on the ending line, so that check whether the point cloud is misaligned in the joint area. Under normal status, in the joint area, there is only one layer of ground point cloud from vertical view; if there two layers of ground point cloud, it is abnormal and need to be adjusted.



If the point cloud is misaligned or point cloud has deviations in joint area, please adjust with LOOP DETECTION method to optimize the point cloud:



The starting point and ending point don't go to the same position

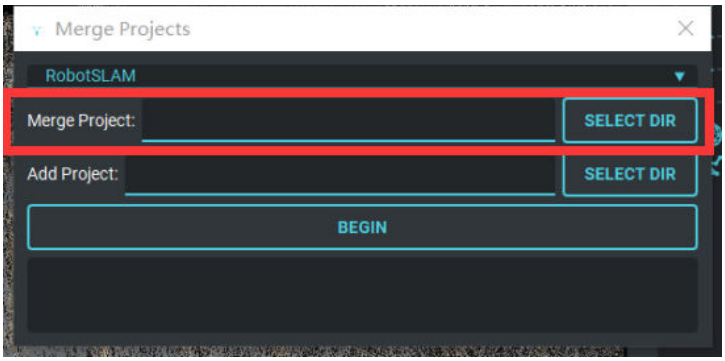


Optimize the point cloud with LOOP DETECTION optimization

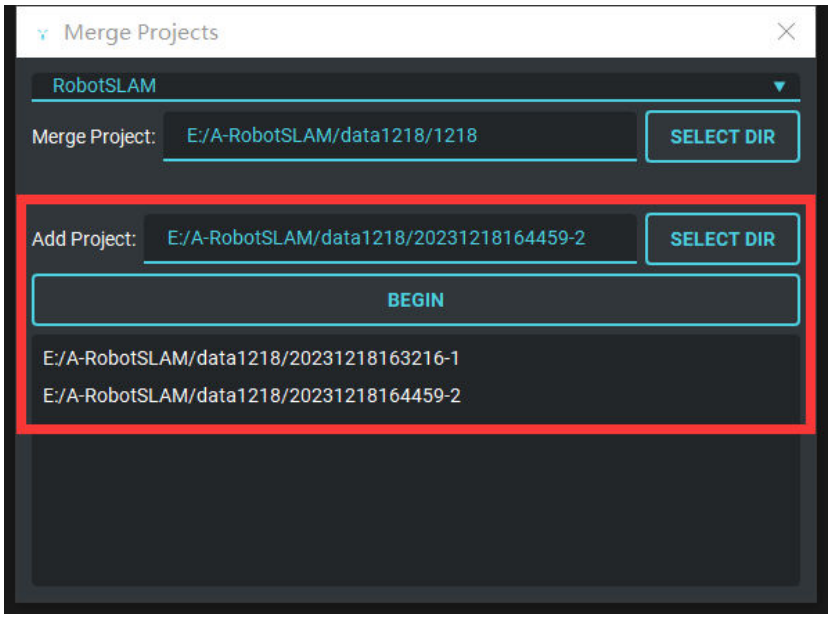
3.9 Merge Projects (Projects Stitching)

In the case of large-area multiple collections, perform multiple stitching according to the overlapping areas.

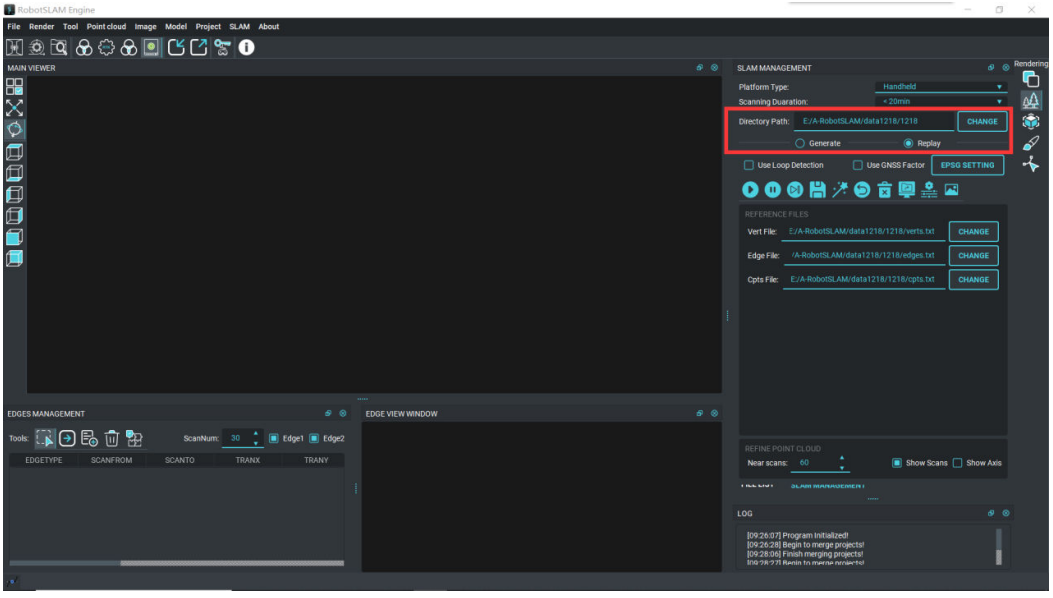
1. create a new folder, then open the A software.
2. select the new folder here in Merge Project.



3. select the folder you want to splice here one by one in Add Project and then choose to start.



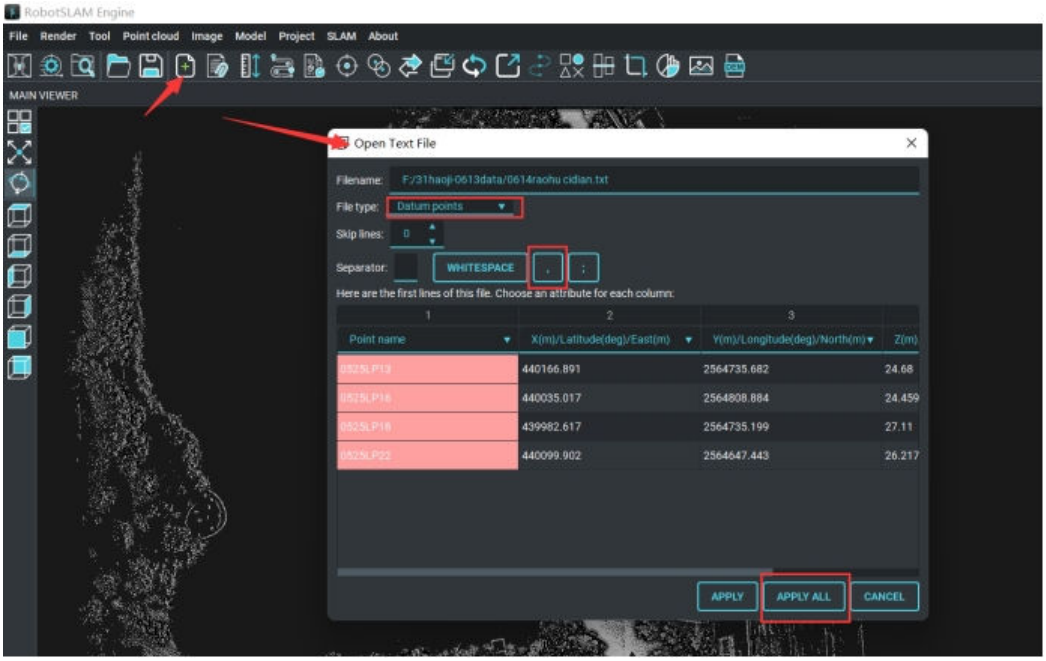
4. Then click SLAM Manager  , open the new folder, click on the point cloud **Replay,** then find the loop frame match, and click optimize  after the match is completed, finally click  to save the trajectory.

