# Support Documentation

CoCloud is a highly efficient and secure 3D cloud processing platform meticulously developed by CHC Navigation. It integrates independently developed Copre point cloud processing technology and Tiangang Software SDK image processing technology, offering a one-stop automated real-scene 3D modeling service. With simple data uploads, users can automatically complete point cloud processing and 3D modeling on the platform, achieving rapid online reconstruction of real-world 3D information.

CoCloud not only supports the resolution and processing of multiple data sources (such as CHCNAV AA9/AA10, CHCNAV RS10/RS30, and general image data) but also provides comprehensive functionalities, including data viewing, downloading, measurement, annotation, volume calculation, and team collaboration. It caters to diverse user needs in fields such as surveying and mapping, architecture, remote sensing, and cultural heritage preservation.

# Getting Start

## How to Register in CoCloud

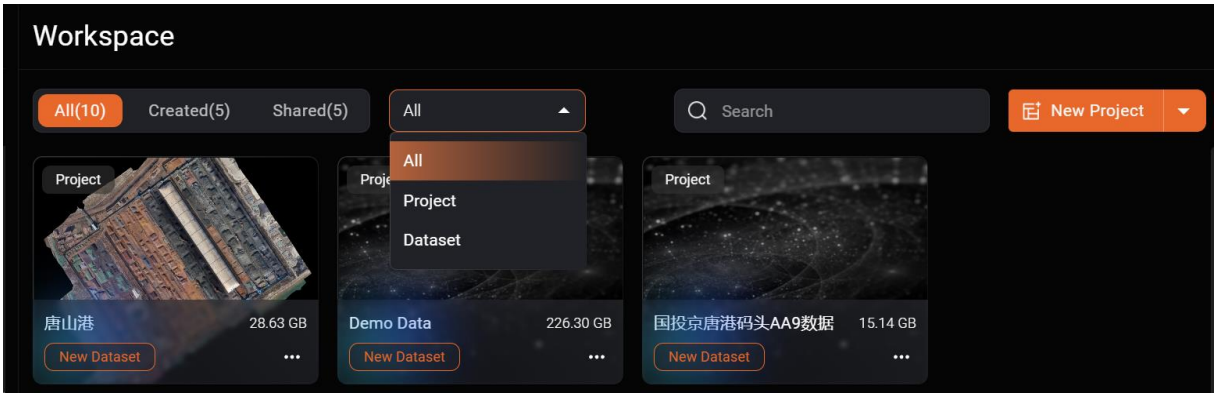
- Navigate to cocloud homepage
- Click on **Register** on the login page to navigate to register page.
- Set the area of your registered address. CoCloud uses Single Sign-On (SSO) with the CHCNAV Customer Center.

Support different account types for login and registration, such as email reigster, mobile register.

## Workspace Instruction

Users can create, edit, and delete engineering projects in this place. Each project can contain multiple datasets, allowing users to effortlessly manage project progress and resources.

**Data Type**




- Project (Multi-dataset organization)
- Dataset

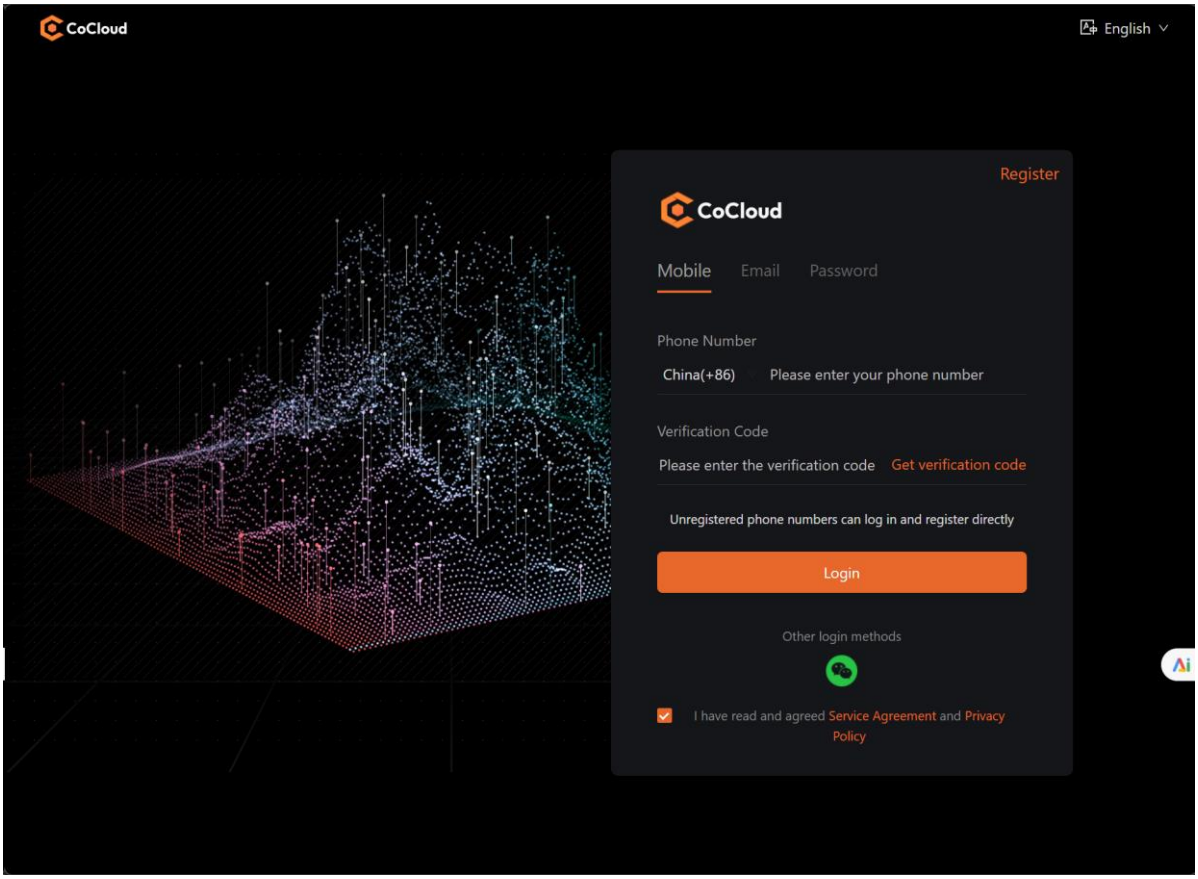
**Data Source**

- Projects created by yourself, can be filtered using the **Created** tag
- Projects created by others that include you in the member management, can be filtered by **Shared**

