

PIX4D

Geoweetsessie Pix4D



6 Juni 2024

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Welkom

Walter Jansz



Andries Bosma



Agenda

- Introductie
- Wat voor vragen hebben jullie?
- RDNAPTRANS2018 in Pix4D
- Pix4D projecten combineren (Pix4DCatch – droneproject)
- Features in Pix4Dmatic & Pix4Dsurvey



Huidige Pix4D Line-Up

- Pix4Dmapper
- Pix4Dcloud
- Pix4Dsurvey
- Pix4Dfields
- Pix4Dmatic
- Pix4Dreact
- Pix4Dcatch
- Pix4Dcapture



Pix4Dmapper

- Bedoeld om mbv. fotogrammetrie beelden tot een 3d model (puntenwolk etc.) te verwerken.



PIX4Dmapper



Pix4Dcloud



Pix4Dcloud

- Bedoeld om mbv. fotogrammetrie een 3d model van foto's te maken (puntenwolk etc.)
- Maar dan in het cloudplatform (grotendeels geautomatiseerd)

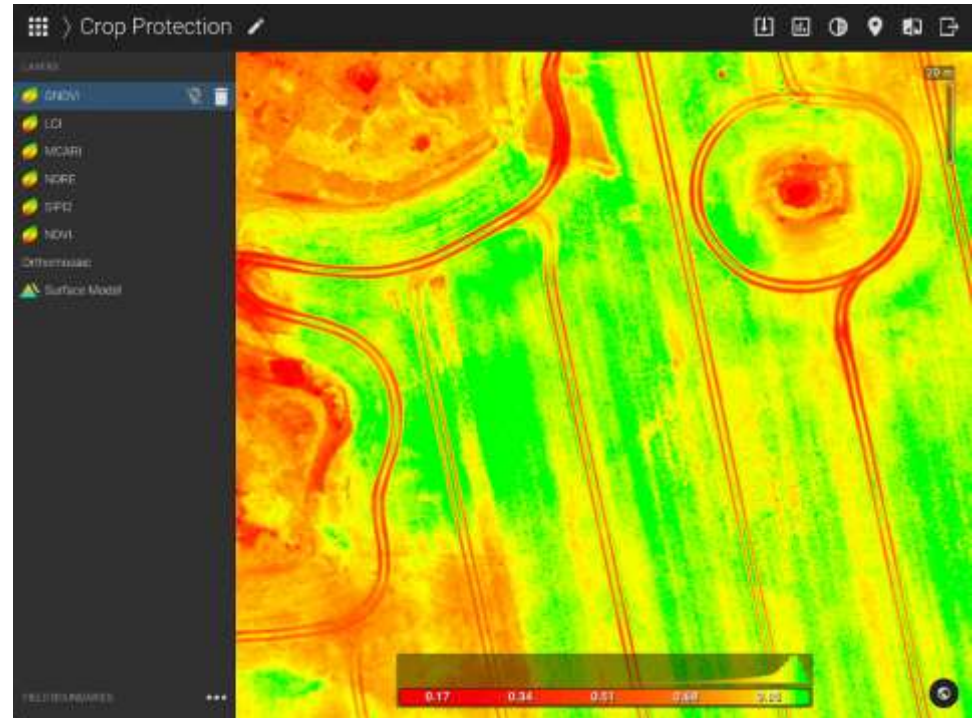




Pix4Dfields

Pix4Dfields

- Bedoeld om multispectrale beelden te verwerken tot index- en taakkaarten
- Gebruikt een andere manier van fotogrammetrie



Pix4Dmatic



- Bedoeld voor effectieve verwerking van grootschalige droneprojecten (bijv. BVLOS) tot 3d modellen.
- Ook snellere verwerking van andere projecten in vergelijking met Pix4DMapper



Pix4Dsurvey

- Bedoeld om in Pix4D project CAD tekeningen te maken
- Kan ook gebruik maken van puntenwolken uit o.a. een laserscanner



Pix4Dsurvey



Pix4Dreact

- Bedoeld voor het snel verwerken van een droneproject tot een orthofoto (orthomosaic)
- Toepassingen: hulpdiensten, noodhulp na natuurrampen



Pix4Dreact



Pix4Dcatch

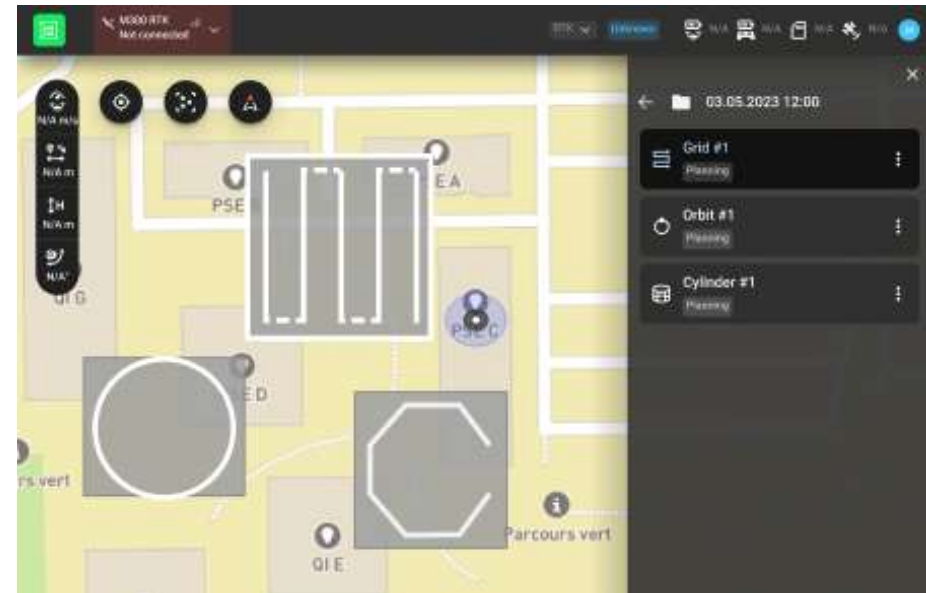
- App in IOS/Android om op een systematische manier foto's te nemen om tot een 3d model te verwerken in Pix4D
- Compatibel met Trimble Catalyst





Pix4Dcapture

- Missieplanningsapp
- Gratis en pro-versie
- Compatibel met diverse drones van DJI/Parrot
- Meer functionaliteiten indien je een geldige Pix4D licentie hebt
 - Vlieghoogte t.o.v. terrein aanpassen
 - RTK
 - Missie planner in Pix4DCloud

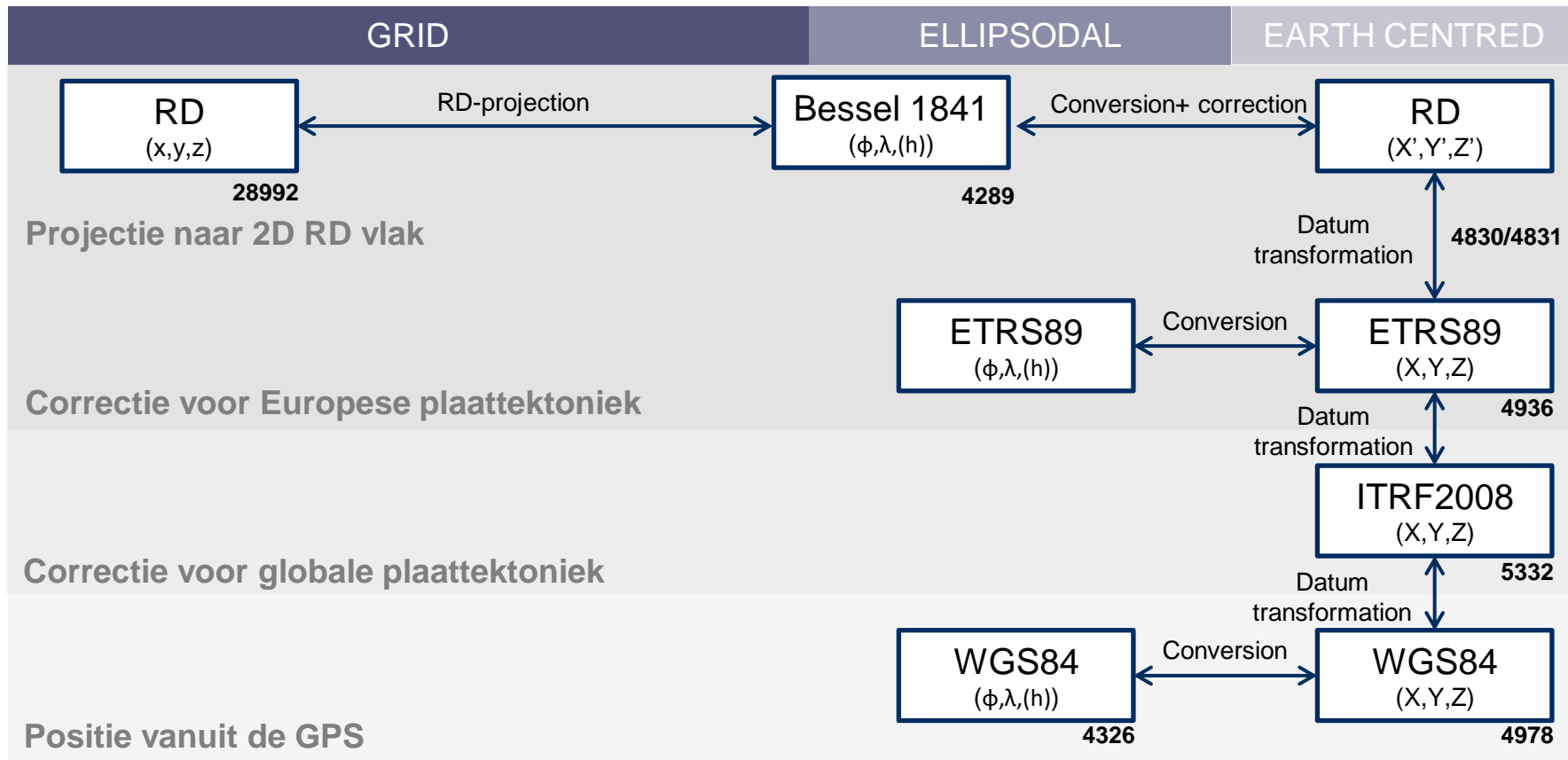


Discussie

- Welke Pix4D applicaties gebruikt iedereen?

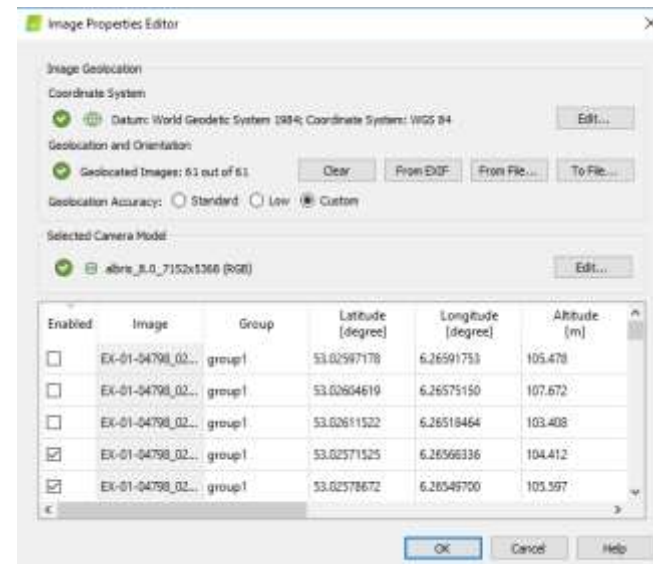


Van GPS coördinaten naar RD2018



Wat betekent dit voor Pix4D?

- In Pix4Dmapper gebeurt de transformatie naar Pseudo RD (geen gridcorrectie!)
 - Daarom gebruik van Ground Control Points met punten in RD2008- RD2018 ingemeten!
 - Wanneer je RTK drone gebruikt: gebruik van Ground Control Points of corrigeer de geotags mbv. software (bijv. Trimble Business Center).




Wat betekent dit voor Pix4D?

- In Pix4Dmatic
 - NAP hoogte kan gebruikt worden

Select the GCP coordinate reference system (CRS)* ✕

Known CRS
 Arbitrary CRS m v
 Import CRS file 📄

Horizontal coordinate reference system [m]

 Amersfoort / RD New - EPSG:28992
✕

Vertical coordinate reference system [m]

NAP height - EPSG:5709
✕

Geoid Geoid height ℹ

NLGEO2018
✕


*Project CRS is derived from the GCP CRS

Cancel

Apply

Wat betekent dit voor Pix4D?

- Pix4DCloud

New processing pipeline 

PIX4Dmapper compatibility

To import your outputs into PIX4Dmapper, please check the box. By selecting this option, we will generate the files necessary for compatibility with PIX4Dmapper.



Please note that choosing this option will activate our legacy processing engine, which does not offer vertical coordinate systems and can result in longer processing times or lower-quality results.

Define the output coordinate reference system



Known CRS
 Import CRS File


Please select a horizontal and a vertical coordinate reference system

Horizontal coordinate reference system [m]

Vertical coordinate reference system [m]