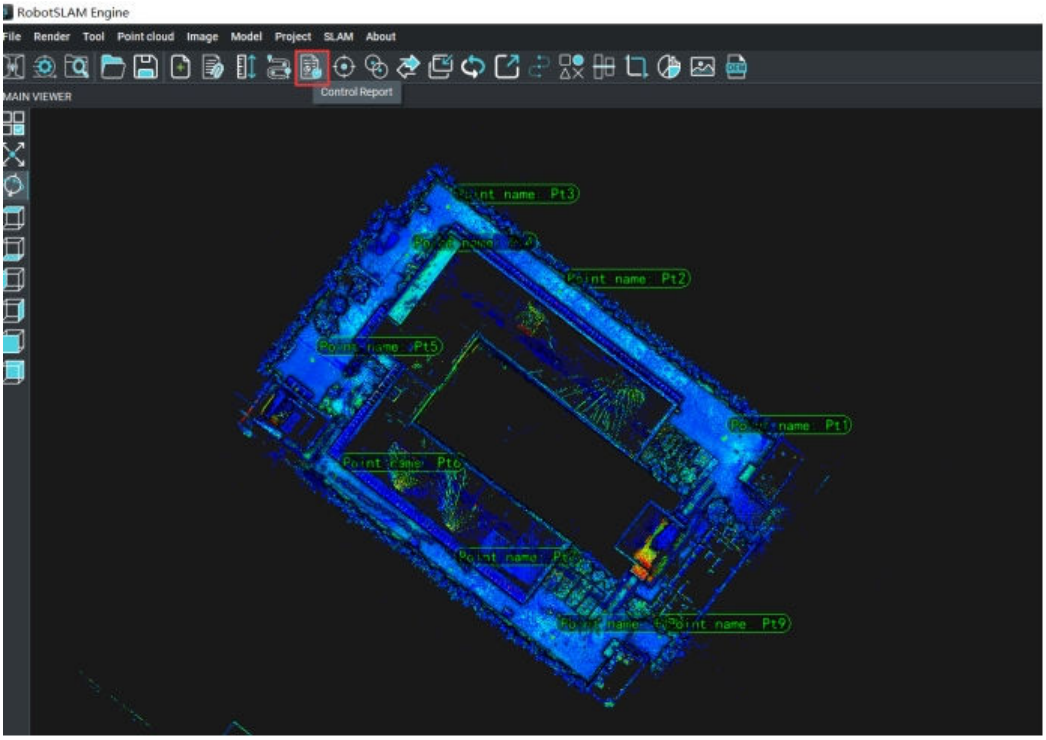


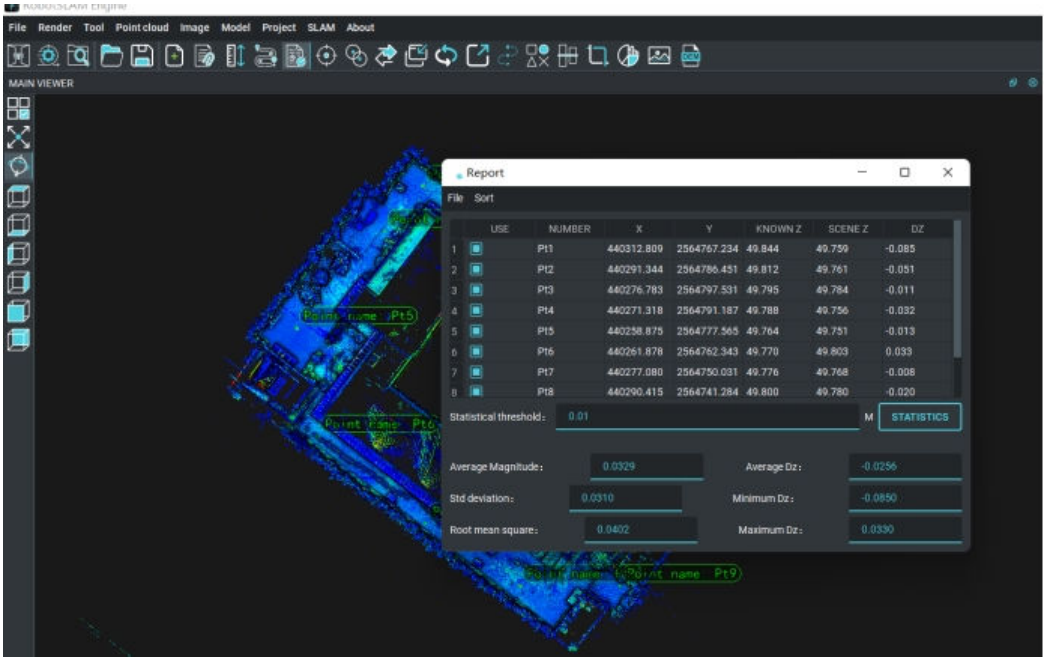
3.10 Accuracy Assessment

3.10.1 Import checkpoint file and generate the vertical accuracy report

If the user already has some checkpoints before scanning, and when collect data, the RTK function works, and receive absolute coordinates. Please import the checkpoints coordinate file, and check the accuracy report by clicking "Control report".



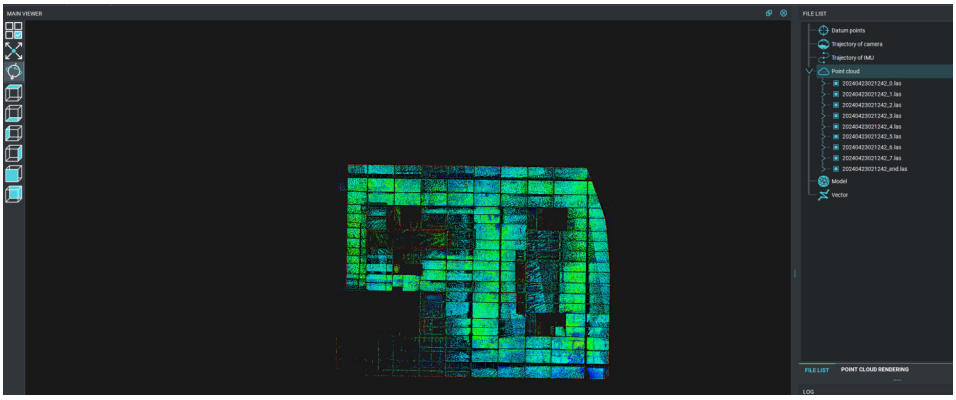

RobotSLAM Engine
File Render Tool Point cloud Image Model Project SLAM About
Control Report
MAIN VIEWER
Point name Pt3
Point name Pt2
Point name Pt5
Point name Pt1
Point name Pt6
Point name Pt9


File Render Tool Point cloud Image Model Project SLAM About
MAIN VIEWER
Report
File Sort
USE NUMBER X Y KNOWN Z SCENE Z DZ
1 Pt1 440312.809 2564767.234 49.844 49.759 -0.085
2 Pt2 440291.344 2564786.451 49.812 49.761 -0.051
3 Pt3 440276.783 2564797.531 49.795 49.784 -0.011
4 Pt4 440271.318 2564791.187 49.788 49.756 -0.032
5 Pt5 440258.875 2564777.565 49.764 49.751 -0.013
6 Pt6 440261.878 2564762.343 49.770 49.803 0.033
7 Pt7 440277.080 2564750.031 49.776 49.768 -0.008
8 Pt8 440290.415 2564741.284 49.800 49.780 -0.020
Statistical threshold: 0.01
M
STATISTICS
Average Magnitude: 0.0329
Average Dz: -0.0256
Std deviation: 0.0310
Minimum Dz: -0.0850
Root mean square: 0.0402
Maximum Dz: 0.0330
Point name Pt9

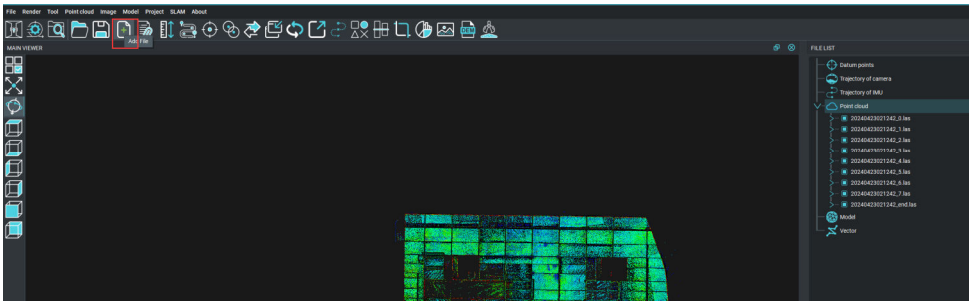
3.10.2 Horizontal and Vertical accuracy report generation

After get the absolution point cloud, the horizontal and vertical accuracy can be verified by the following method:

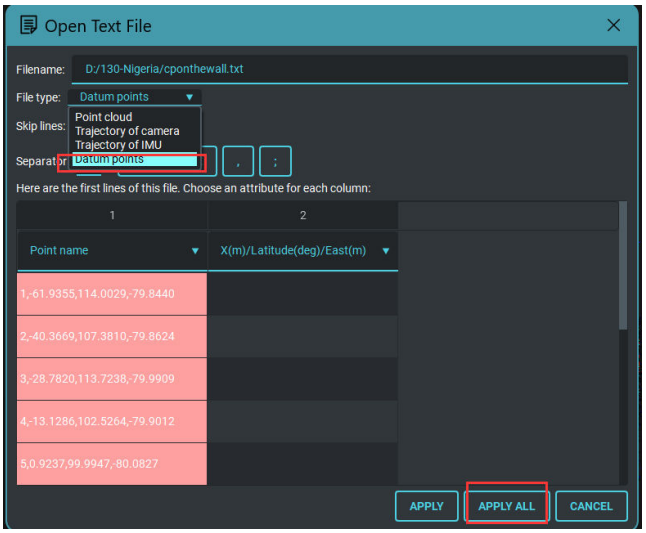
First, import the point cloud with absolute coordinates



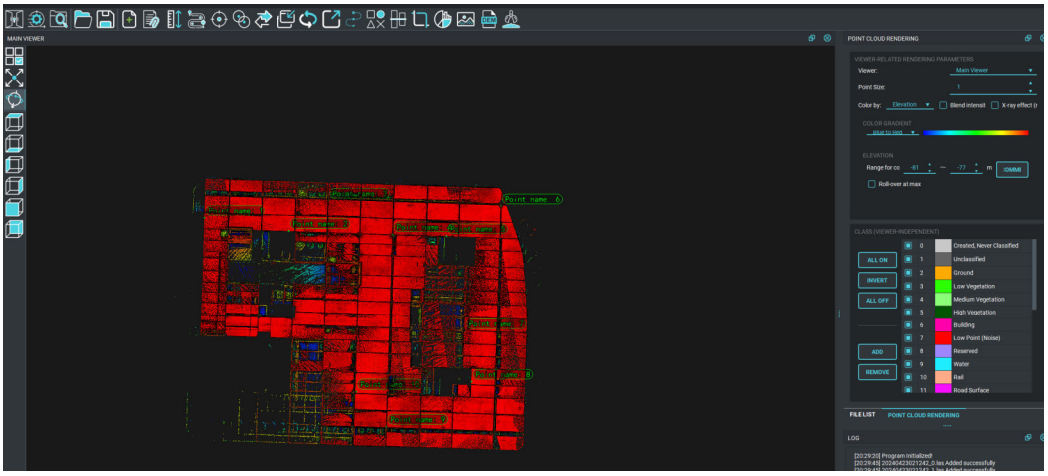
Import the GCPs coordinates file or Checkpoint coordinates file by clicking "Insert file" icon,