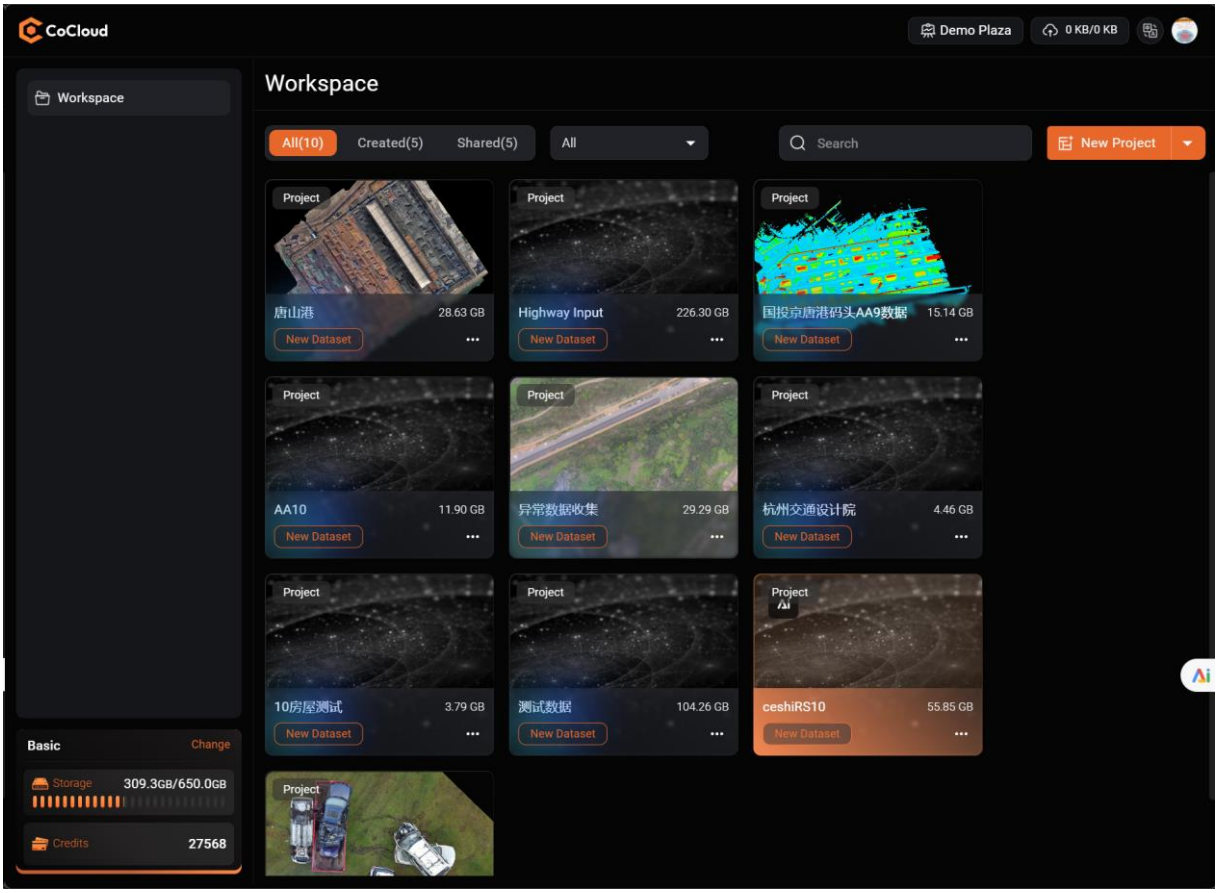
tag

# Access your workspace

- Navigate to cocloud homepage [CoCloud]
- System will redirect to login page




- Input username and password to log in to CoCloud. If you do not have an account, navigate to ****How to Register in CoCloud**** for instructions.
- Click on **login** to log to CoCloud, system will redirect to the home page

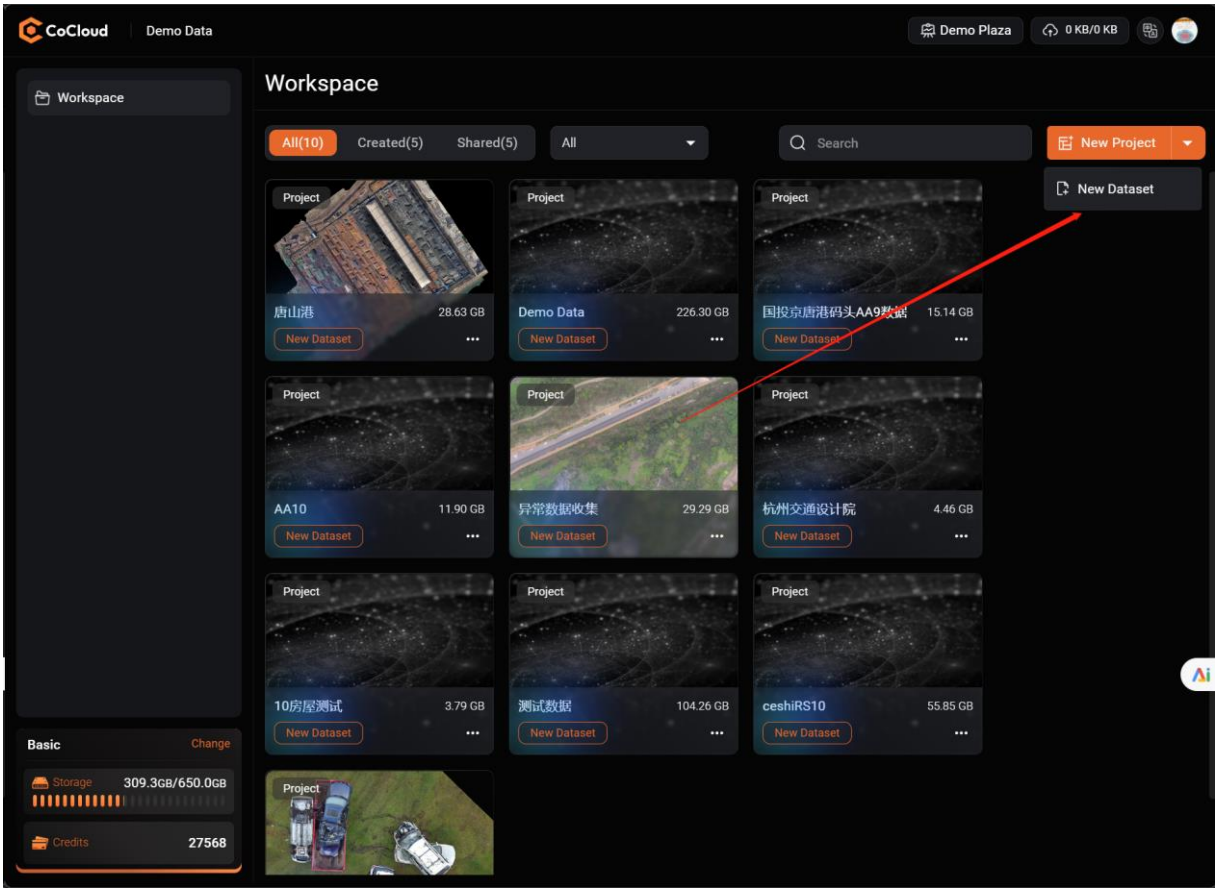



- Also you can navigate to workspace by click  on the top-left corner.