Geoid model 

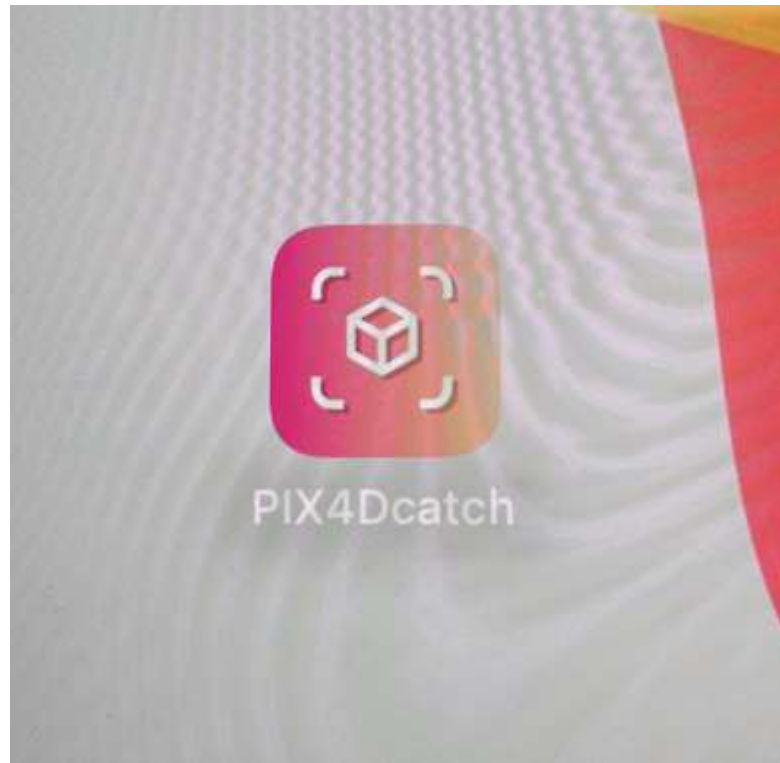
Geoid height

Discussie

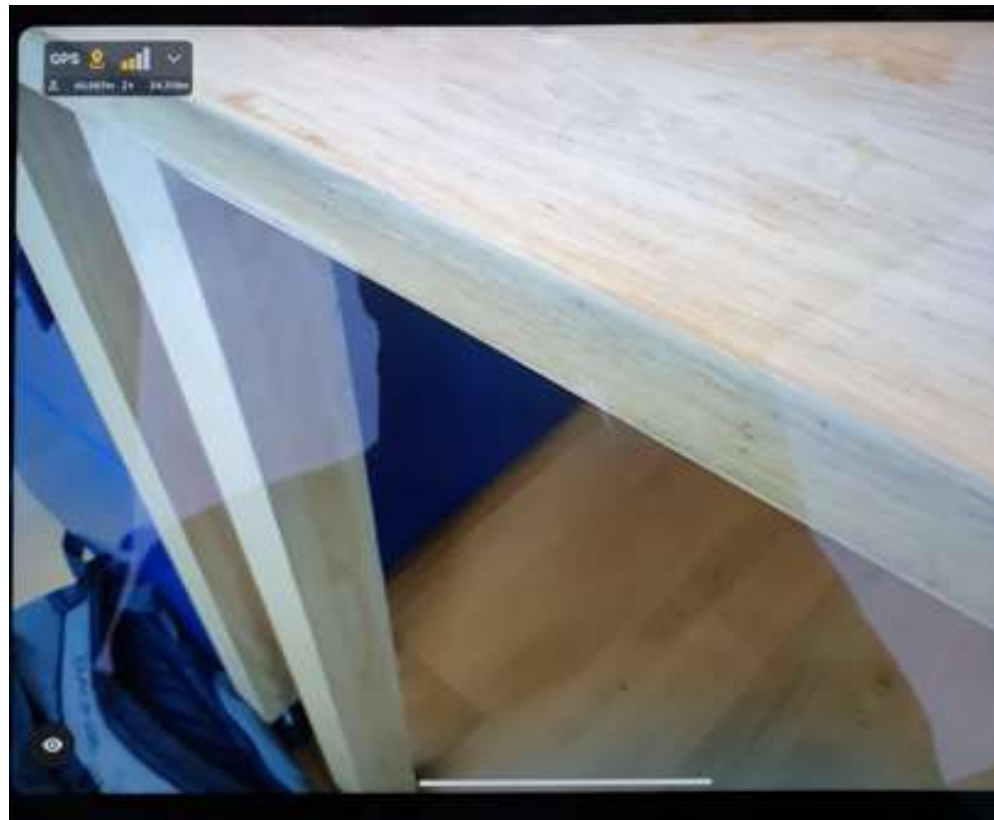
- Gebruik je de RDNAPTRANS2018 – 2008 nu in Pix4D? Of doe je alleen maar relatieve metingen?
- Gebruik je een RTK drone?



Inwinproces



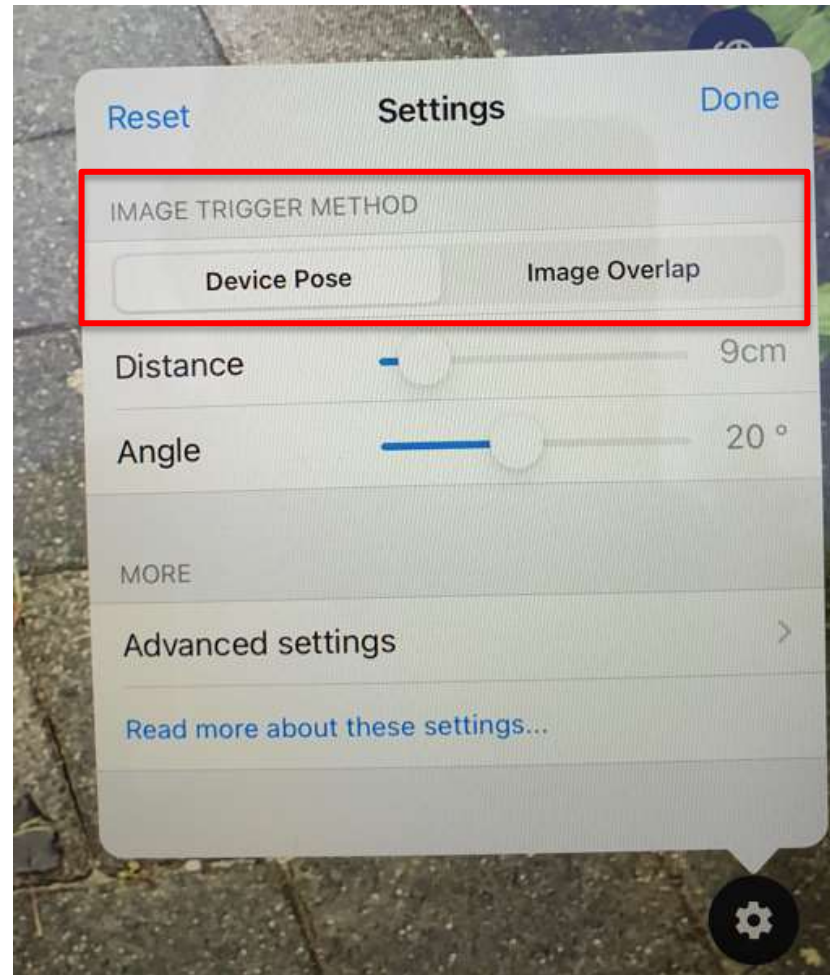
Inwinproces



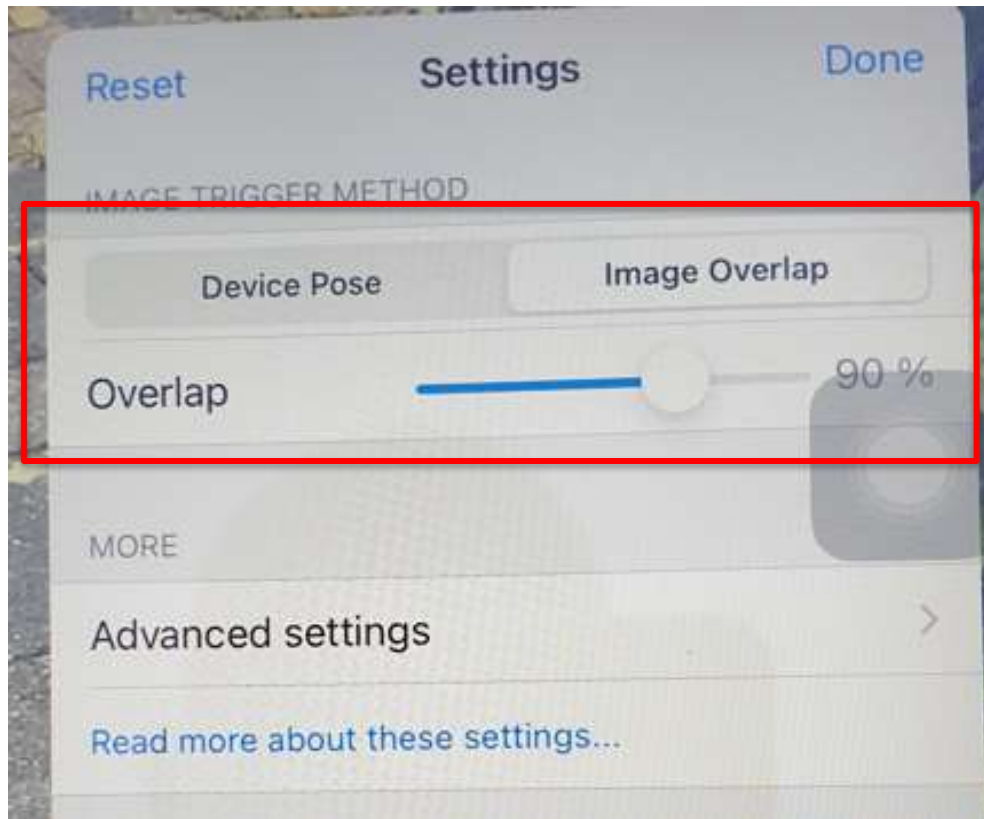
Inwinproces



Inwinproces

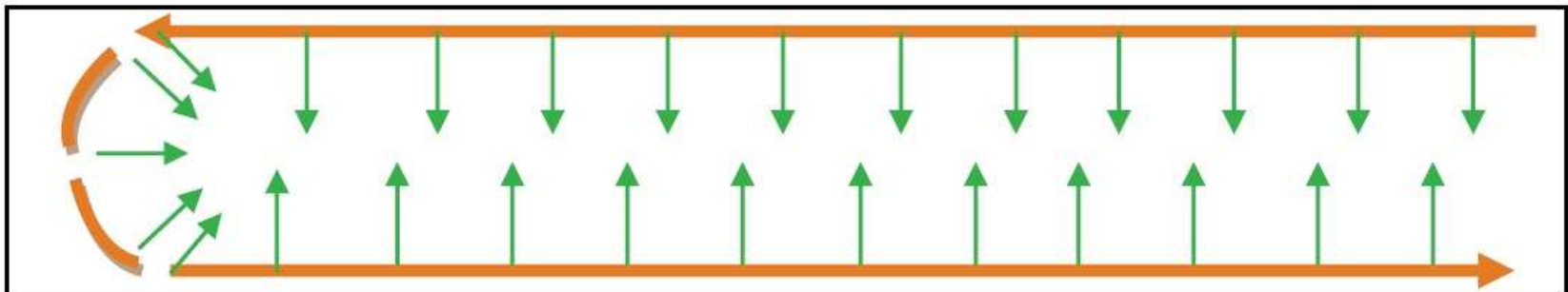


Inwinproces



Inwinproces

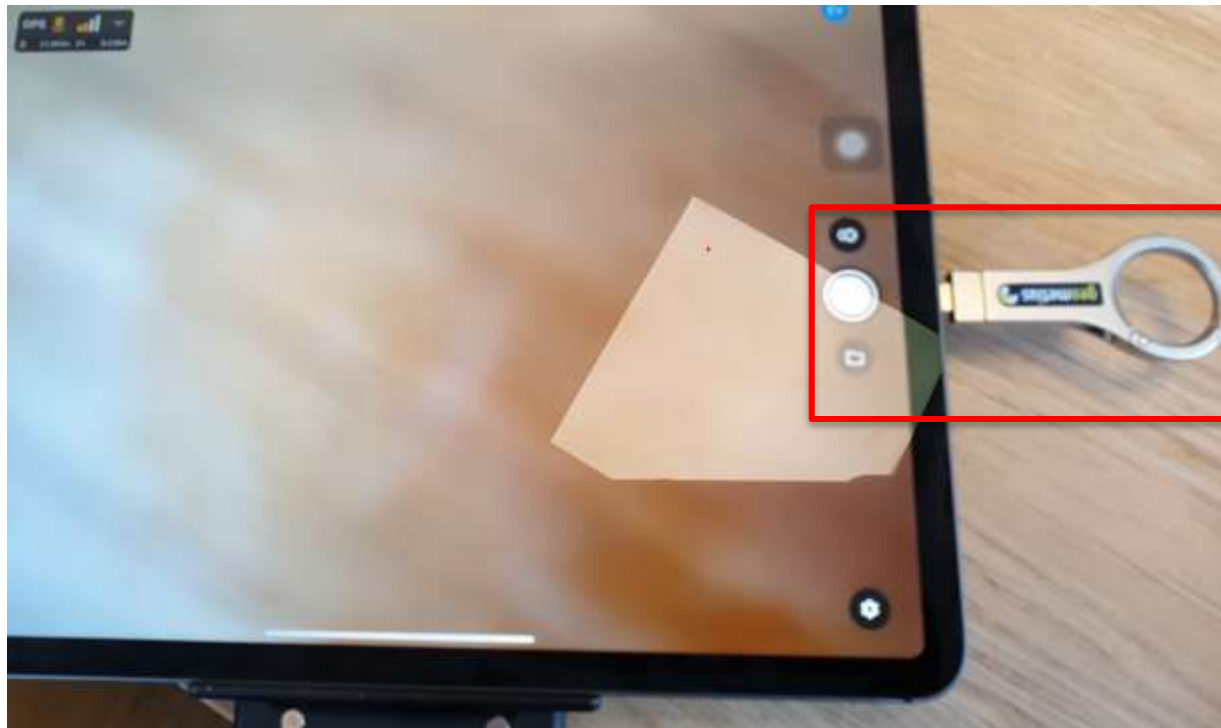
- Beste benadering:
 - Rug tegen de muur en foto's loodrecht de andere kant opmaken.



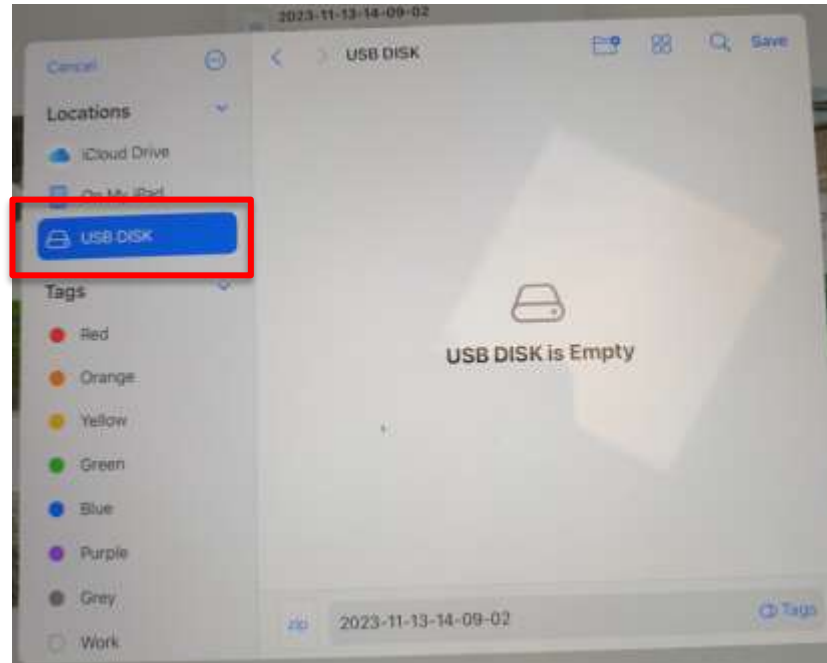
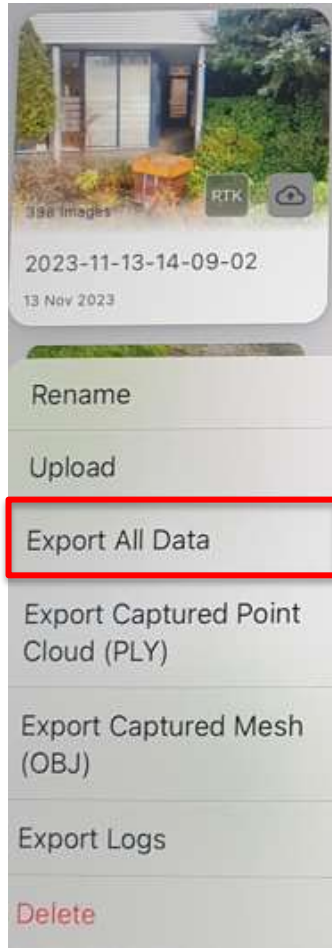
Legend:

-  Path of the Operator
-  Direction of Shooting
-  Wall of the Hallway

Data overbrengen



Data overbrengen



Data verwerken



Pix4D**matic**

Drone & terrestrische data combineren

Select a processing template

Nadir

Calibration

Template: Large scale and corridor

Pipeline: Scalable standard

Image scale: 1/1 1/2 1/4 1/8

Keypoints: Auto Custom 10000

Internals confidence: Low

Use depth maps Uses depth maps generated by PIX4Dcatch for a better calibration

Automatic ITPs Generates and matches structural line intersections between images