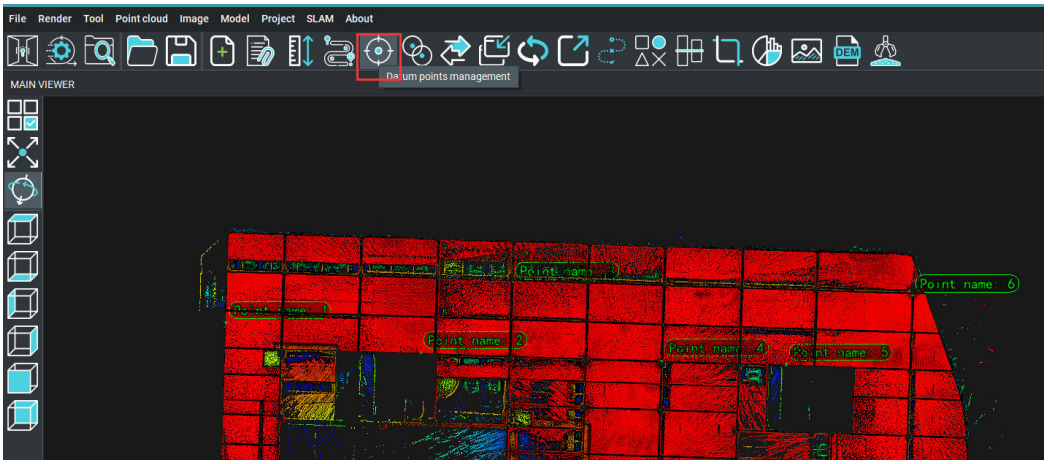
Set file type to Datum points,



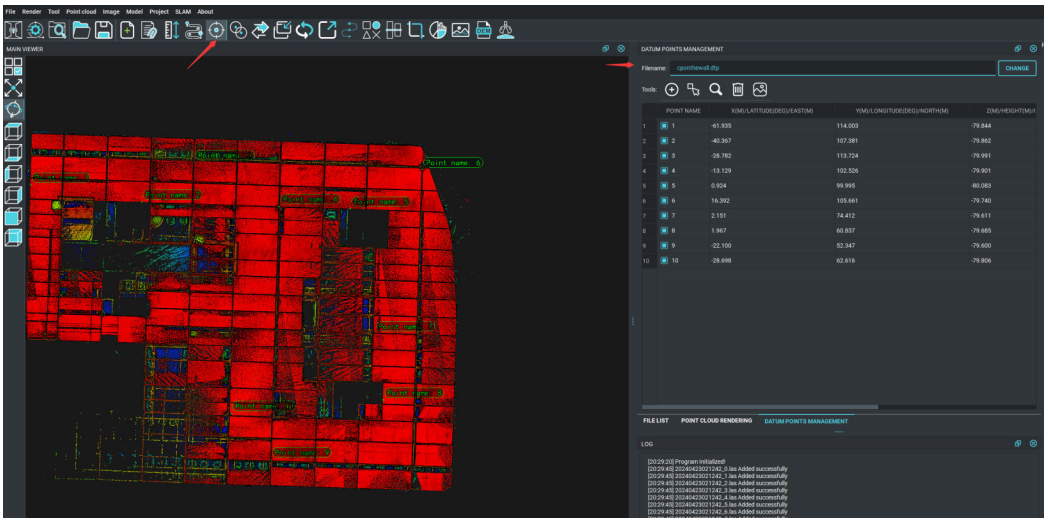
The GCPs or Checkpoints are imported as below:



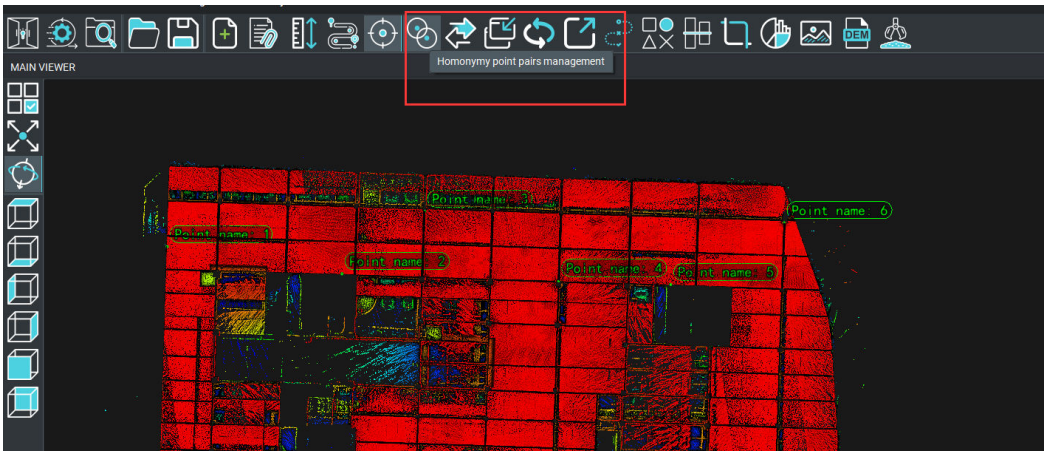
Click "Datum points management",



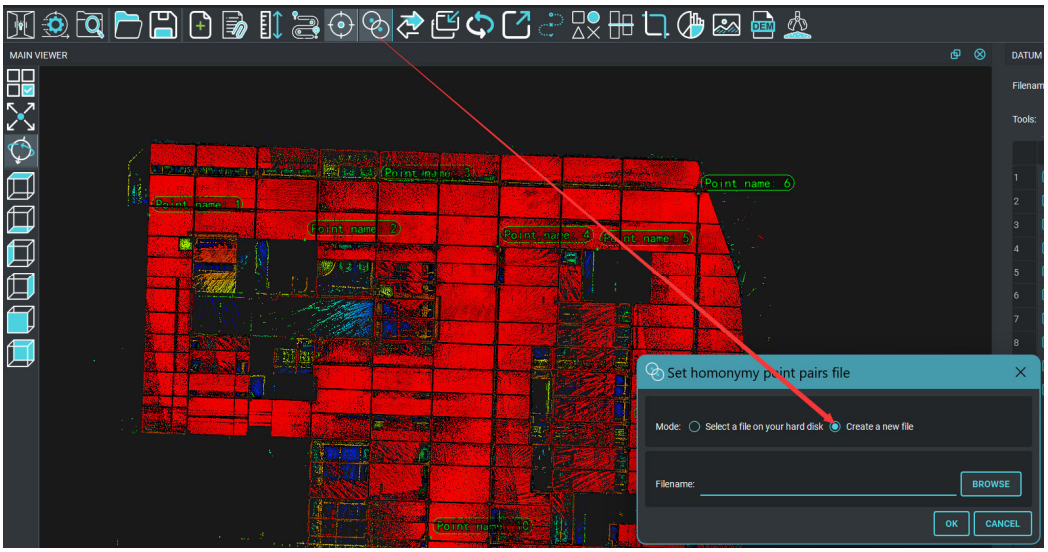
The inserted GCPs file or Checkpoints file will be load automatically as below:



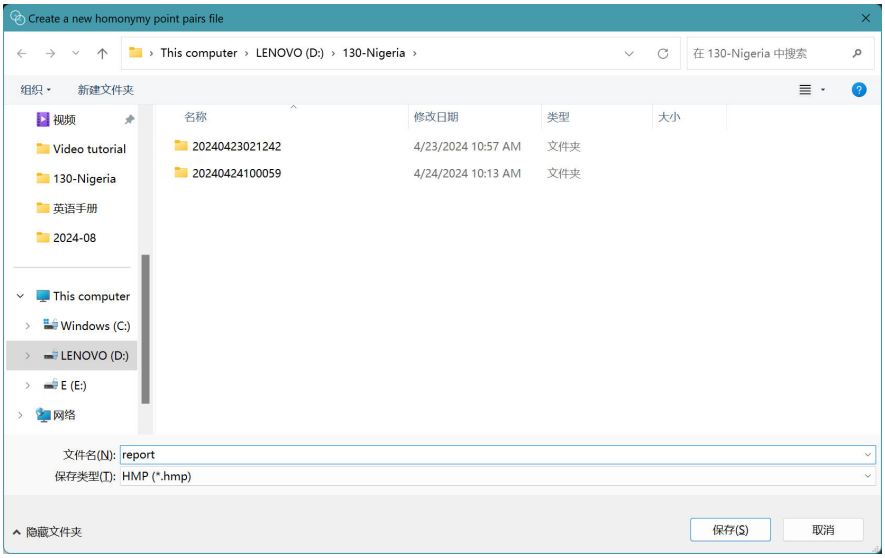
Then, click "Homonymy point parrs management"