## Create your first project

- Navigate to your workspace
- Click on the **New Project** button
- Input project name and click **Create** to create a new project

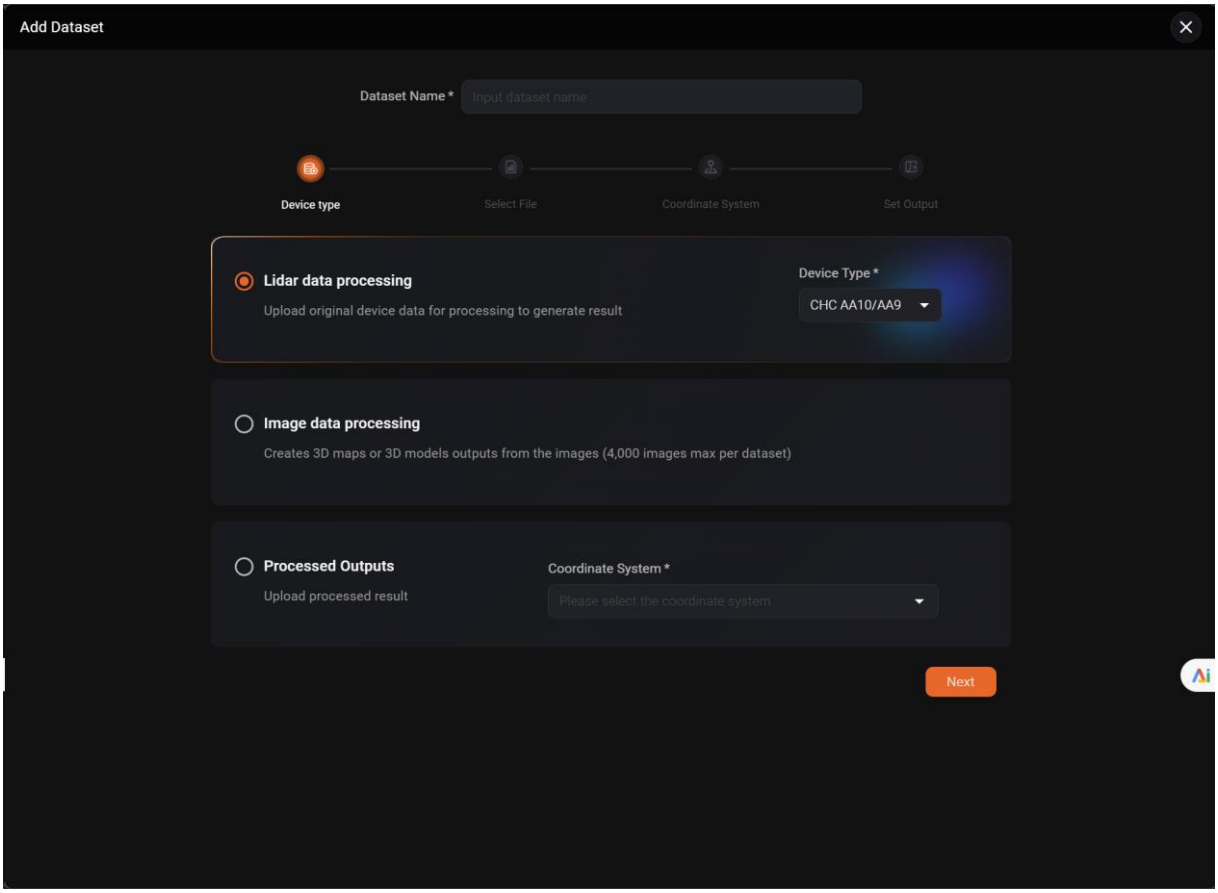
# Creat your first dataset




- Navigate to your workspace
- Hover over the **New Project** button
- System will display the **New Dataset** entry
- Click on **New Dataset**
- System will redirect to upload page
- Then you can upload different type of dataset

# Upload AA9/AA10/RS10/RS30 dataset

- Click **Add Dataset** from workspace or project
- Select data type as **LiDar data processing**, choose the device type as "**CHCNAV AA10/AA9**" or "**CHCNAV RS10/RS30**", input the dataset name, and click **Next**
- Drop your data to the upload box and click **Next**
- Set the calculation coordinate system and click **Next**
- Set the output type and click **Start**
- Check the upload center and wait for the upload to complete, then refresh the dataset page
- Wait for backend processing and refresh the dataset page
- Refresh the dataset page, when the result file status updates to "Processing Successful", you can view the result data.