Select a processing template

PIX4Dcatch

Calibration

Template: PIX4Dcatch

Pipeline: Trusted local orientation

Image scale: 1/1 1/2 1/4 1/8

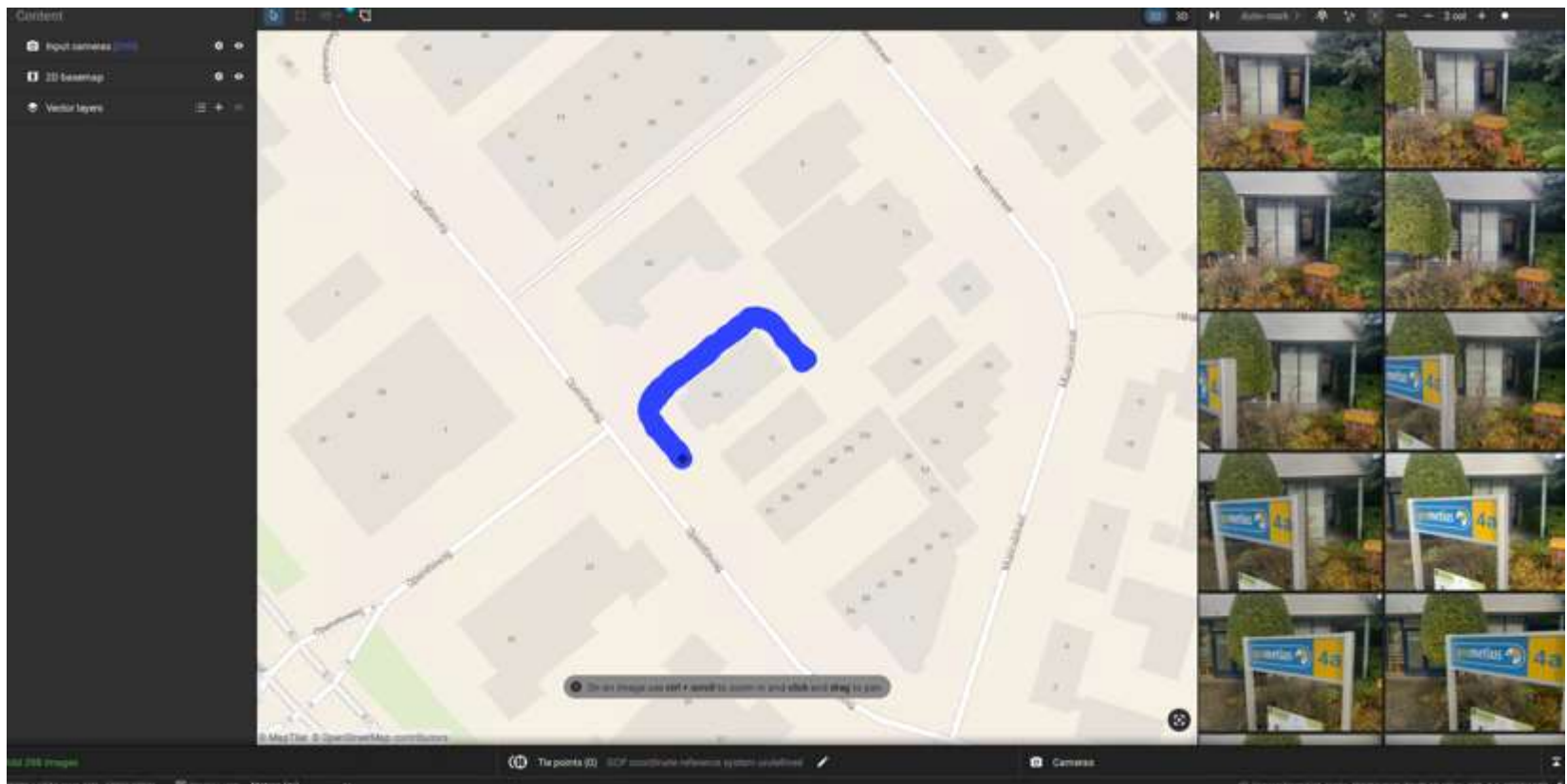
Keypoints: Auto Custom 10000

Internals confidence: Low

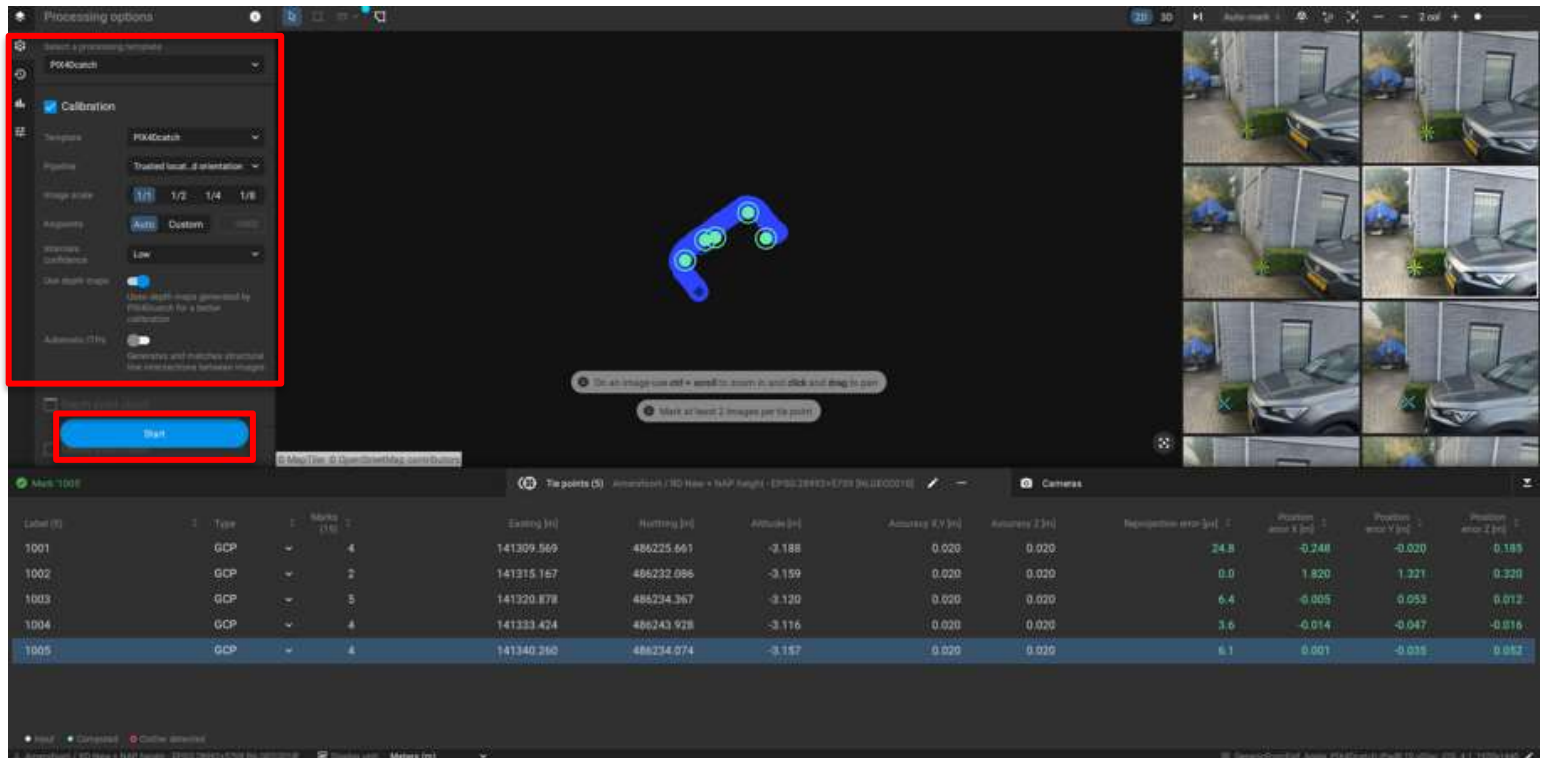
Use depth maps Uses depth maps generated by PIX4Dcatch for a better calibration

Automatic ITPs Generates and matches structural line intersections between images

Drone & terrestrische data combineren



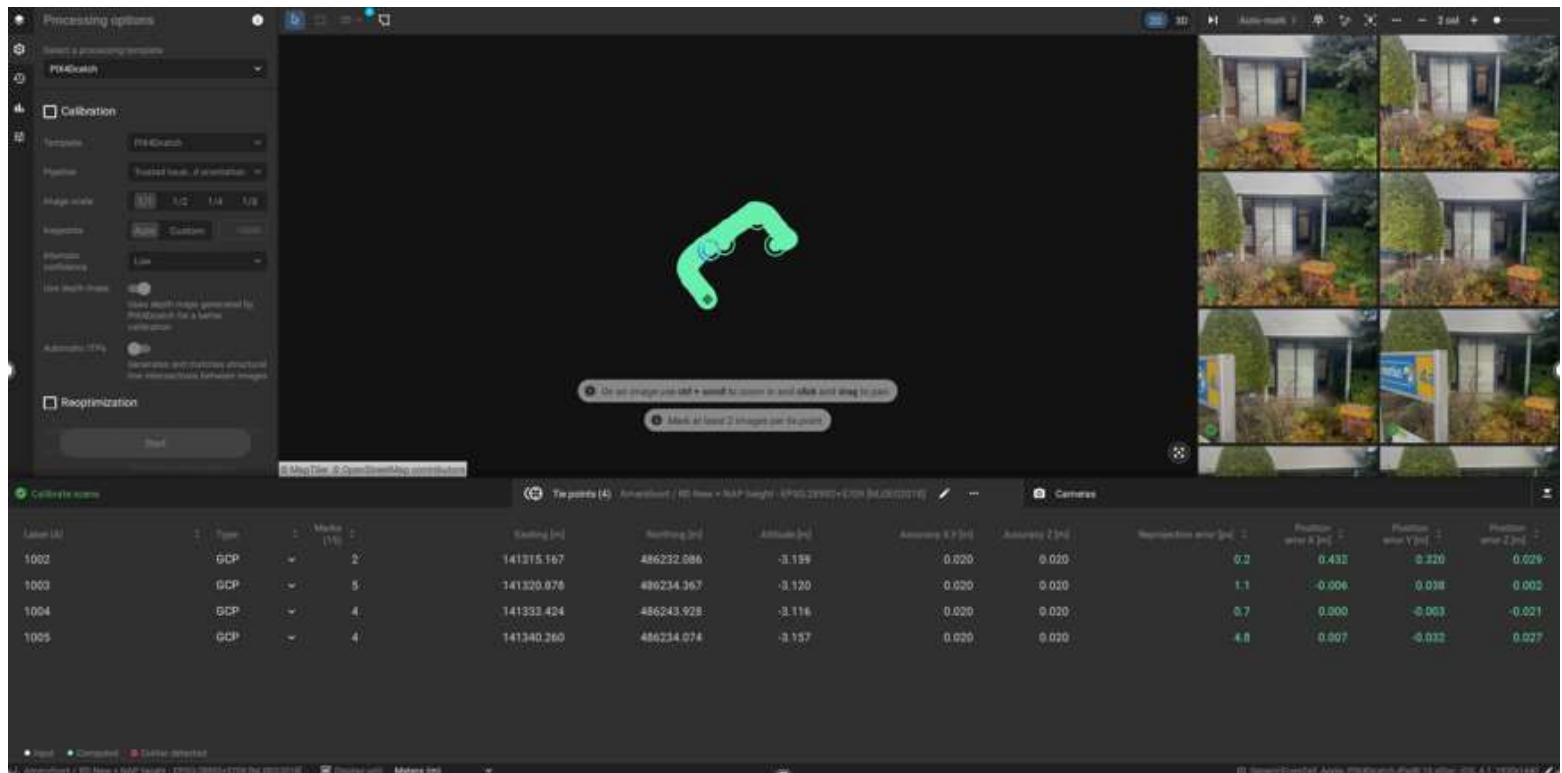
Drone & terrestrische data combineren



The screenshot displays the 'Processing options' window in Geometius. The 'Calibration' section is highlighted with a red box, showing settings for 'PX4catch' with 'Trained local .d orientation', 'Image scale' of 1/1, 'Resample' set to 'Auto', and 'Minimum confidence' set to 'Low'. A 'Start' button is also highlighted with a red box. The main interface shows a 3D view of a car with ground control points (GCPs) marked in blue and green. A grid of images on the right shows the drone's perspective of the car. Below the 3D view is a table of GCPs.

Label (S)	Type	Marka (S)	Setting (m)	Heighting (m)	Altitude (m)	Accuracy X,Y (m)	Accuracy Z (m)	Reprojection error (m)	Position error X (m)	Position error Y (m)	Position error Z (m)
1001	GCP	4	141309.569	486225.661	-3.188	0.020	0.020	24.8	-0.248	-0.020	0.189
1002	GCP	2	141315.167	486232.086	-3.159	0.020	0.020	0.0	1.820	1.221	0.320
1003	GCP	5	141320.878	486234.367	-3.120	0.020	0.020	6.4	-0.005	0.053	0.012
1004	GCP	4	141333.424	486243.928	-3.116	0.020	0.020	3.6	-0.014	-0.047	-0.016
1005	GCP	4	141340.280	486234.074	-3.187	0.020	0.020	6.1	0.001	-0.038	0.032