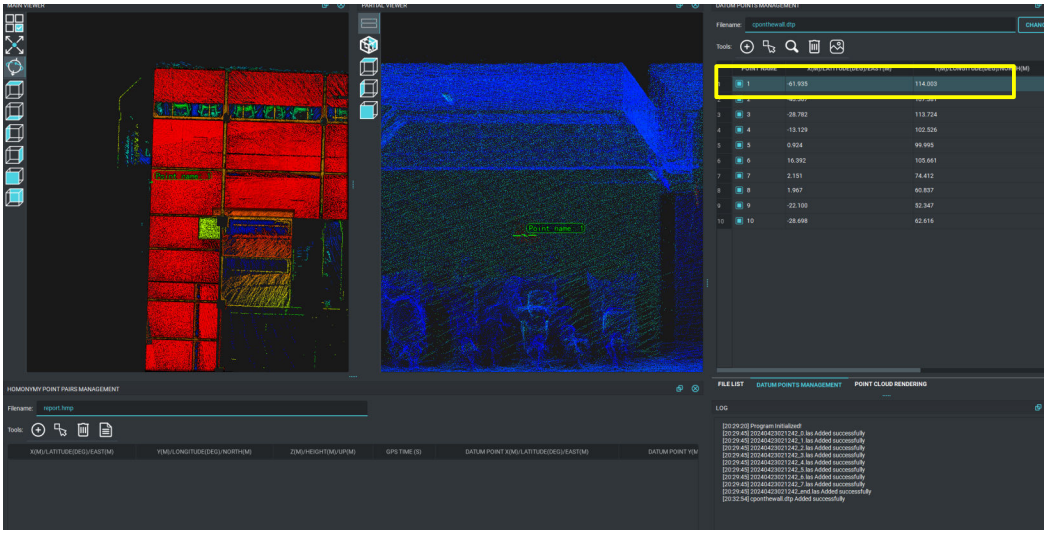
And create a new file,



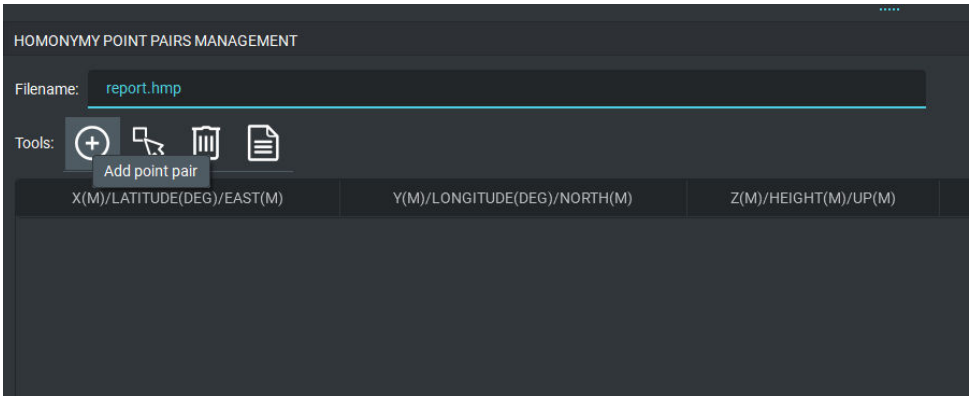
Input the file name and save it,



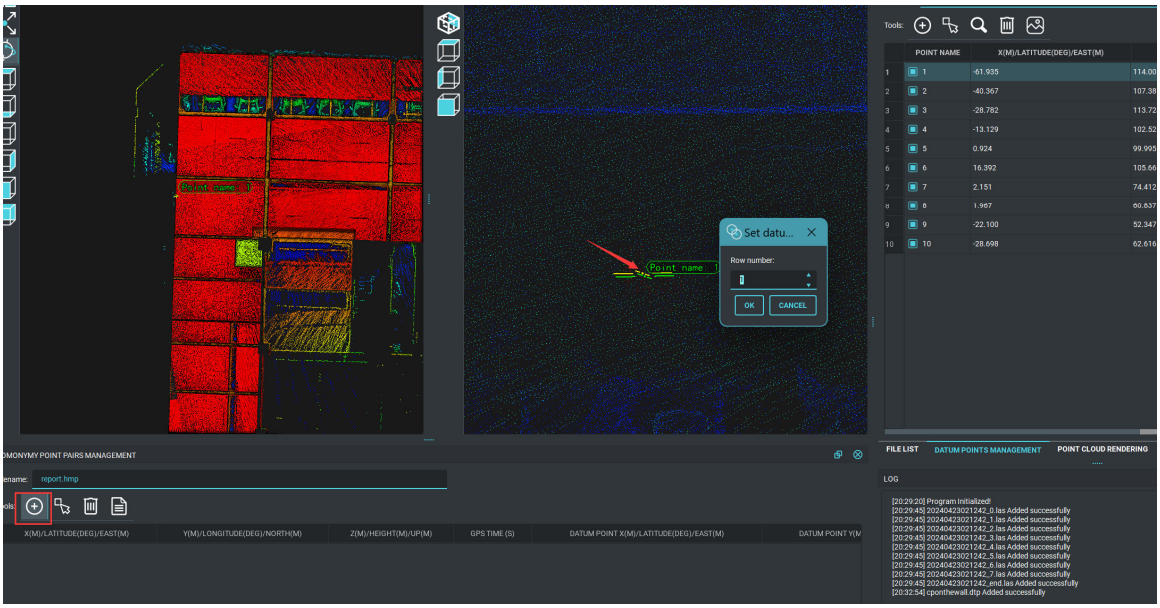
Check Point 1 in the right side-Datum points management, and it will be lighted,



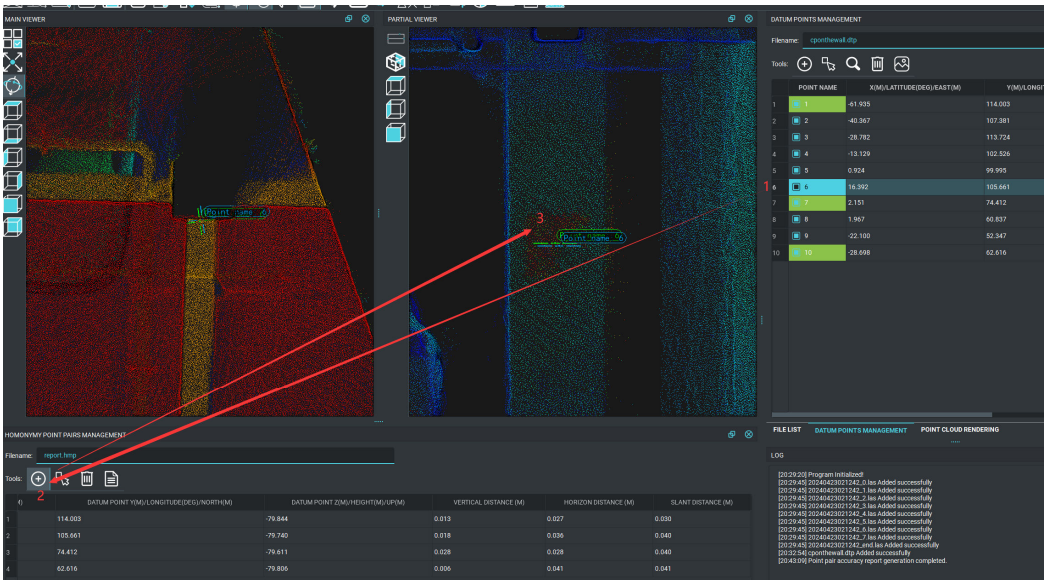
And then click" Add point pair" to add the first point,



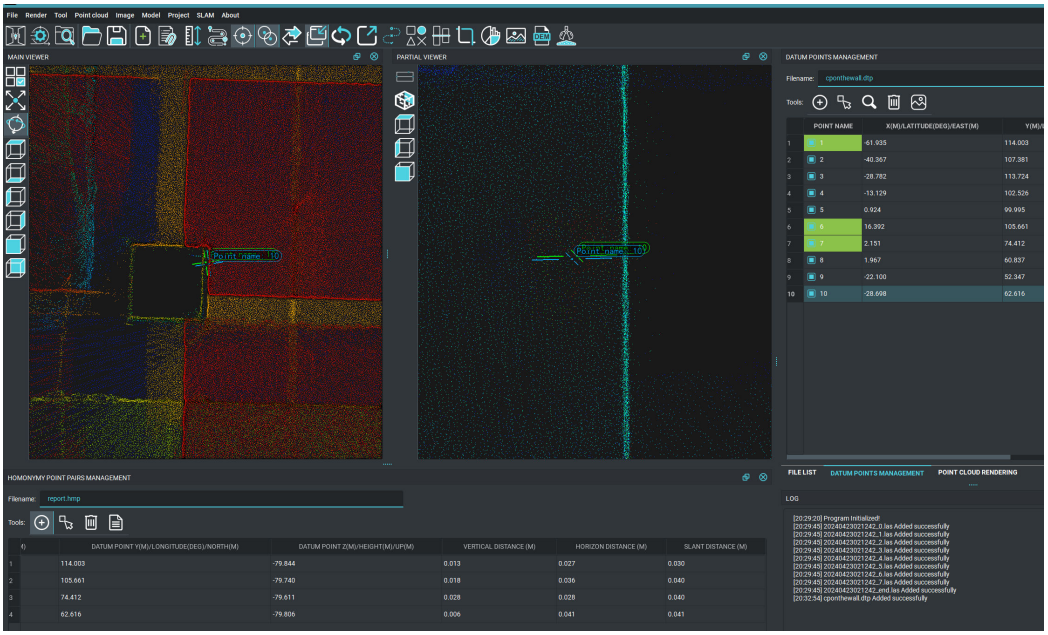
Make a horizontal slice in the left view, and then find the location of Point 1 in the partial viewer, right click the accurate location of Point 1, and save it,

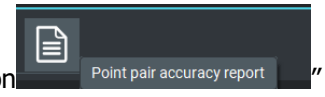


Mark 3 more points with the same method(3 steps to mark the point),

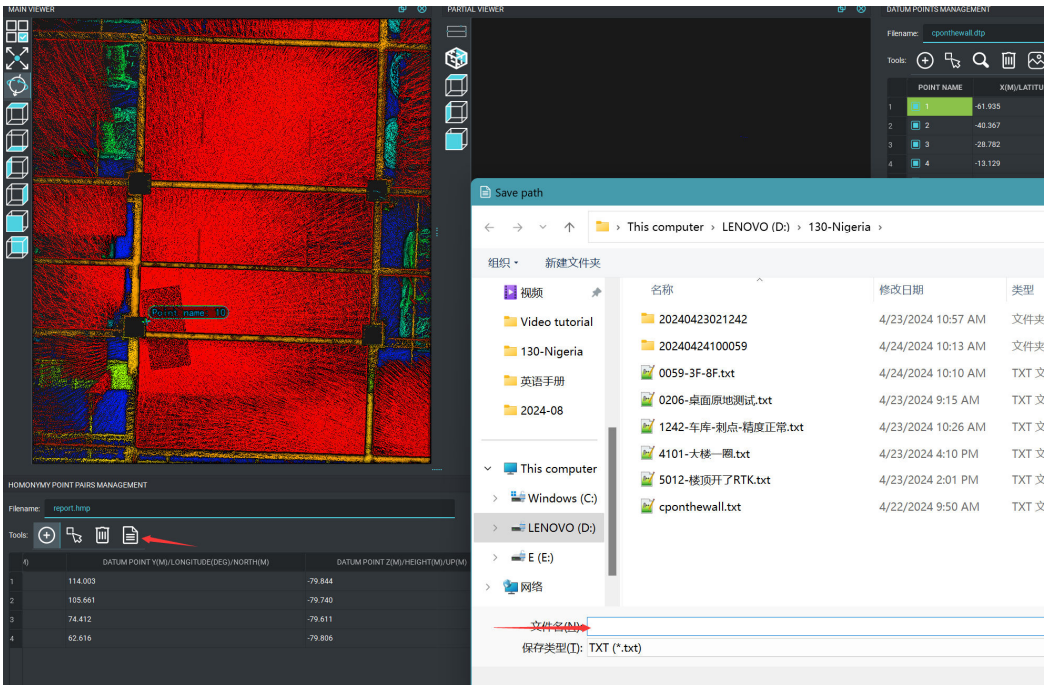


When finish mark 4 points or more,

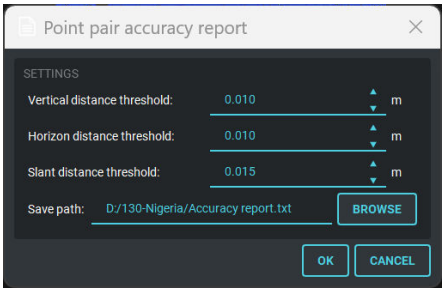


Click the icon ”Point pair accuracy report icon 

” to save the report file to TXT format,



Save the accuracy report:



thewall.txt | Accuracy report.txt

```
Homonymy point pairs file: D:/130-Nigeria/report.hmp

X(m)/Latitude(deg)/East(m)   Y(m)/Longitude(deg)/North(m)     Z(m)/Height(m)/Up(m)     GPS time (s)     Datum point X(m)/Latitude(deg)/Ea
-61.962 113.998 -79.831 964.400 -61.935 114.003 -79.844 0.013   0.027   0.030
16.423  105.679 -79.758 829.200 16.392  105.661 -79.740 0.018   0.036   0.040
2.171   74.432  -79.583 732.700 2.151   74.412  -79.611 0.028   0.028   0.040
-28.664 62.593  -79.812 1082.900    -28.698 62.616  -79.806 0.006   0.041   0.041

Vertical error
    average value: 0.016
    maximum value: 0.028
    root mean square value: 0.018
    threshold: 0.010
    total number of point pairs: 4
    number of point pairs exceeding the threshold: 3

Horizontal error
    average value: 0.033
    maximum value: 0.041
    root mean square value: 0.034
    threshold: 0.010
    total number of point pairs: 4
    number of point pairs exceeding the threshold: 4

Error
    average value: 0.038
    maximum value: 0.041
    root mean square value: 0.038
    threshold: 0.015
    total number of point pairs: 4
    number of point pairs exceeding the threshold: 4
```

3.11 Coordinate Transformation

3.11.1 Coordinate transformation with GCPs marks

If the user has some known points on the ground or on the walls, then it is convenient to mark 4GCPs or more during the scan, after that when export point cloud, load the GCPs coordinate file to transform coordinates.