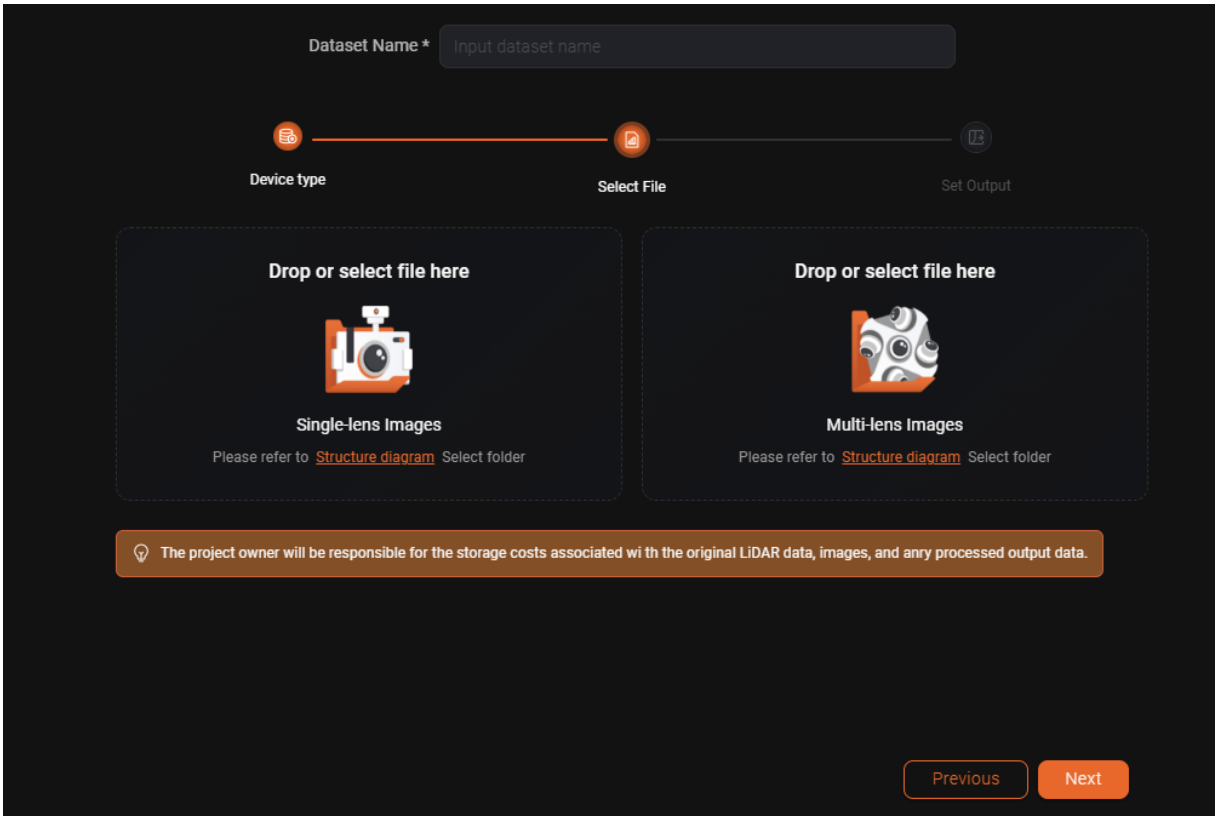



**Note**

- To initiate the processing while upload, you should enable it by checking the **Auto Start Calculation** checkbox. Failing that, you will need to manually activate the processing by navigating to the dataset management page and clicking on the start button.
- For AA10/AA9 output can be DOM, 3D Model, Point Cloud
- For RS10/RS30, the output options can include 3D Model, Point Cloud, and Panoramic Images.
- RS10/RS30 support HPC point cloud coloring as default setting.

# Upload general image dataset

- Click **Add Dataset** from workspace or project
- Select data type as **Image data processing**, input the dataset name, and click **Next**
- Click on file type **Single-lens** or **Multi-lens**




- Select the parent directory of image file.
- If the Pos file is split along with the images, you have the option to specify the POS file by uploading it.
- Set the output type adn coordinate reference system and click **Start**
- Check the upload center and wait for the upload to complete, then refresh the dataset page
- Wait for backend processing and refresh the dataset page
- Refresh the dataset page, when the result file status updates to "Processed", you can view the result data.

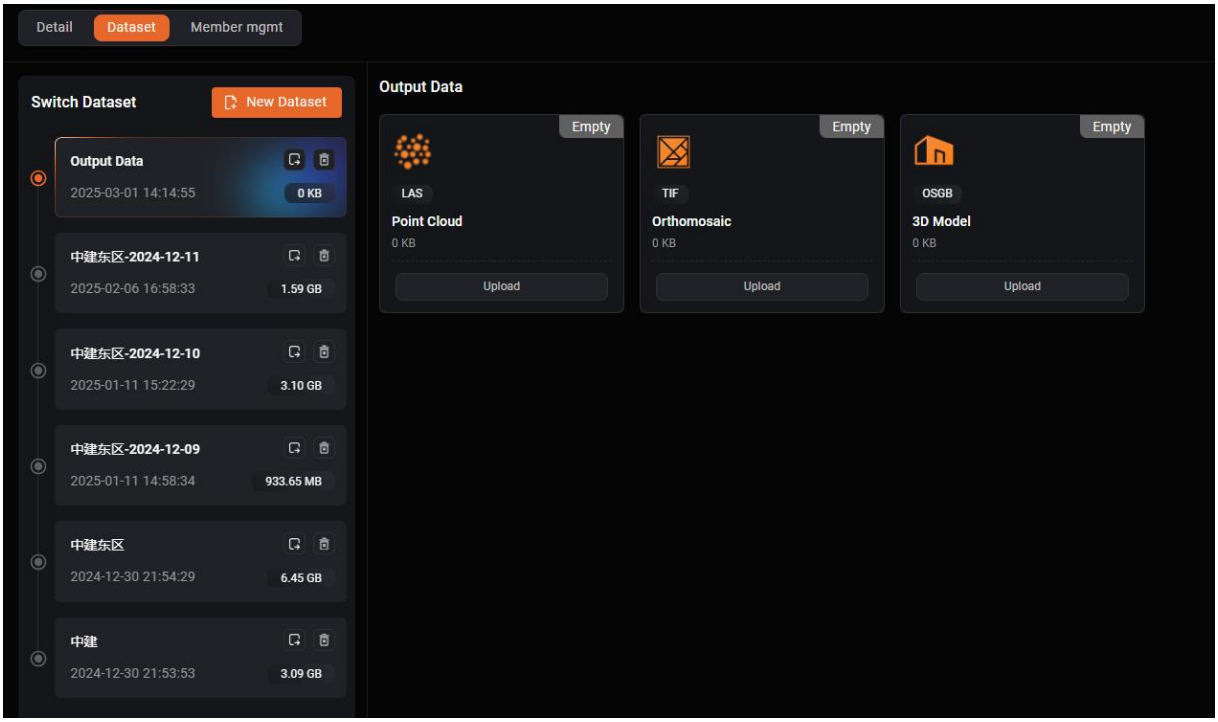
**Note**

- To initiate the processing while upload, you should enable it by checking the **Auto Start Calculation** checkbox. Failing that, you will need to manually activate the processing by navigating to the dataset management page and clicking on the start button.
- The system supports output setting DOM (Digital Orthophoto Map), DSM (Digital Surface Model), Point Cloud, 3D Model, and OBJ as output formats.
- The image coordinate system supports EPSG setting configuration.

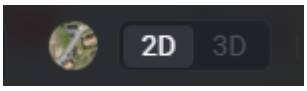
## Upload output already processed

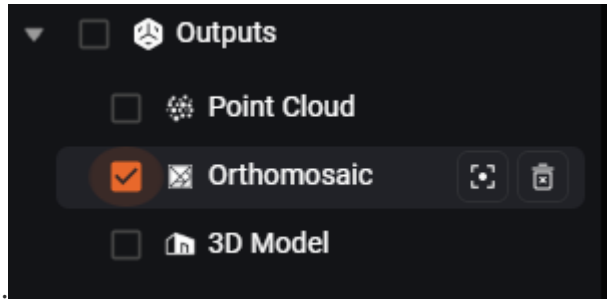
- Click on **Add Dataset**
- Click on **Processed Outputs** and enter the dataset name, input the coordinate system as "EPSG:4548 CGCS2000 / 3-degree Gauss-Kruger CM 117E", then click **Next**
- Click on **Upload** under the specific data type section

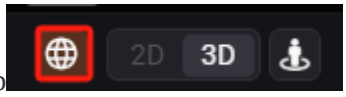
- Select the **point cloud** file, choose the data and upload it
- Select the orthophoto file, choose the data and upload it
- Select the model file, choose the data and upload it
- Refresh the dataset page, and once the status of the result files updates to "Processed", you can view the result data.