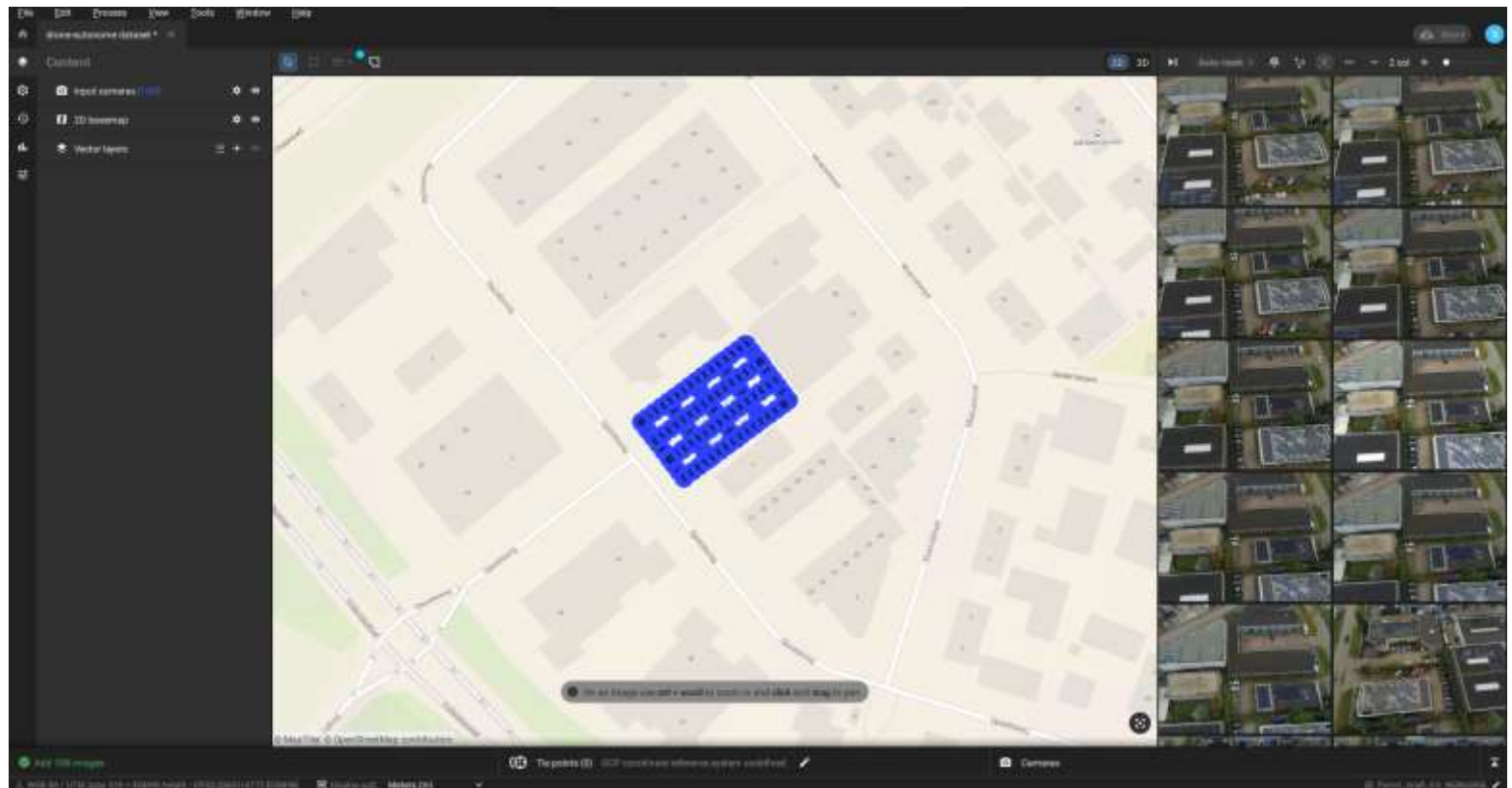
Drone & terrestrische data combineren



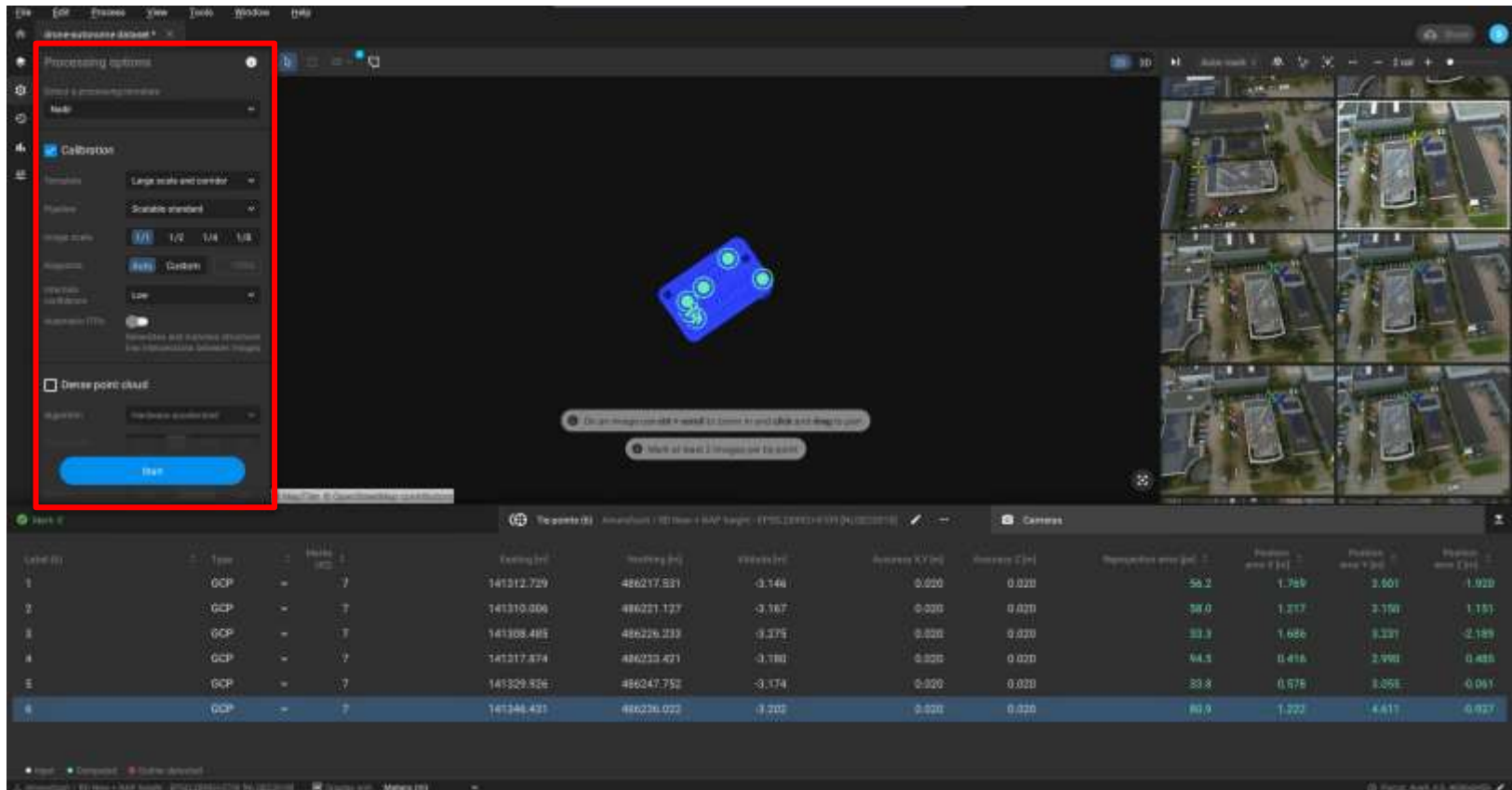
The screenshot displays the Geometius software interface. On the left, the 'Processing options' panel is visible, showing settings for 'PMAKrush', 'Calibration', 'Map mode', 'Resolution', 'Information', 'Use depth maps', and 'Reoptimization'. The central 3D view shows a green point cloud of a building. On the right, a grid of drone images is displayed. At the bottom, a table of 'Tie points (4)' is shown, detailing the coordinates and accuracy of four ground control points (GCPs).

Label ID	Type	Marker (m)	Easting [m]	Northing [m]	Altitude [m]	Accuracy X Y [m]	Accuracy Z [m]	Reprojection error [m]	Position error X [m]	Position error Y [m]	Position error Z [m]
1002	GCP	2	141315.167	486232.086	-3.199	0.020	0.020	0.2	0.433	0.320	0.029
1003	GCP	5	141320.976	486234.367	-3.120	0.020	0.020	1.1	-0.006	0.038	0.005
1004	GCP	4	141333.424	486243.928	-3.116	0.020	0.020	0.7	0.000	-0.003	-0.021
1005	GCP	4	141340.260	486234.074	-3.157	0.020	0.020	4.8	0.007	-0.032	0.027

Drone & terrestrische data combineren



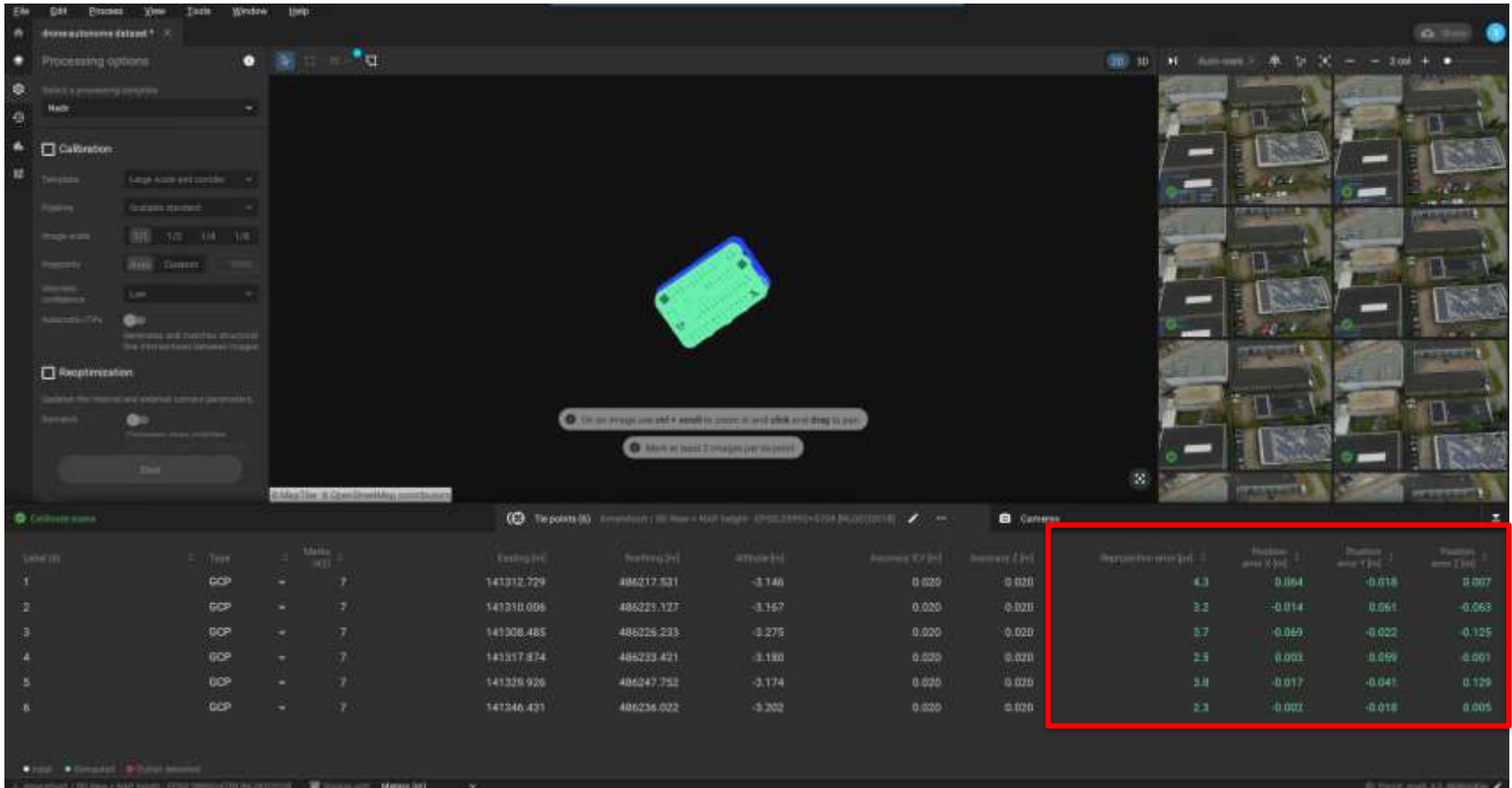
Drone & terrestrische data combineren



The screenshot displays the Geomatus software interface. On the left, a sidebar contains the 'Processing options' panel, which is highlighted with a red box. This panel includes settings for 'Scale & processing resolution', 'Map', 'Calibration' (with 'Large scale and coarse' selected), 'Map style' (set to 'Scenic standard'), 'Image scale' (set to 1/1), 'Resolution' (set to 'Garden'), 'Vertical calibration' (set to 'Low'), and 'Maximum FPS'. Below these options is a 'Dense point cloud' section and a 'Done' button. The main workspace shows a 3D view of a drone with a blue body and green lights, positioned over a 2D map of a building complex. A grid of nine satellite-style images is visible on the right side of the workspace. At the bottom, a data table is displayed with columns for 'Label ID', 'Type', 'Height (m)', 'Easting (m)', 'Northing (m)', 'Elevation (m)', 'Accuracy XY (m)', 'Accuracy Z (m)', 'Transposition error (m)', 'Position error X (m)', 'Position error Y (m)', and 'Position error Z (m)'. The table contains six rows of data, with the last row highlighted in blue.

Label ID	Type	Height (m)	Easting (m)	Northing (m)	Elevation (m)	Accuracy XY (m)	Accuracy Z (m)	Transposition error (m)	Position error X (m)	Position error Y (m)	Position error Z (m)
1	GCP	7	141312.729	486217.531	-0.146	0.020	0.020	-58.2	1.769	3.601	-1.920
2	GCP	7	141310.006	486221.127	-3.167	0.020	0.020	38.0	1.217	3.150	1.181
3	GCP	7	141308.485	486226.239	-0.275	0.020	0.020	-33.3	1.686	3.237	-2.189
4	GCP	7	141317.874	486233.421	-0.780	0.020	0.020	64.5	0.418	2.990	0.488
5	GCP	7	141320.926	486247.752	-3.174	0.020	0.020	33.8	0.578	3.058	-0.061
6	GCP	7	141346.431	486236.022	-0.202	0.020	0.020	80.9	1.203	4.617	0.927

Drone & terrestrische data combineren

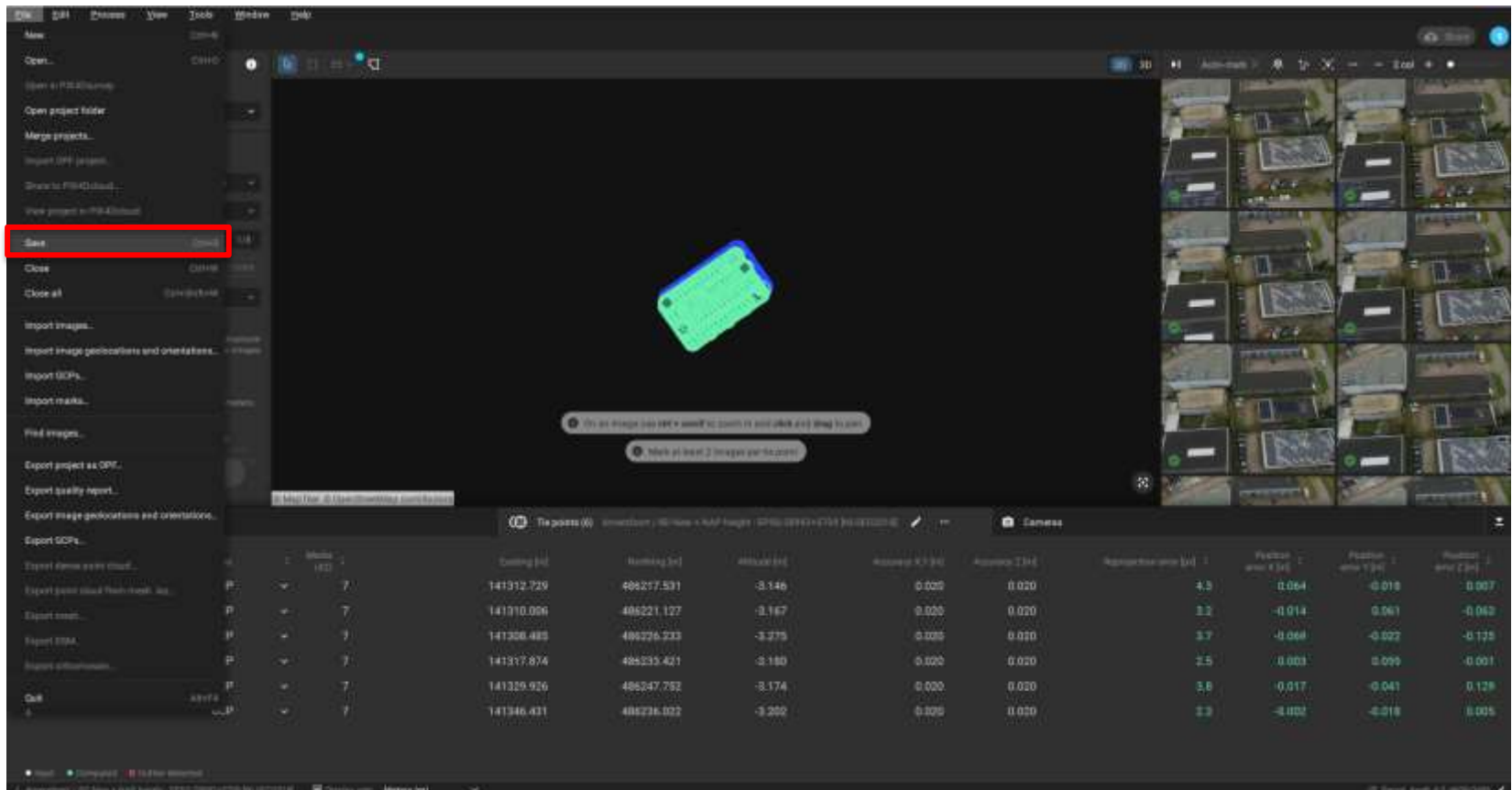


The screenshot displays the Geometius software interface for drone data processing. The top-left panel shows 'Processing options' with settings for 'Calibration' and 'Rectification'. The main 3D view shows a green drone model. The right side features a grid of drone images. The bottom section contains a 'Tie points (6)' table with columns for 'Label (ID)', 'Type', 'Index (ID)', 'Existing (m)', 'Starting (m)', 'Altitude (m)', 'Accuracy (GCP (m))', and 'Accuracy (L (m))'. A red box highlights the 'Accuracy' columns.