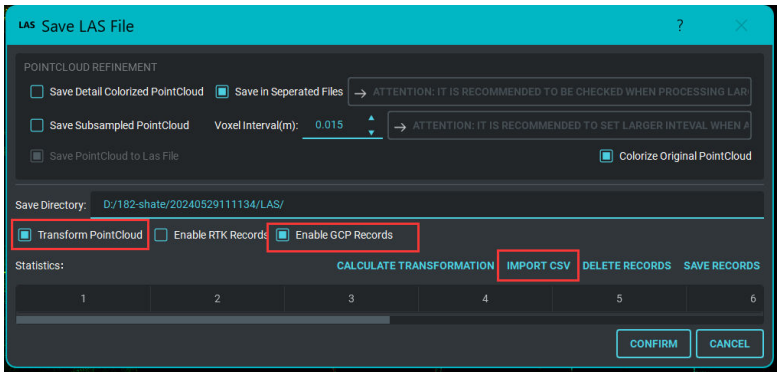
Marking GCPs on the ground

Method to mark ground control point:

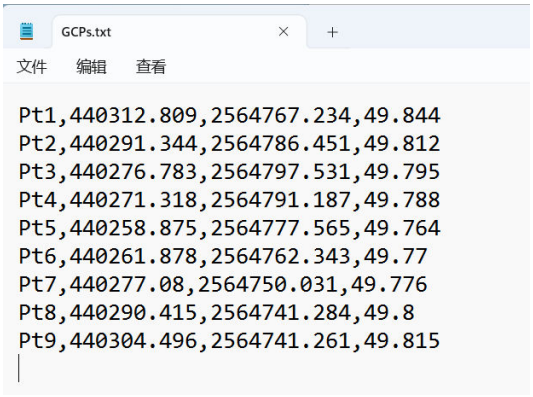
1.Put the cross on the base plate to the location of the ground control point;

2. Press the BLACK BUTTON on the RobotSLAM to record the ground control point.

If some Ground Control Points are marked and get the coordinates file for the GCPs, please tick" **Transform Point Cloud**" and "**Enable GCP records**", click "**IMPORT CSV**" to load CSV or TXT format GCP file, and then click "**CONFIRM**" to export absolute coordinates;

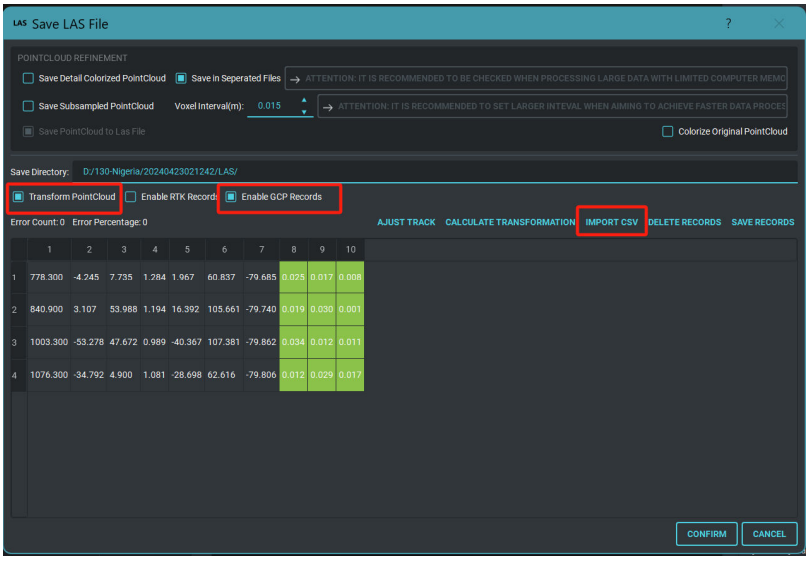


The GCPs coordinate file should be *.txt or *.csv format, in the sequence of Point name, E, N, Z:



For example, after load the four points marked during the scan, import CSV format GCPs points when export point cloud,

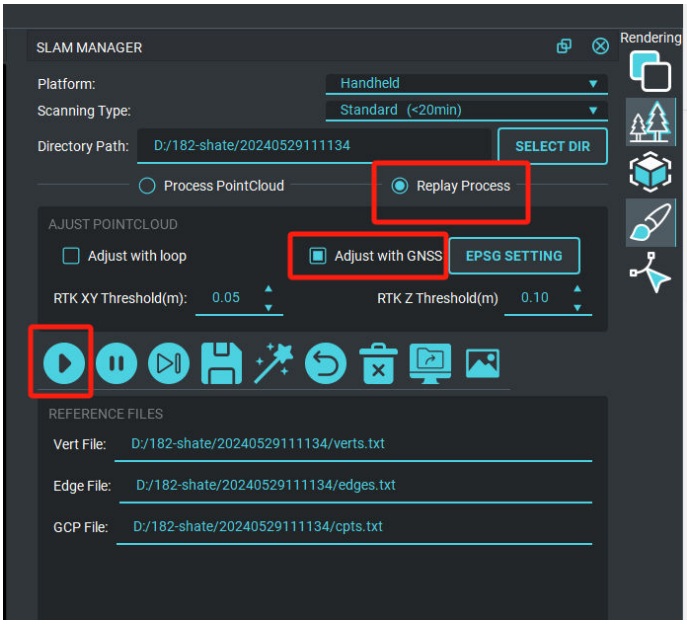
A	B	C	D
8	1.9673	60.8371	-79.6854
6	16.3917	105.6609	-79.7401
2	-40.3669	107.381	-79.8624
10	-28.6977	62.6163	-79.8058



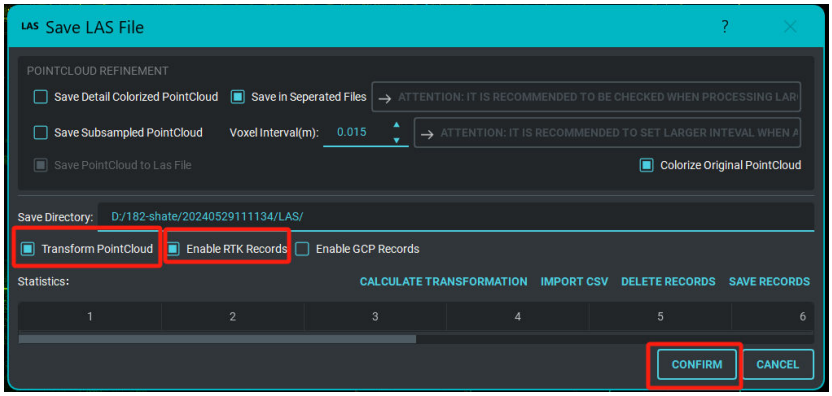
In the column 8, 9, 10, find good results in green, click "CONFIRM" to export the coordinates.

3.11.2 Coordinate transformation with RTK service

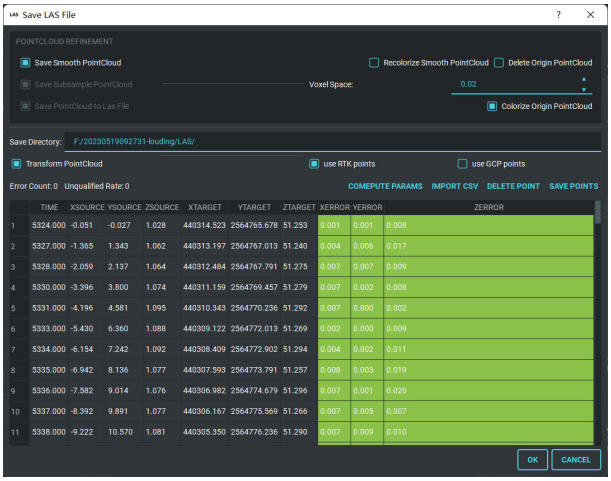
If RTK service is available during the scan, and RTK got Fixed most of the time, after processing, click "**Replay Process**" and tick "**Adjust with GNSS**", and then click **Start Process** icon to replay the project(here Take RobotSLAM Engine***1.3.3 version*** as example).



And when export point cloud, please check the followings:



If all the RTK points are Fixed solution and in green status as below, just click OK to export the absolute coordinates.