# Data Viewer - 2D

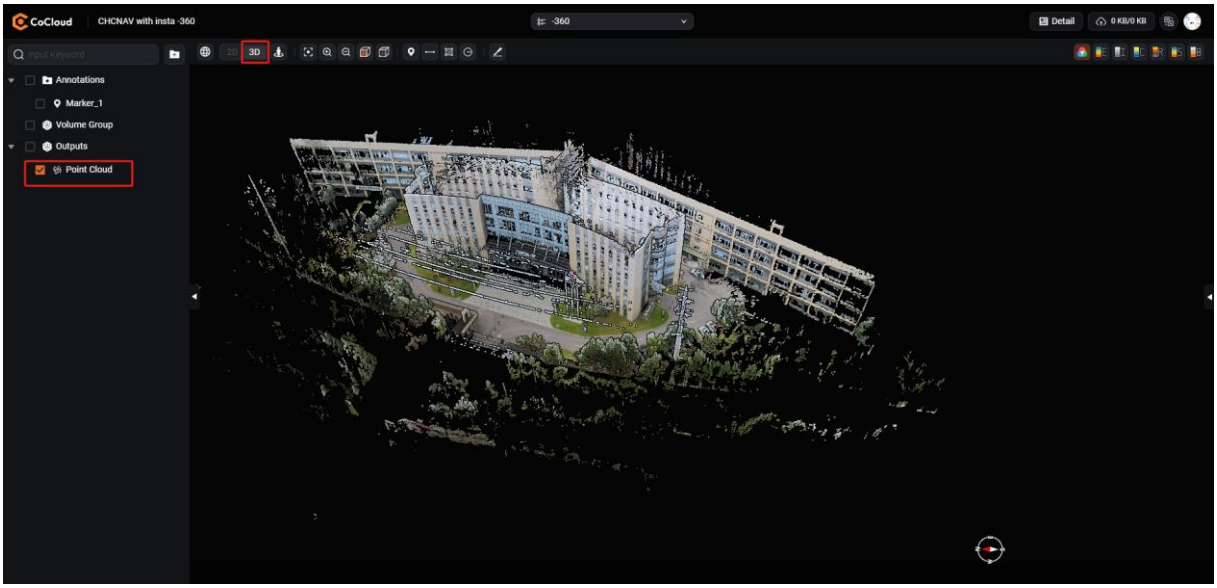
- Select any project with a dataset containing 2D data and click on the main card in your workspace
- Navigate to the "2D" tab 

on the data browsing page and check the 2D data chebox in Outpus. 

- Use the "scroll wheel" to zoom in and out
- Use the "left mouse button" to pan left and right
- Use the "right mouse button" to rotate
- Click on the "Map" icon to display the map 

# Data Viewer - 3D

- Select any project with a dataset containing 3D data and click on the main card
- Ensure that **Point Cloud** is checked and you are in **3D** mode



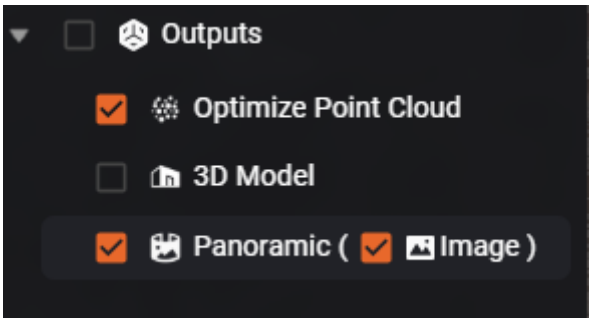

- Use the "scroll wheel" to zoom in and out
- Use the "left mouse button" to rotate
- Use the "right mouse button" to pan left, right, up, and down
- Click on the **Map** icon to  display the map
- Check "3D Model" to overlay and display the model

**Note**

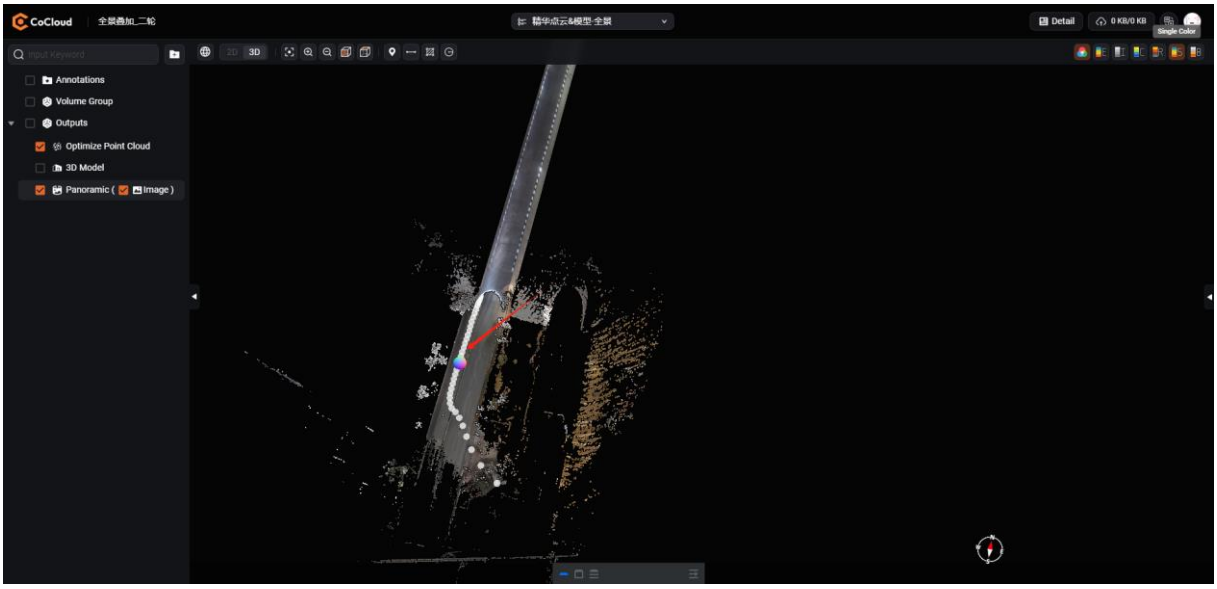
- View 3D data as a point cloud or model by checking and unchecking the respective options.

# Data Viewer - Panoramic

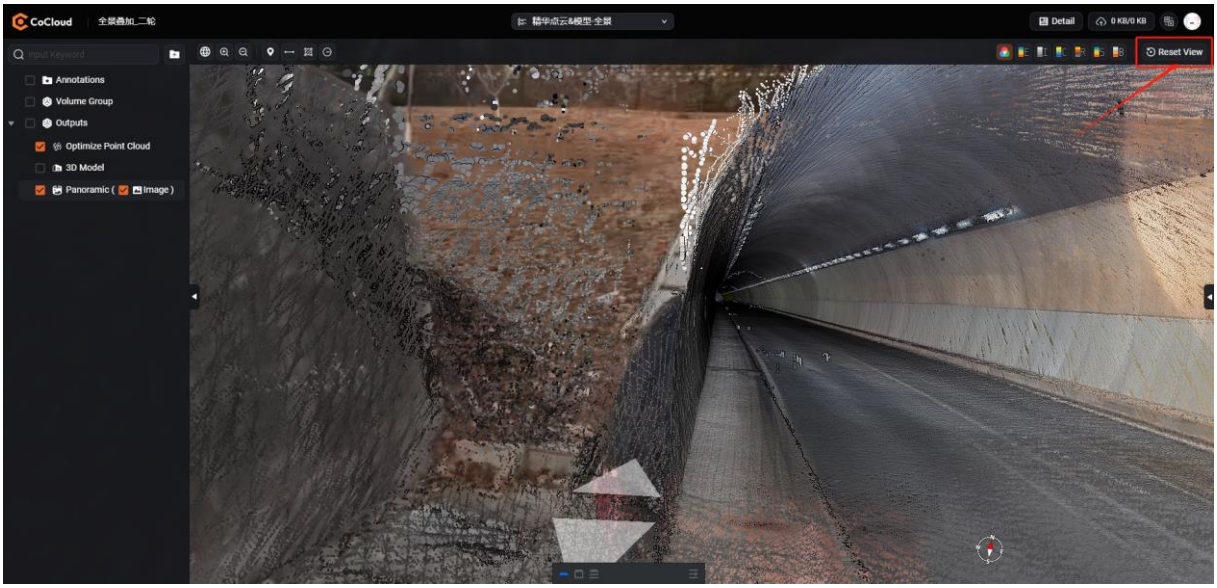
- Select any project with a dataset containing 3D data and click on the main card
- Ensure that **Panoramic** is checked and you are in **3D** mode