Label (ID)	Type	Index (ID)	Existing (m)	Starting (m)	Altitude (m)	Accuracy (GCP (m))	Accuracy (L (m))
1	GCP	7	141312.729	486217.521	-3.146	0.020	0.020
2	GCP	7	141310.096	486223.127	-3.167	0.020	0.020
3	GCP	7	141308.485	486226.233	-3.275	0.020	0.020
4	GCP	7	141317.874	486233.421	-3.180	0.020	0.020
5	GCP	7	141328.926	486247.752	-3.174	0.020	0.020
6	GCP	7	141346.431	486236.022	-3.202	0.020	0.020

Regression error (m)	Position error X (m)	Position error Y (m)	Position error Z (m)
4.3	0.064	-0.018	0.007
2.2	-0.014	0.061	-0.063
0.7	-0.069	-0.022	-0.125
2.5	0.003	0.059	-0.001
3.8	-0.017	-0.041	0.129
2.3	-0.002	-0.018	0.005

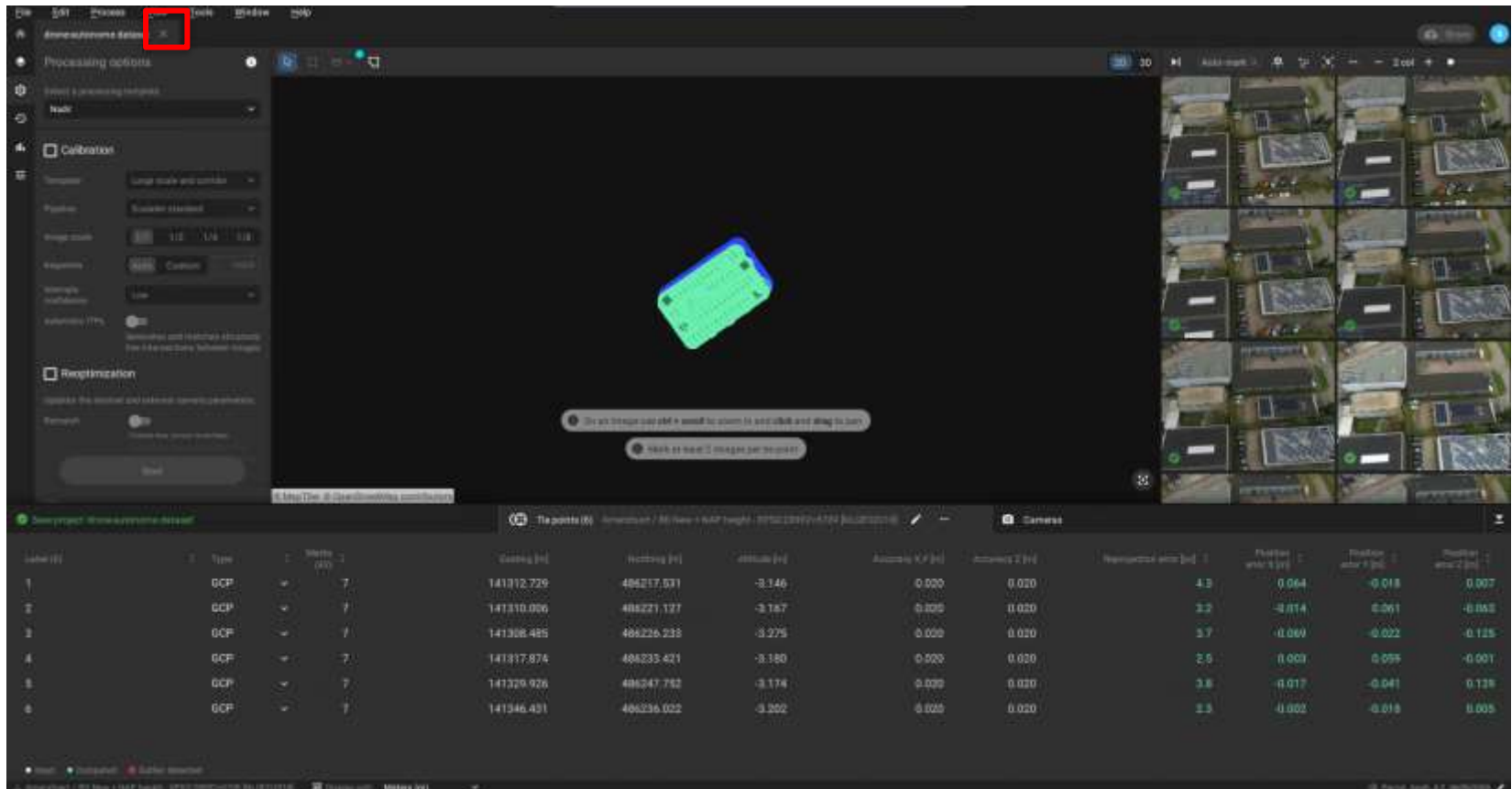
Drone & terrestrische data combineren



The screenshot shows the Geometius software interface. On the left, a sidebar contains various menu options, with the 'Save' option highlighted by a red rectangular box. The main workspace displays a 3D model of a drone in the center and a grid of drone images on the right. Below the 3D model, there are two instructional prompts: '1. On an image use the X key to zoom in and click and drag to pan' and '2. Make at least 2 images per location'. At the bottom of the interface, a table displays ground control points (GCPs) with their respective coordinates and elevations.

	WGS84 (Easting)	WGS84 (Northing)	WGS84 (Altitude)	Accuracy X (m)	Accuracy Y (m)	Approximate error (m)	Position error X (m)	Position error Y (m)	Position error Z (m)
Export GCPs									
Export GCPs	141312.729	486217.531	-3.146	0.020	0.020	4.3	0.064	-0.018	-0.007
Export point cloud from mesh	141310.006	486221.127	-3.167	0.020	0.020	3.2	-0.014	0.061	-0.062
Export mesh	141306.483	486226.733	-3.273	0.020	0.020	3.7	-0.068	-0.022	-0.173
Export DSM	141317.874	486235.421	-3.180	0.020	0.020	2.5	0.003	0.095	-0.001
Export orthomosaic	141329.926	486247.752	-3.174	0.020	0.020	3.8	0.017	-0.041	0.128
Quit	141346.431	486236.022	-3.200	0.020	0.020	3.3	-0.002	-0.018	0.005

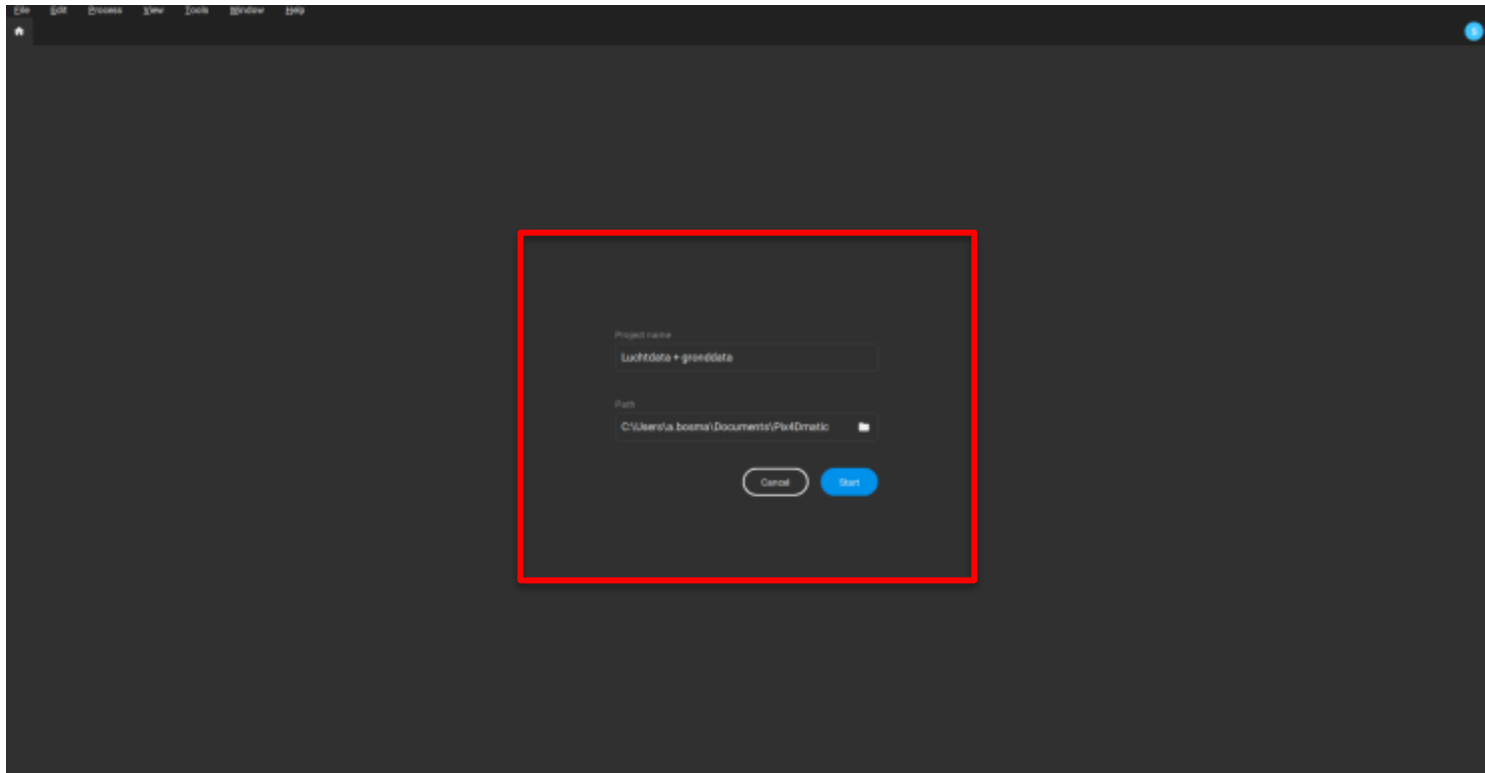
Drone & terrestrische data combineren



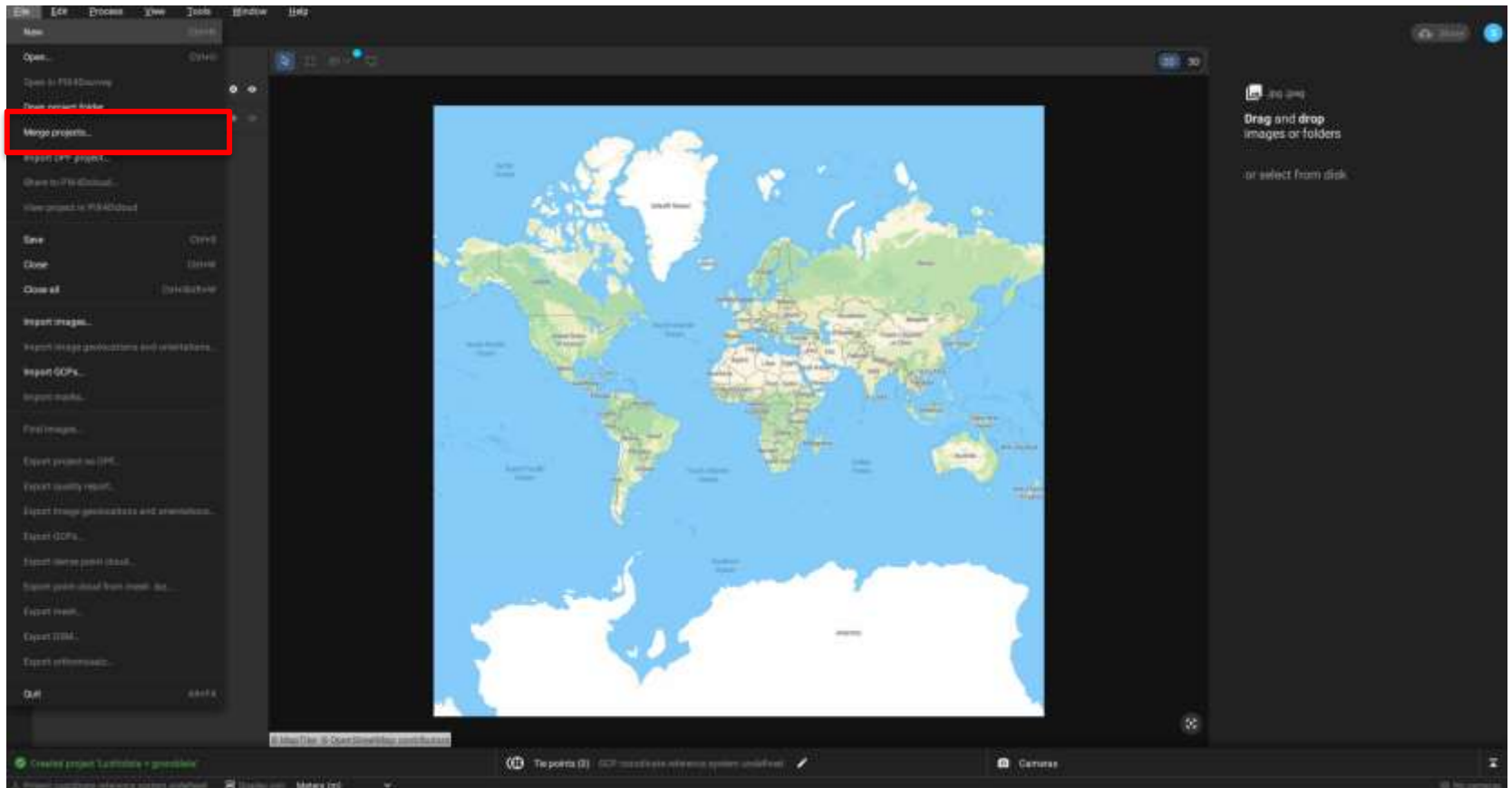
The screenshot shows the Geomatix software interface. On the left, the 'Processing options' sidebar is visible, with a red box highlighting the 'Tools' menu. The main workspace displays a 3D model of a drone in the center and a grid of drone images on the right. At the bottom, a table lists the ground control points (GCP) used for georeferencing the drone data.