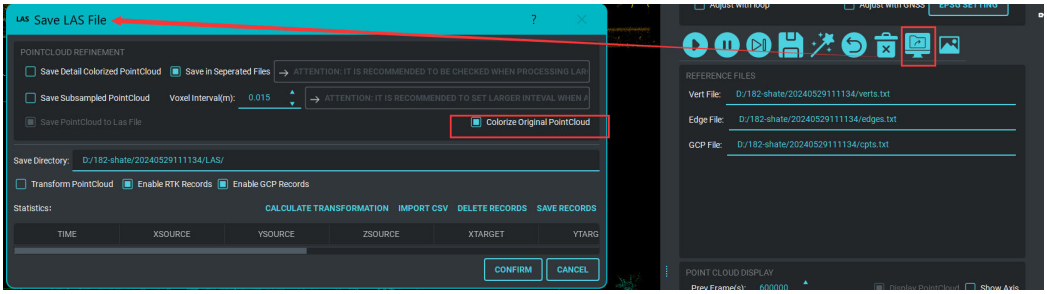


If some RTK points are in red, check and delete them, and then save points before export point cloud, the sample shows as below,

select line 37, DELETE POINT and SAVE POINTS, after that, click OK to export the point cloud:

3.12 Export colorized point cloud

If during the scanning, the Pano camera works and record the video normally, When export point cloud, tick" Colorized Original PointCloud", and click **CONFRIM** to export colorized point cloud

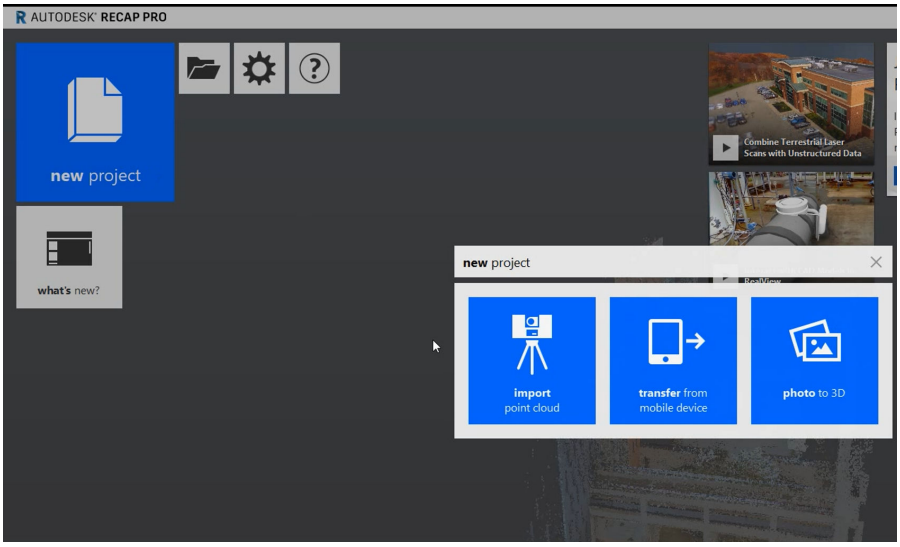


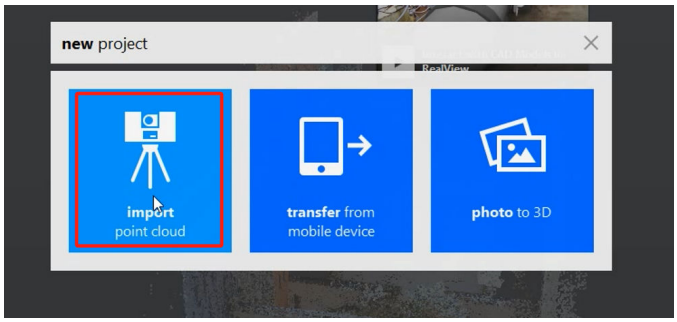
APPENDIX

1. Convert LAS format to RCP format (for AutoCAD design purpose)

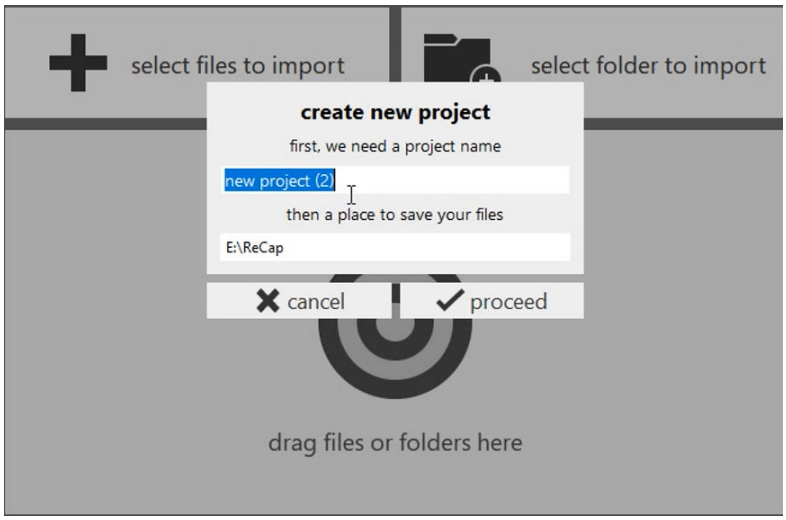
Run Autodesk ReCap software

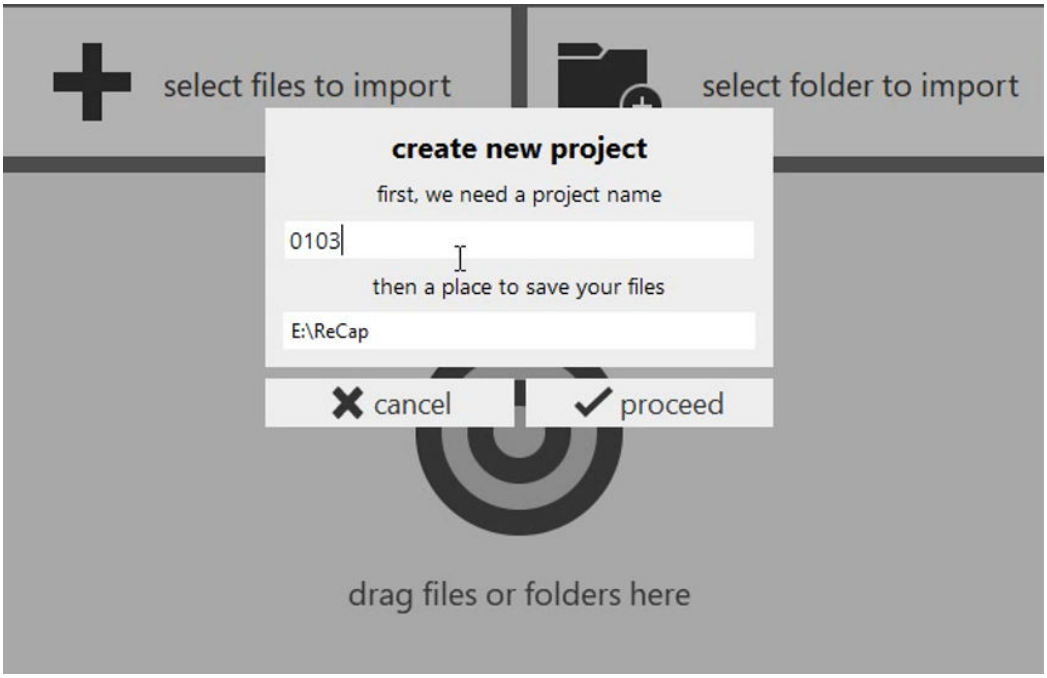
Create new project by clicking “New project”, then click “import point cloud” load create new project interface:

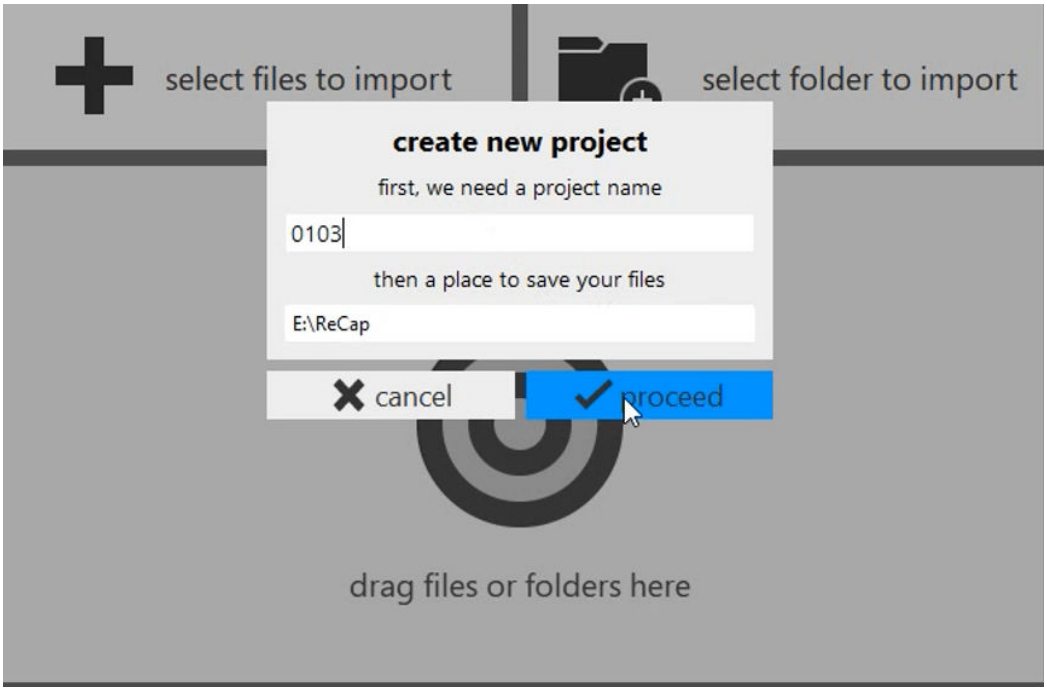




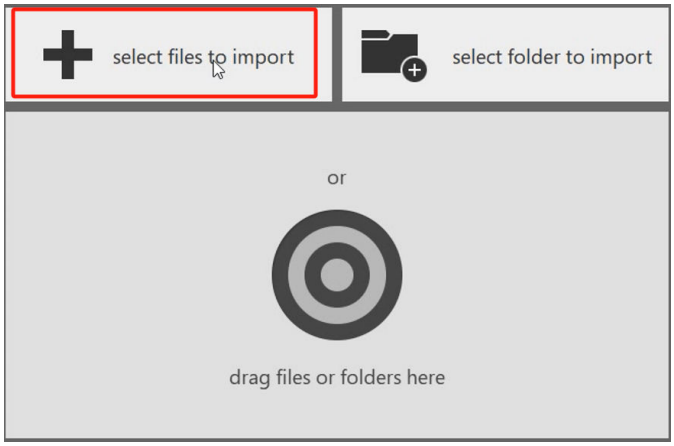
Input the project name and proceed:



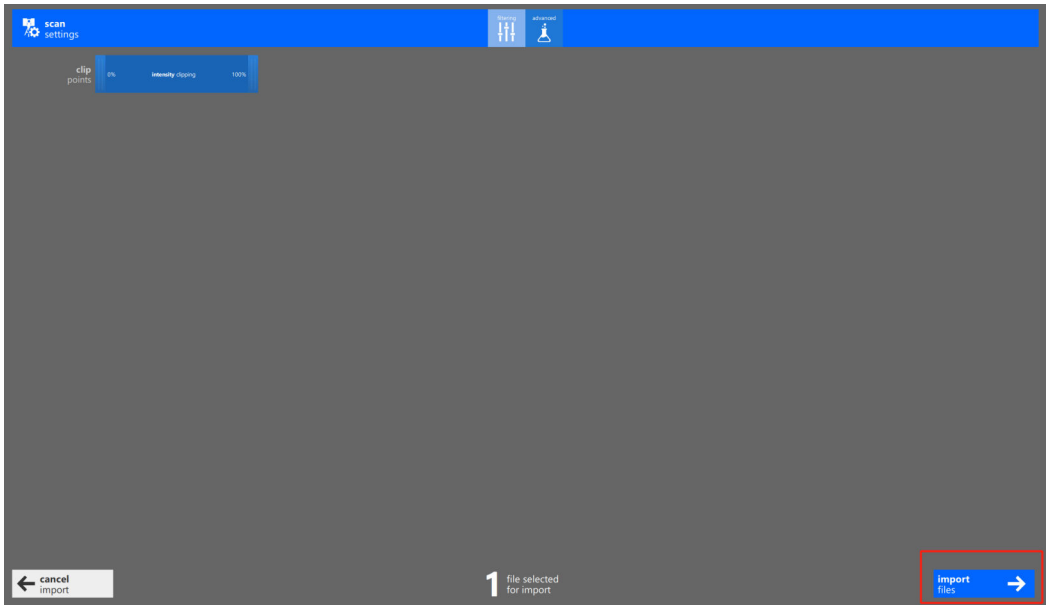




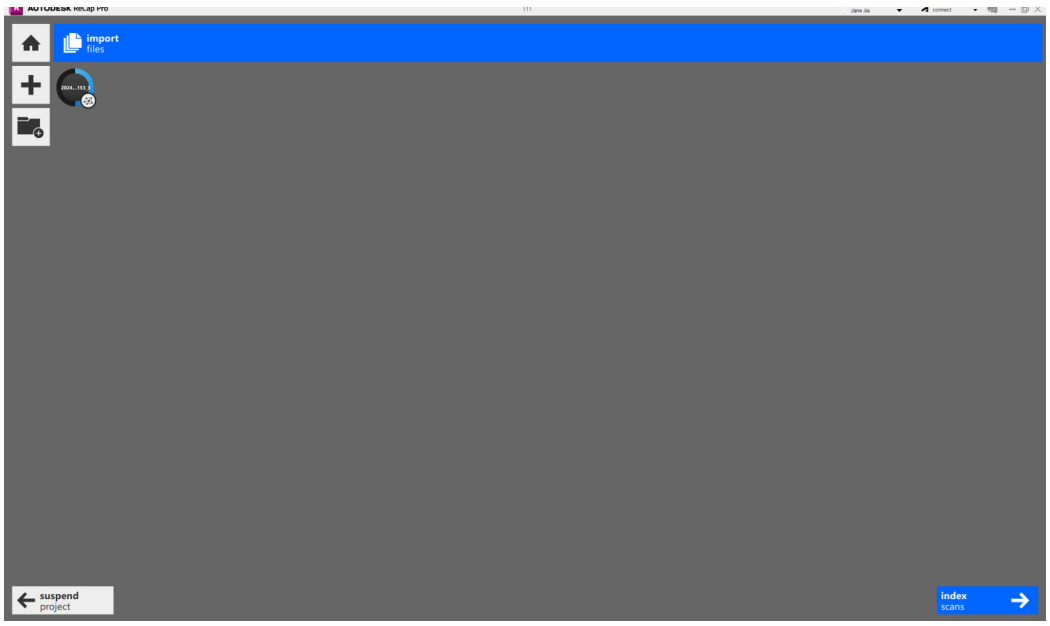
Select files to import to load all Las files to change format,