- Select the POS ball to focus on

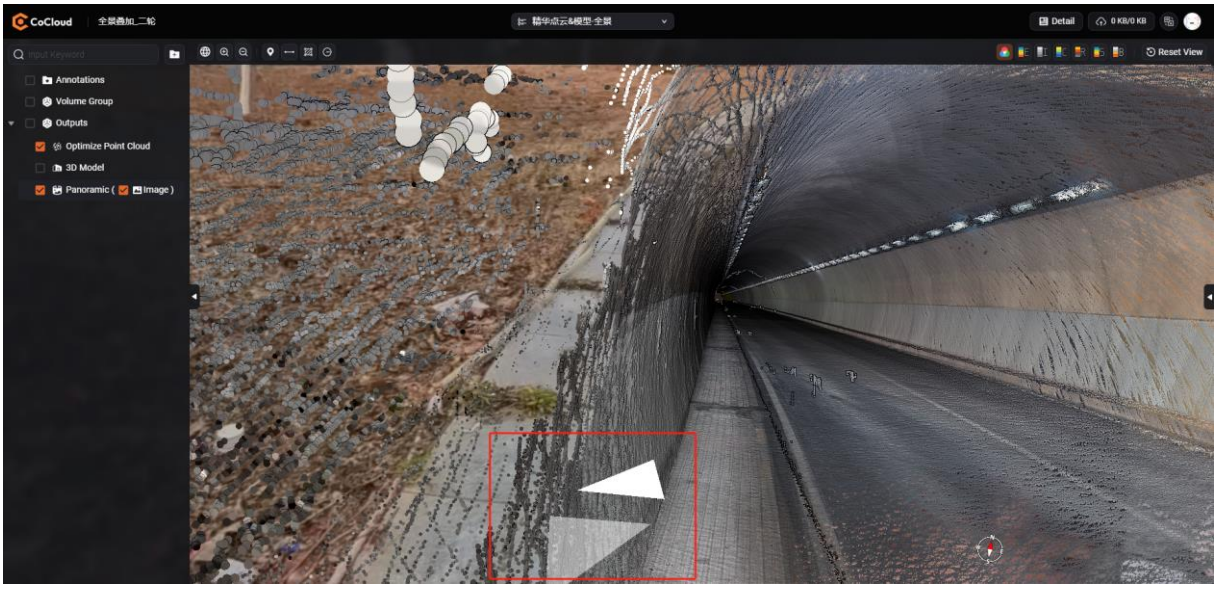



- Click on **Reset View** button to unfocus



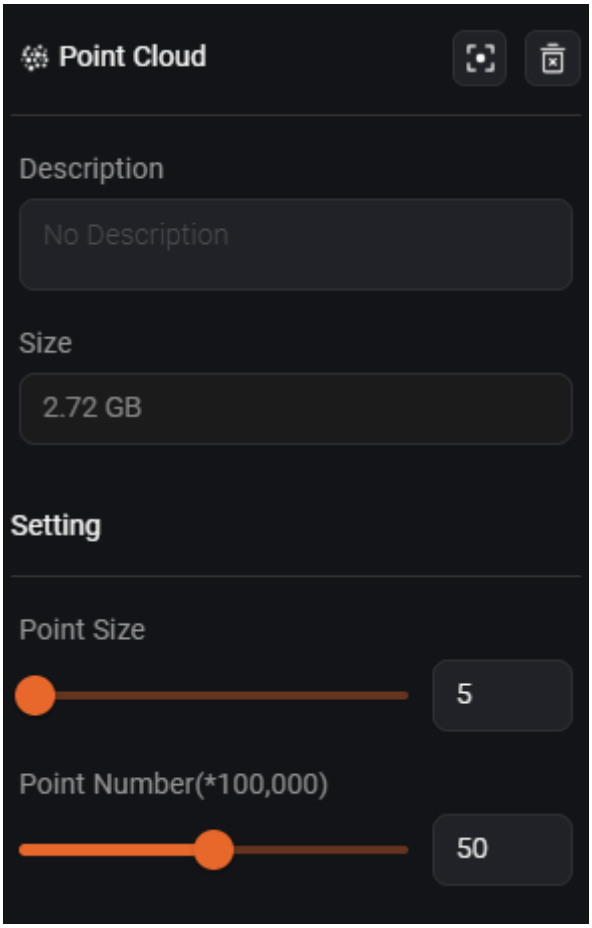

**Note**

- user can add layer by checking or unchecking point cloud or Image to display corresponding data
- User can also click **Step In** or **Step Back** to update view




# Adjust Point display setting

- Enter 3D viewer page, see detail operation in **Data Viewer - 3D**
- Check "Point Cloud"and click on "Point Cloud"
- Adjust the point size and point number settings

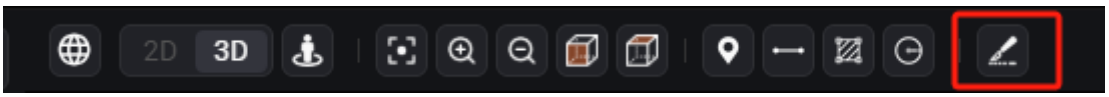


## Options in First Person Mode

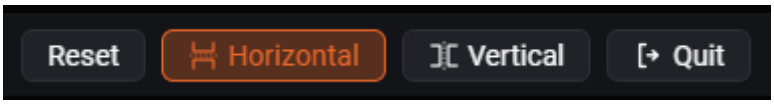
- Press key W: Move forward
- Press key S: Move backward
- Press key A: Move left
- Press key D: Move right
- Press key Z: Move down
- Press key C: Move up