Label [m]	Type	Width [m]	Geotag [m]	Height [m]	altitude [m]	Accuracy X [m]	Accuracy Y [m]	Horizontal error [m]	Position error X [m]	Position error Y [m]	Position error Z [m]
1	GCP	7	141812.729	486217.531	-3.146	0.020	0.020	4.3	0.064	-0.018	0.007
2	GCP	7	141310.006	486221.127	-3.167	0.020	0.020	3.2	-0.014	0.061	-0.053
3	GCP	7	141308.485	486226.233	-3.275	0.020	0.020	3.7	-0.069	-0.022	-0.125
4	GCP	7	141817.874	486233.421	-3.180	0.020	0.020	2.9	0.003	0.055	-0.001
5	GCP	7	141329.926	486247.752	-3.174	0.020	0.020	3.8	-0.017	-0.041	0.126
6	GCP	7	141346.431	486236.022	-3.202	0.020	0.020	3.3	0.002	-0.018	0.005

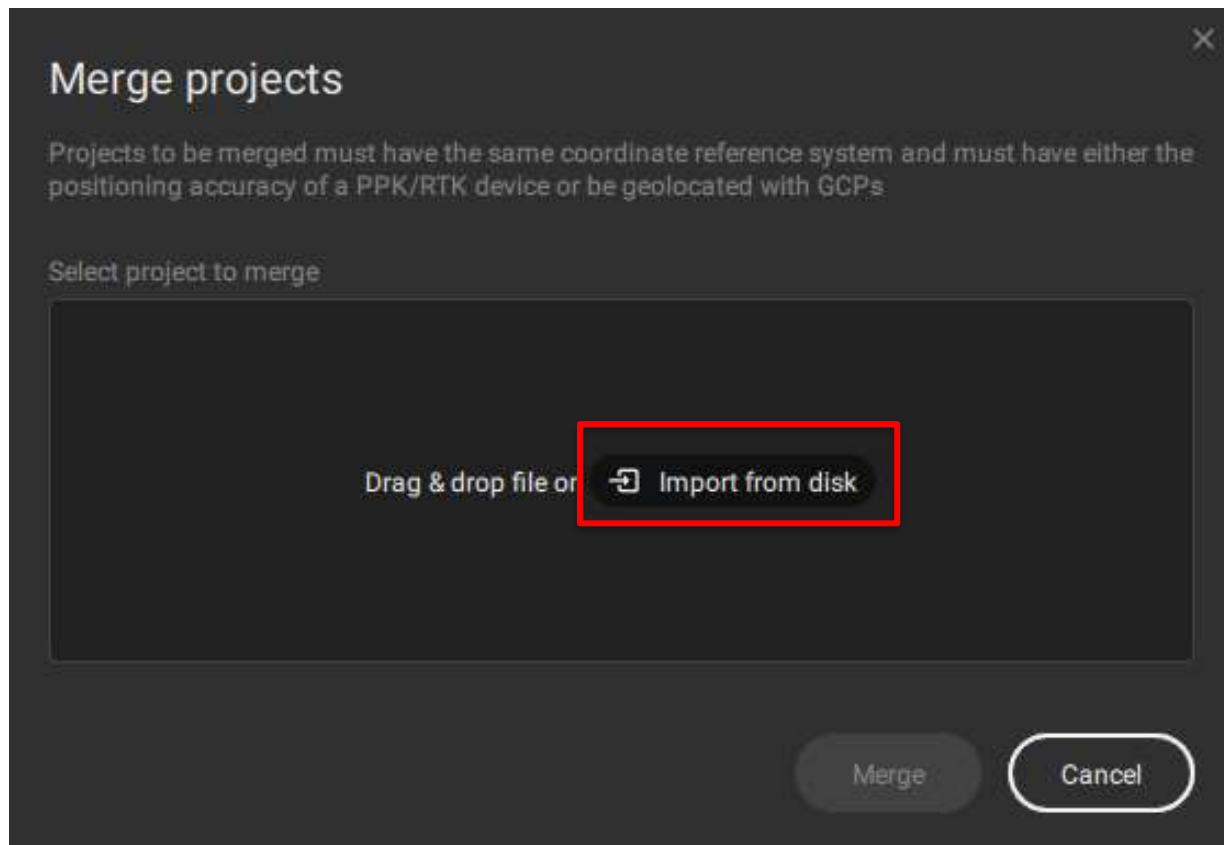
Drone & terrestrische data combineren



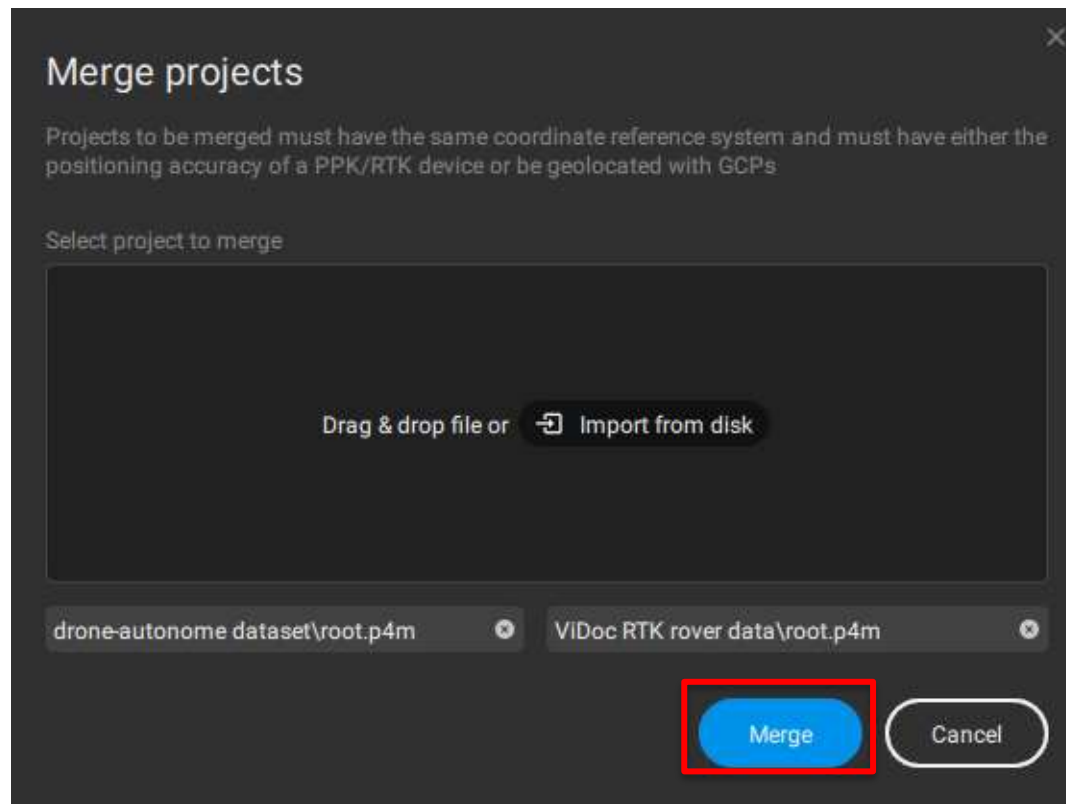
Drone & terrestrische data combineren



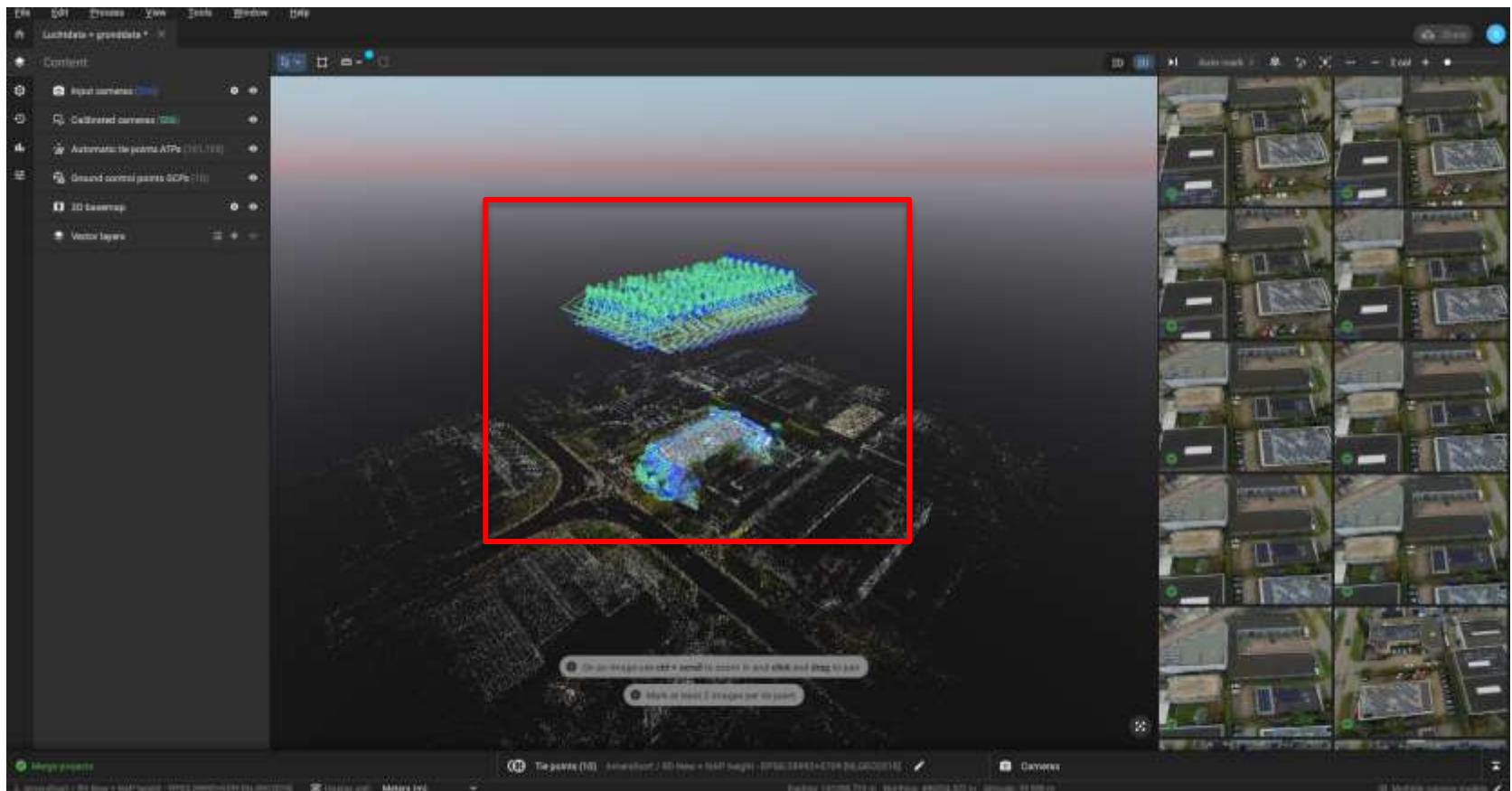
Drone & terrestrische data combineren



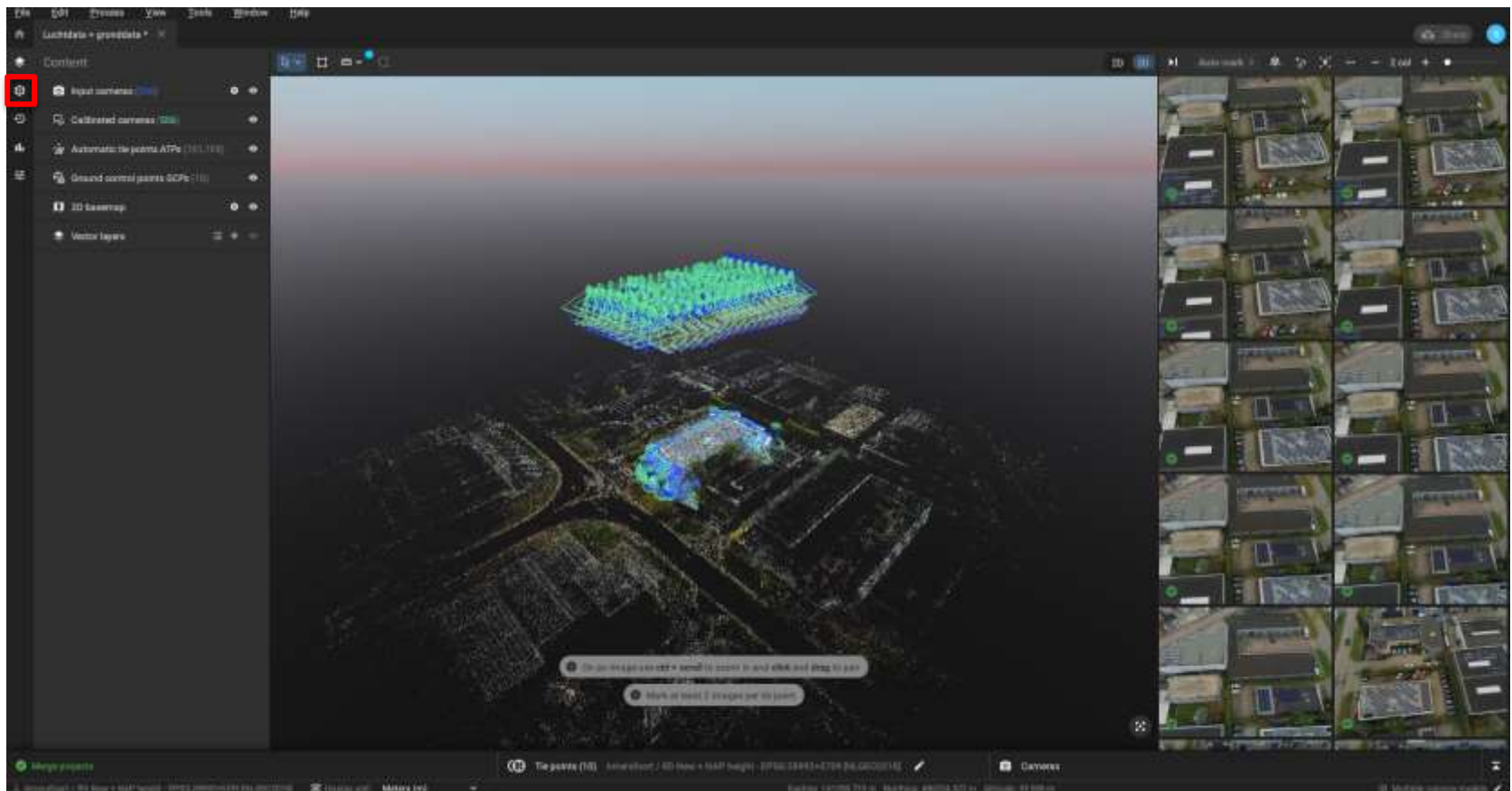
Drone & terrestrische data combineren