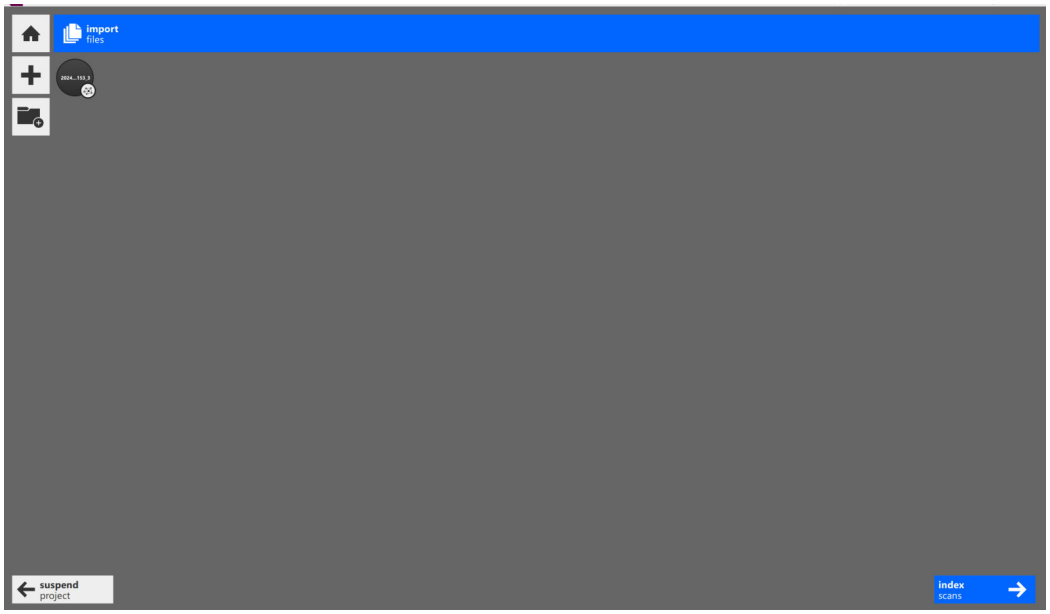


Click “import files” in the right bottom, and then click import files,

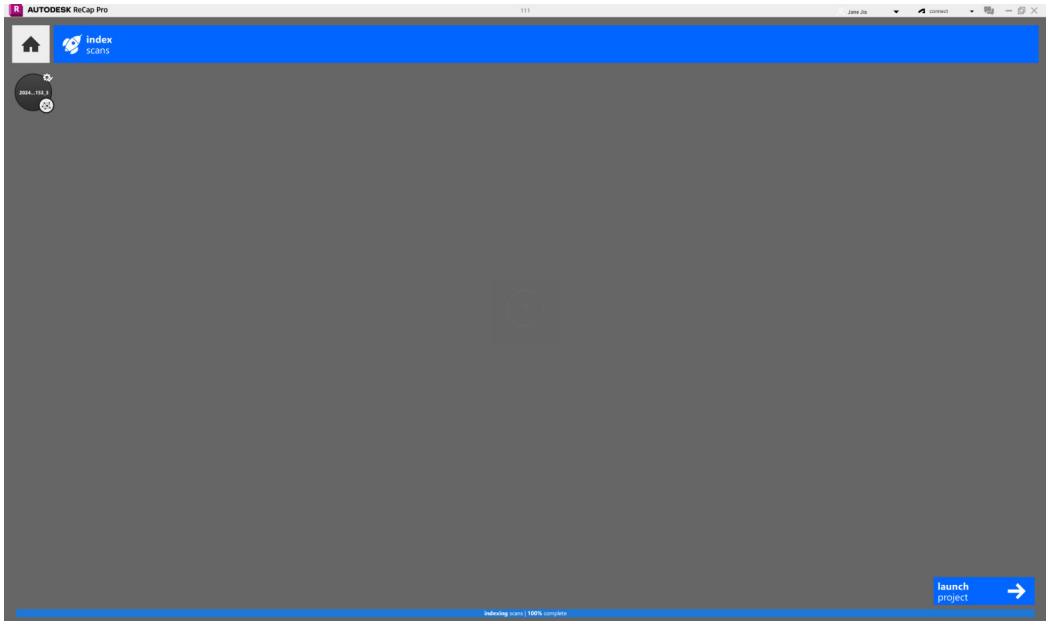


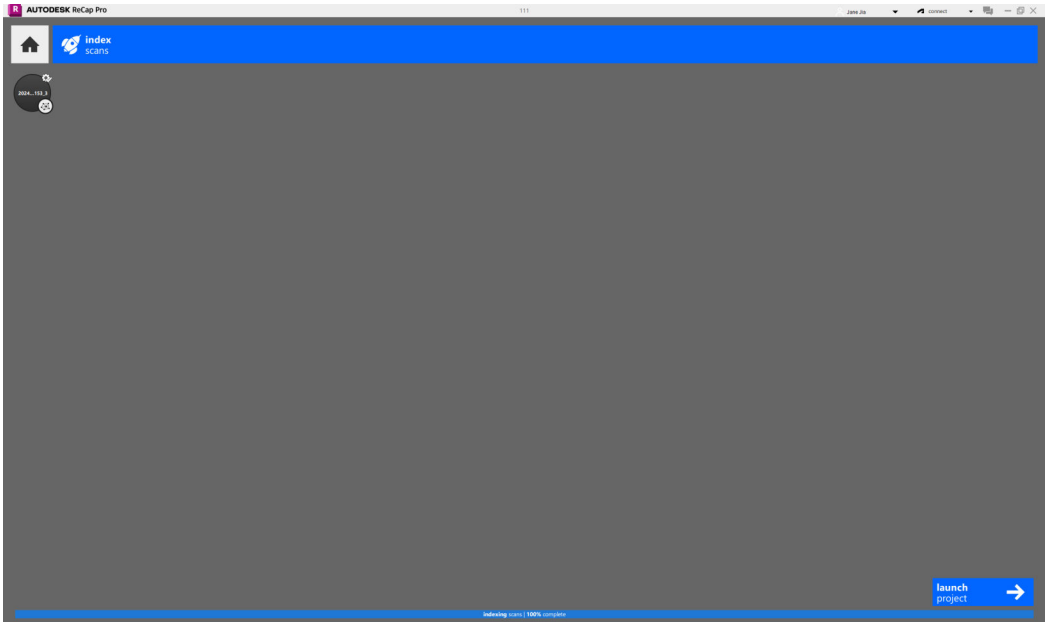
Wait importing…



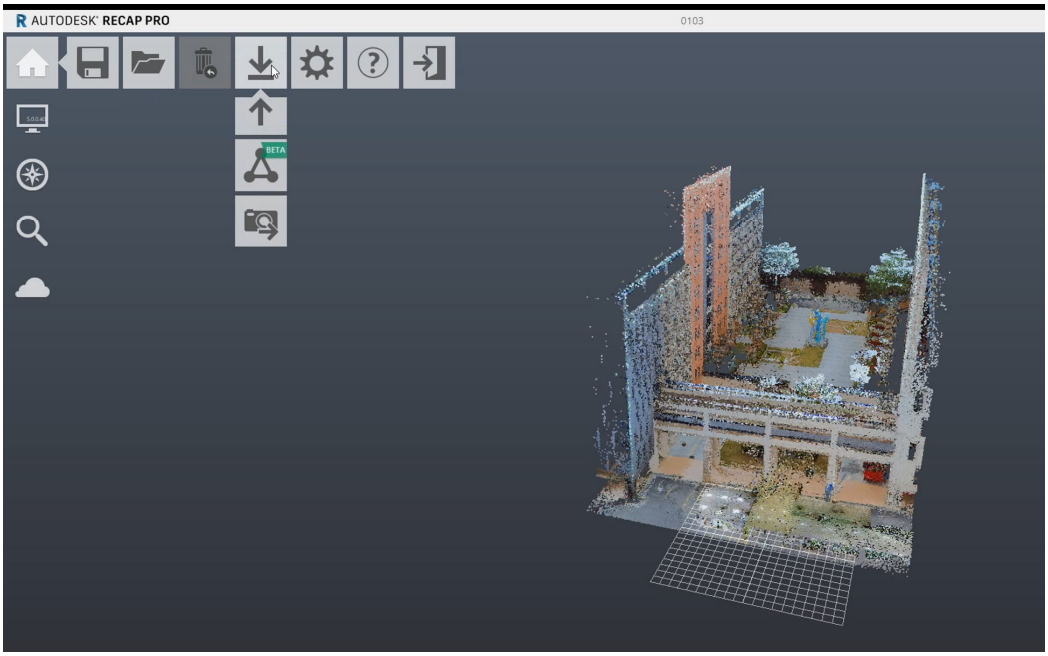


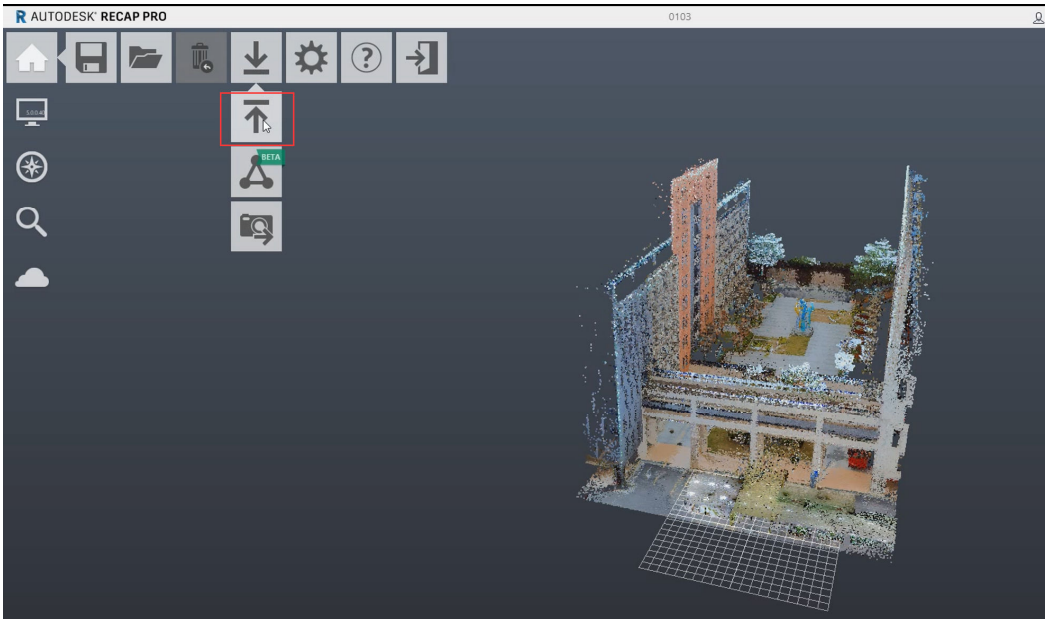
Wait index scans, when finish, click" launch project"



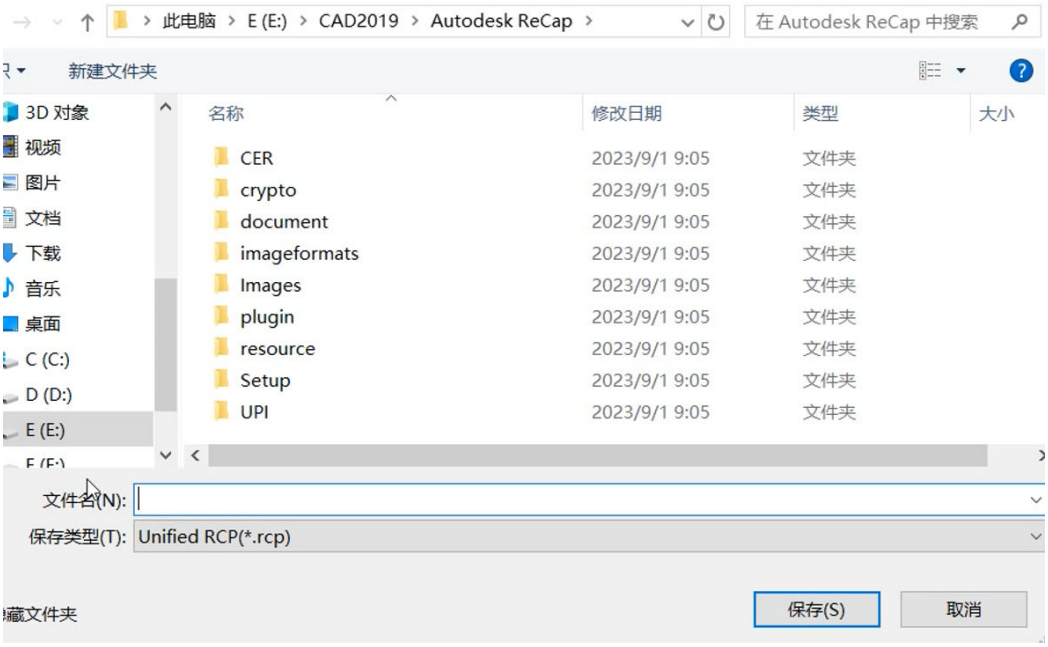


Wait loading





Input the file name and click "Save",


此电脑 › E (E:) › CAD2019 › Autodesk ReCap ›
在 Autodesk ReCap 中搜索
新建文件夹
3D 对象
视频
图片
文档
下载
音乐
桌面
C (C:)
D (D:)
E (E:)
名称
修改日期
类型
大小
CER 2023/9/1 9:05 文件夹
crypto 2023/9/1 9:05 文件夹
document 2023/9/1 9:05 文件夹
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Images 2023/9/1 9:05 文件夹
plugin 2023/9/1 9:05 文件夹
resource 2023/9/1 9:05 文件夹
Setup 2023/9/1 9:05 文件夹
UPI 2023/9/1 9:05 文件夹
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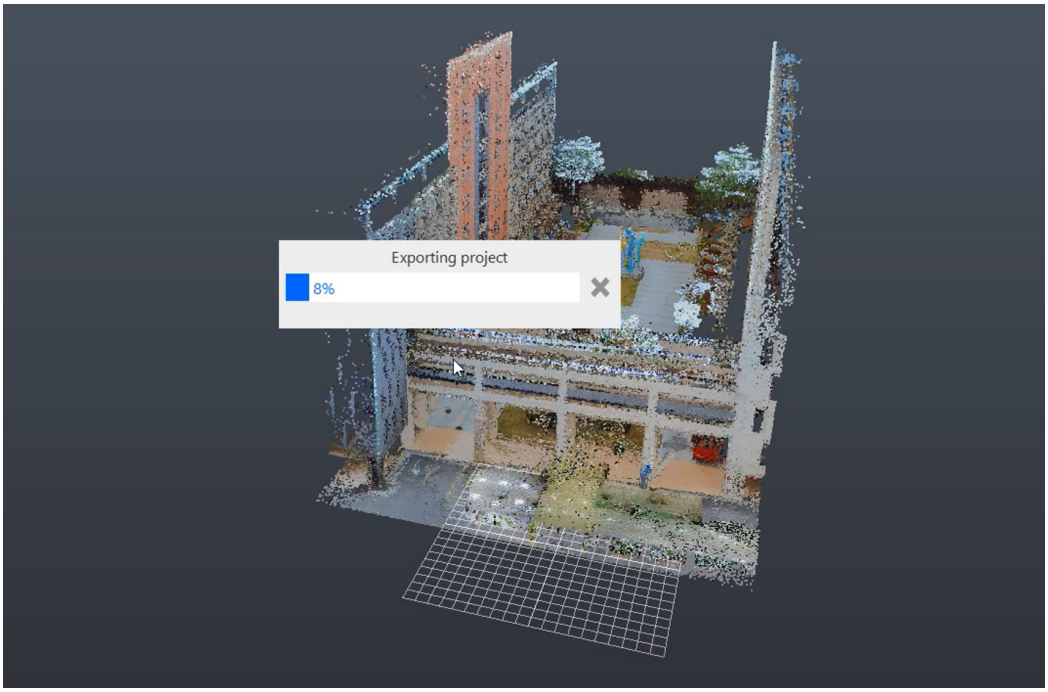
保存类型(T): Unified RCP(*.rcp)
藏文件夹
保存(S)
取消


Exporting project
8%