## Point cloud slice

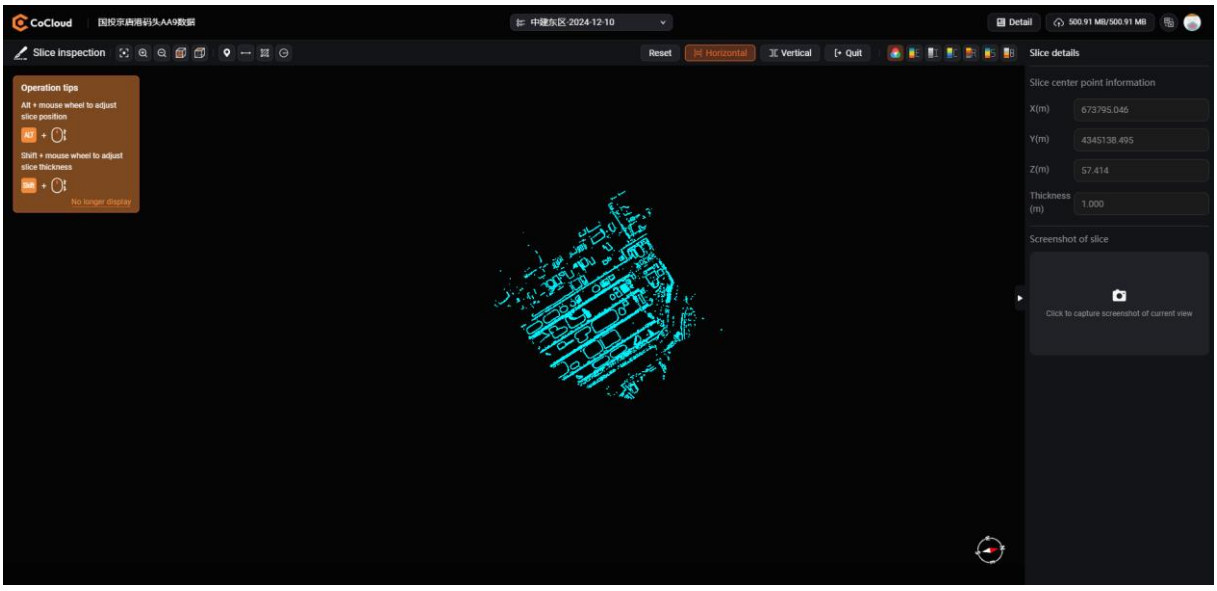
- Select any project with a dataset containing point cloud data and click on the main card
- Ensure that **Point Cloud** is checked and you are in **3D** mode, then click on the **Slice** icon



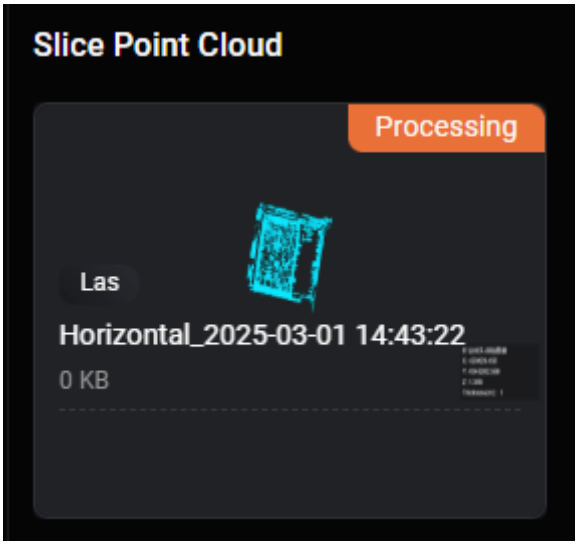

- Set slice mode as **horizontal** slice or **vertical** slice




- Click on the point cloud to set slice points




- In the properties panel, click **Click to capture a screenshot of current view**
- Click **Download** to download the result in PNG format
- Click **Export LAS** to export the .las result
- Click **Exit** to exit the slice mode
- Click **Data Details** to switch to the dataset details page
- Ensure the slice task status is updated to "Processed"



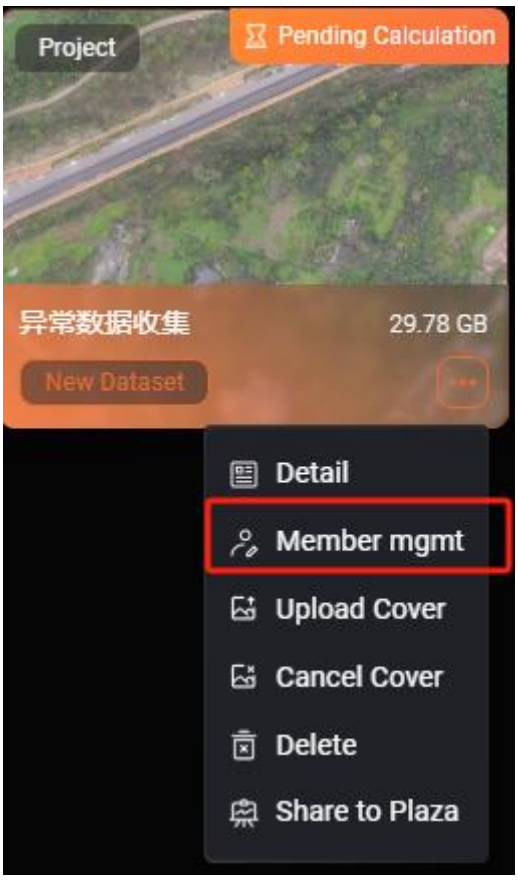

- Click the **Download** button to export the sliced point cloud
- Also you can view the slice result in viewer

**Note**

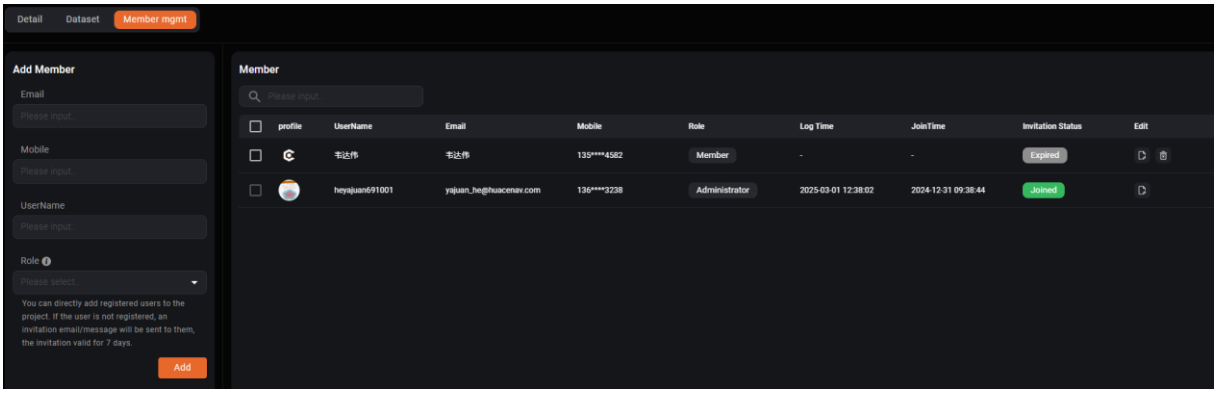
- Exporting sliced point cloud data in .las format will consume the storage space of the project creator.