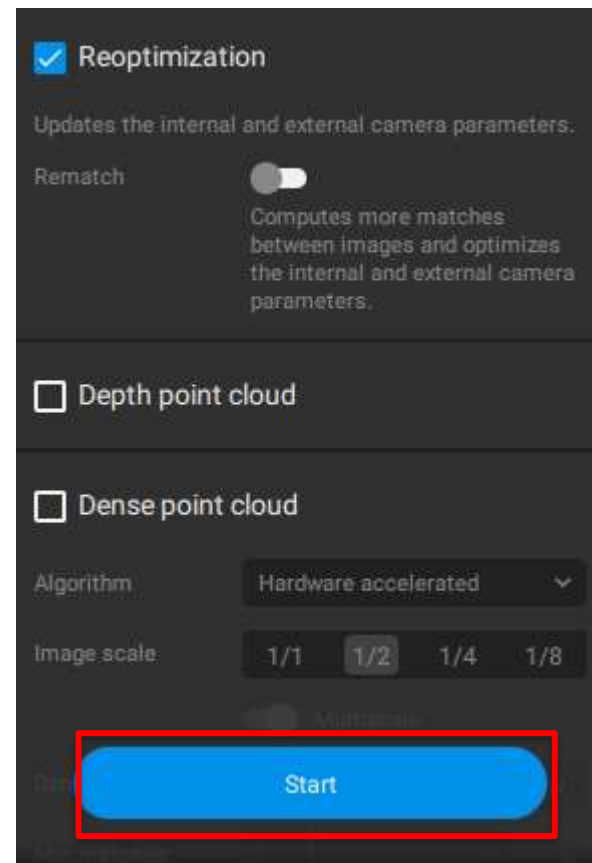
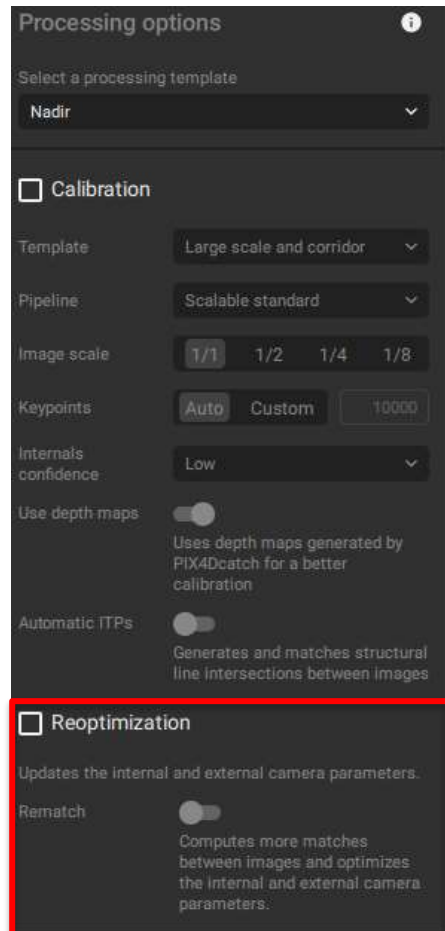
Drone & terrestrische data combineren



Drone & terrestrische data combineren



Drone & terrestrische data combineren



Drone & terrestrische data combineren

Dense point cloud

Algorithm Hardware accelerated

Image scale 1/1 1/2 1/4 1/8

Multiscale

Density High Optimal Low

Min matches 2 6 3

Noise filter Provides a cleaner point cloud for oblique images

Sky filter Removes the sky to improve point cloud and mesh quality. Processing time is impacted

Dense point cloud

Algorithm Hardware accelerated

Image scale 1/1 1/2 1/4 1/8

Multiscale

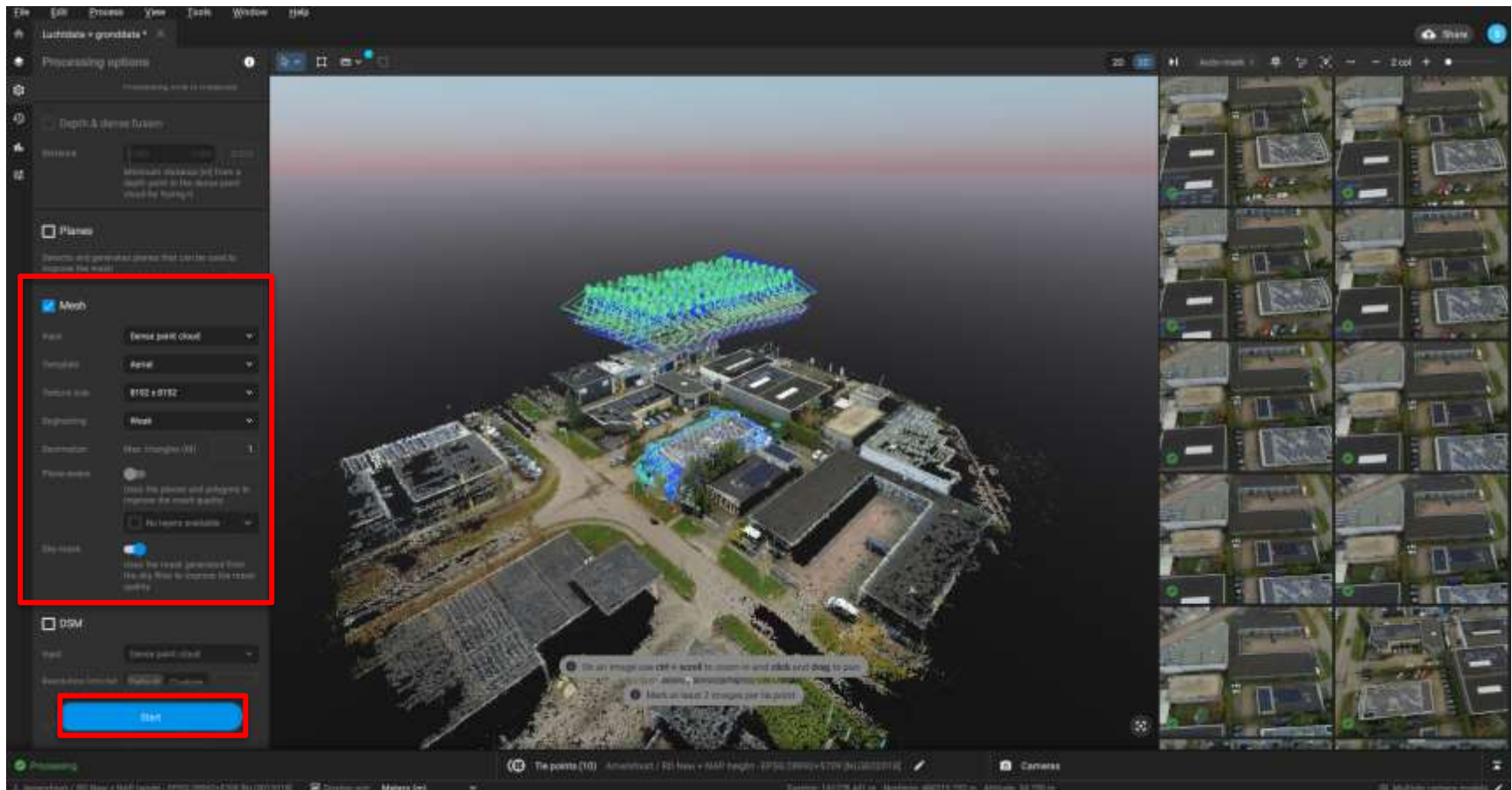
Density High Optimal Low

Min matches 2 6 3

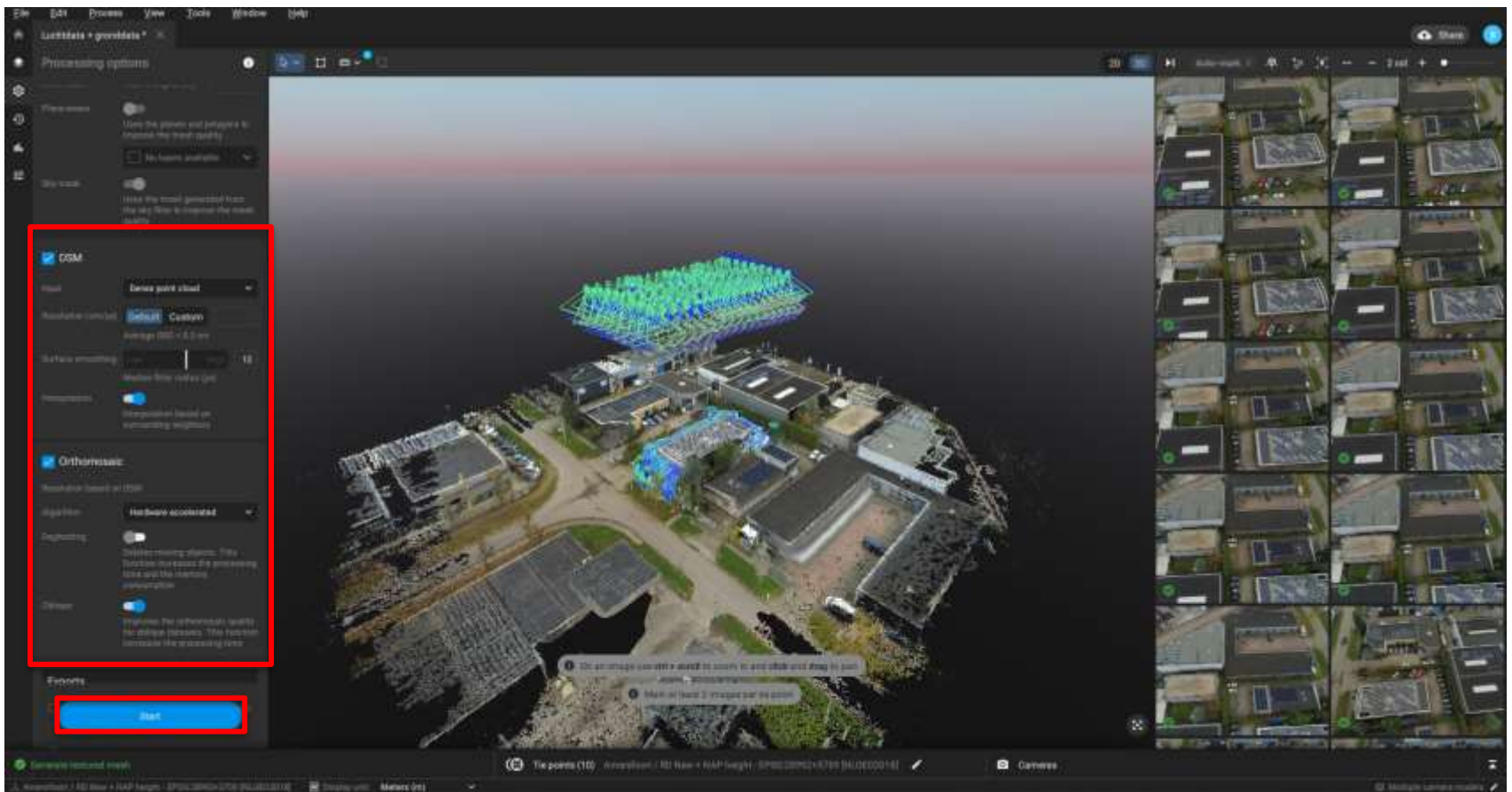
Noise filter Provides a cleaner point cloud for oblique images

Sky filter Removes the sky to improve point cloud and mesh quality. Processing time is impacted