# Member management

- Select a project you have created
- Click on **More => Member Management**



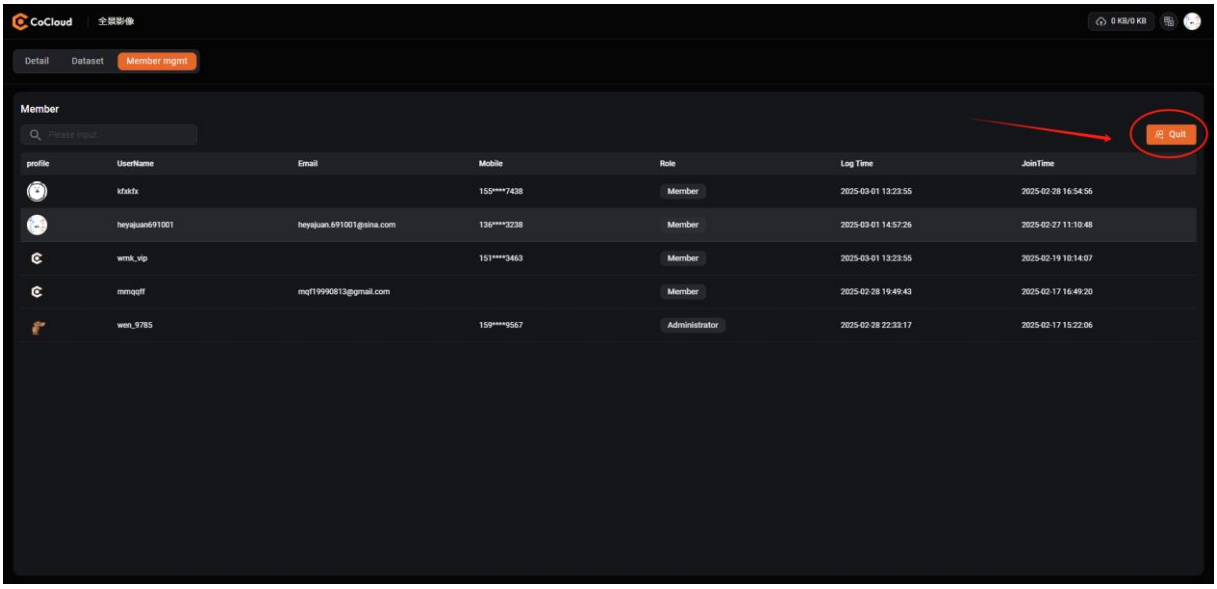
- Enter an email, phone number, or username, and set the member management permissions.




- Click **Add**
- The user you added will see the project in his or her workspace

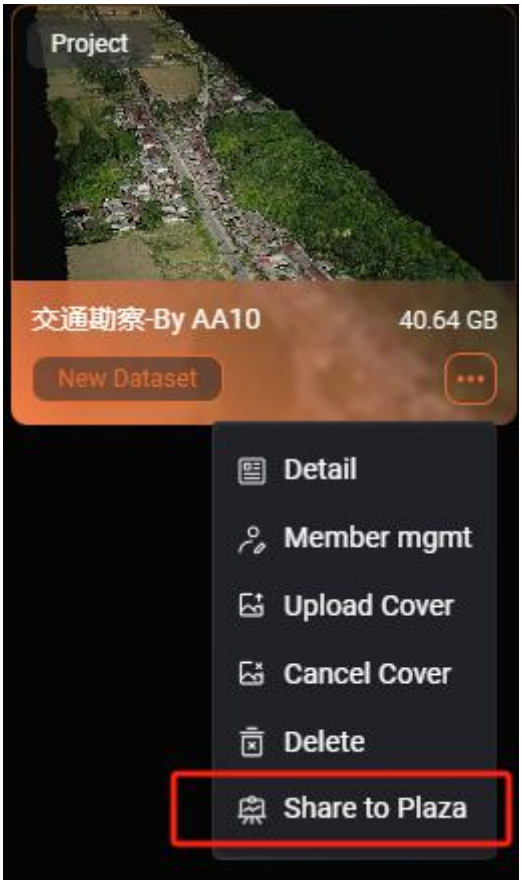
**Note**

- An invitation email or message will be sent if the user you added has never registered
- Status "Joined" mean you have success add the user
- Any operation in the shared project will increase the storage cost of the project owner
- **Administrator,** the helmsman of the project, possessing comprehensive management permissions, able to control the addition and removal of team members, assign roles, and have full authority over project datasets and team configurations.
- Member, a project member who holds comprehensive permissions to access, download, and modify the project's datasets. They have the autonomy to manage the annotations and datasets they created。while also adhering to the principle of downward compatibility in data permission management
- **Collaborator**, a project collaborator with viewing and downloading permissions, capable of accessing annotations and output data, but does not directly create or edit the project's datasets
- **guest,** the observer of the project, possessing limited viewing permissions, allowed to browse project content but not permitted to make any modifications.
- Also you can exit the shared project by click on **Quit** button on memeber management page

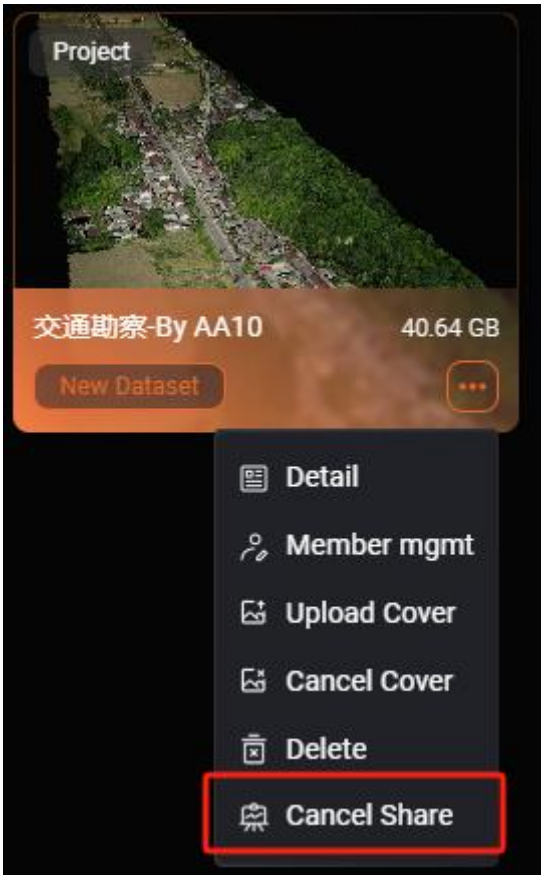



# Publish your data to Demo Plaza

- Select a project you have created
- Click on **More => Share to Plaza** of the project




- Click on **Demo Plaza**
- Bac to Workspace, click on **More => Cancel share** to cancel your share




**Note**

- Any update of the shared project will sychornaze to the demo plaza