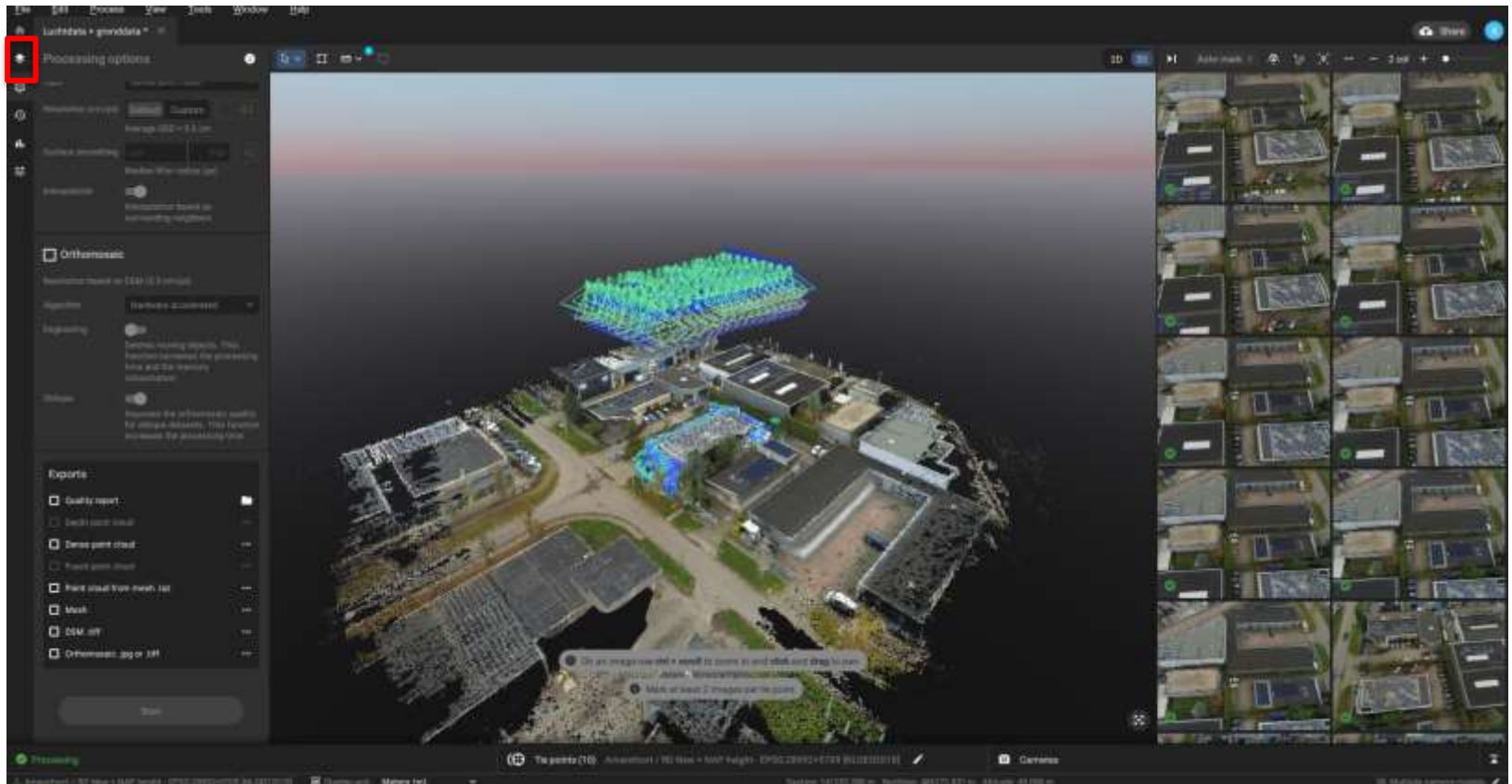
Drone & terrestrische data combineren



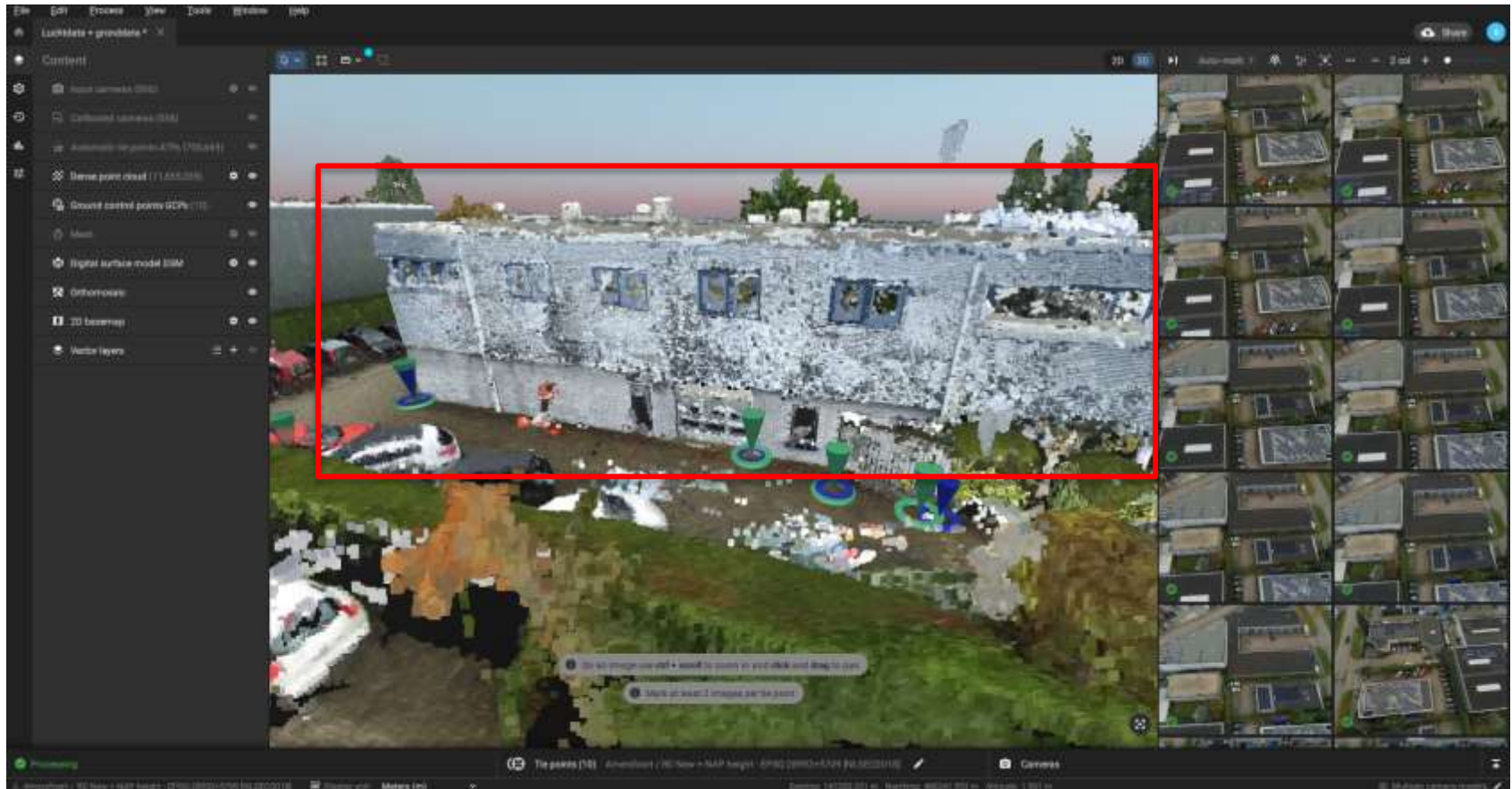
Drone & terrestrische data combineren



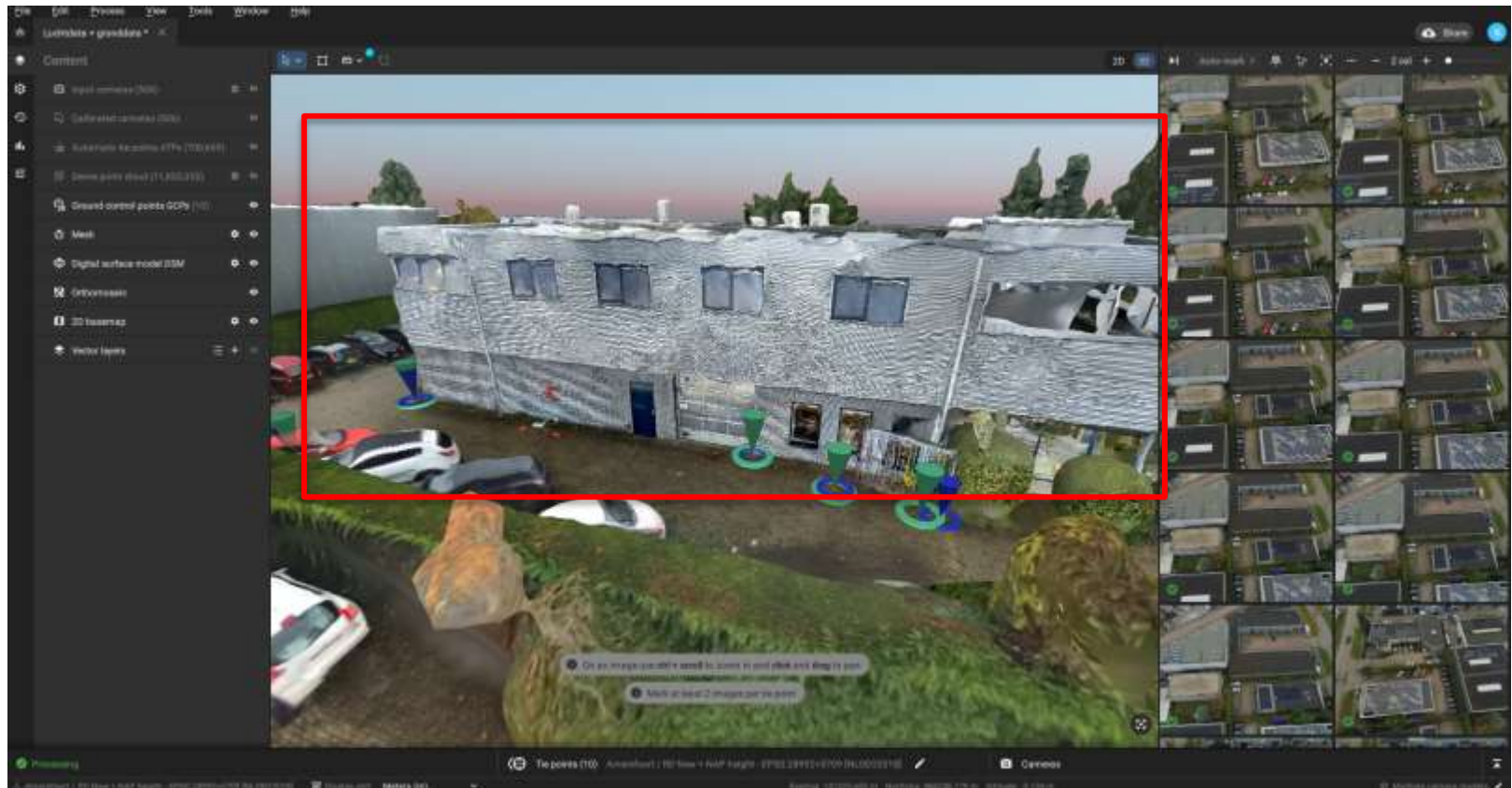
Drone & terrestrische data combineren



Drone & terrestrische data combineren



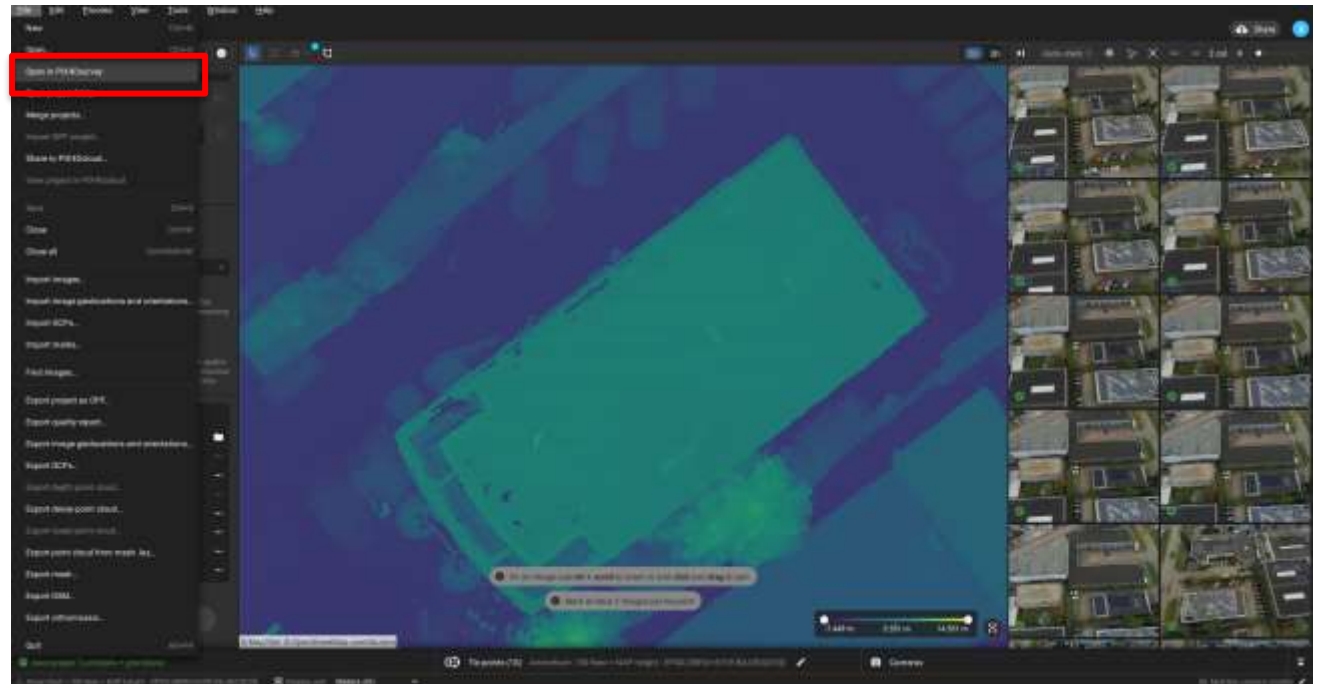
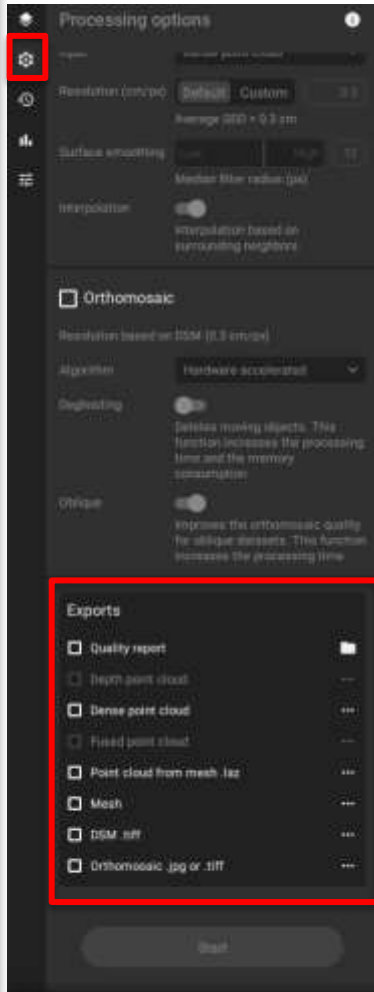
Drone & terrestrische data combineren



Drone & terrestrische data combineren



Drone & terrestrische data combineren

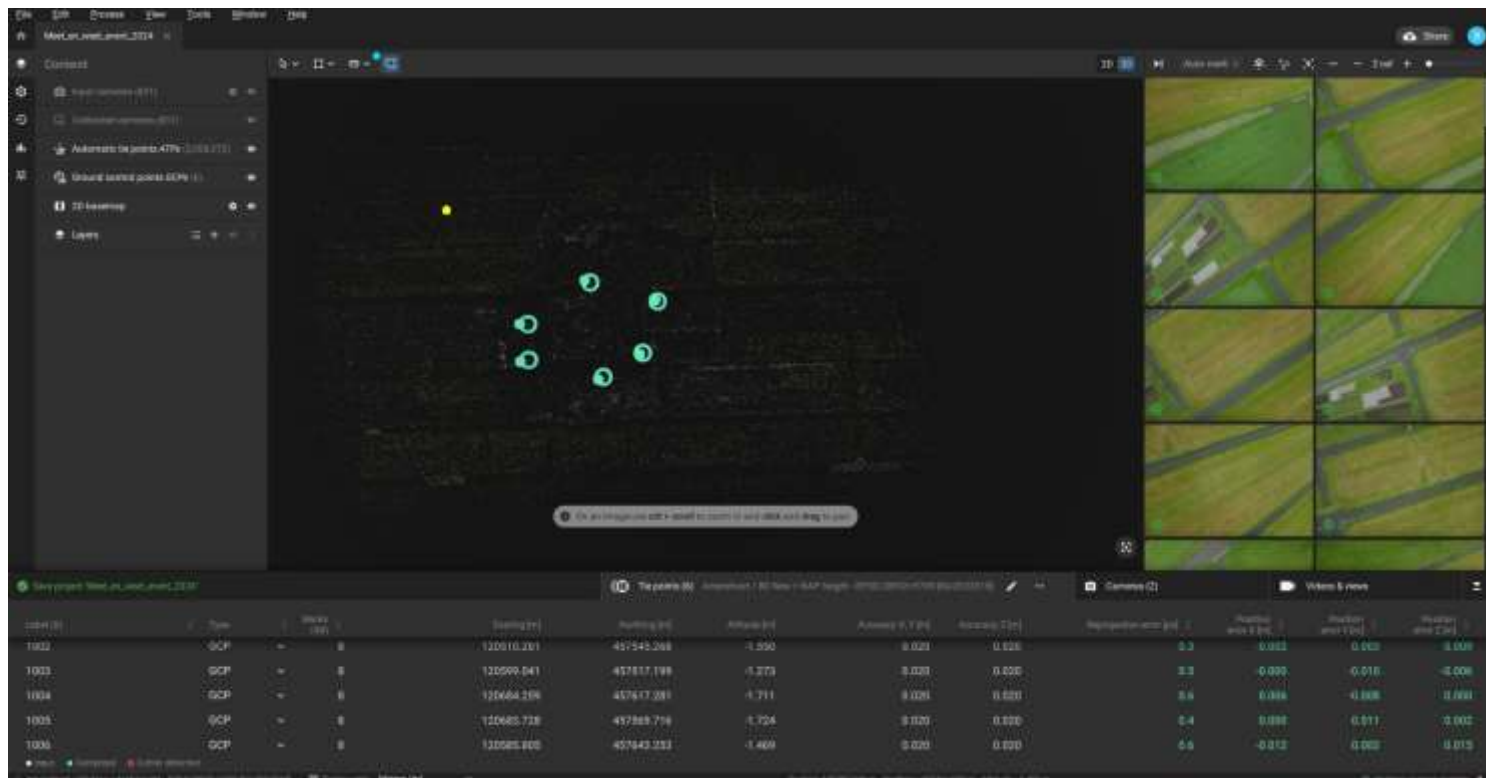


Discussie

- Wie werkt er met Pix4DCatch?
- Wat zijn de ervaringen tot dusver?



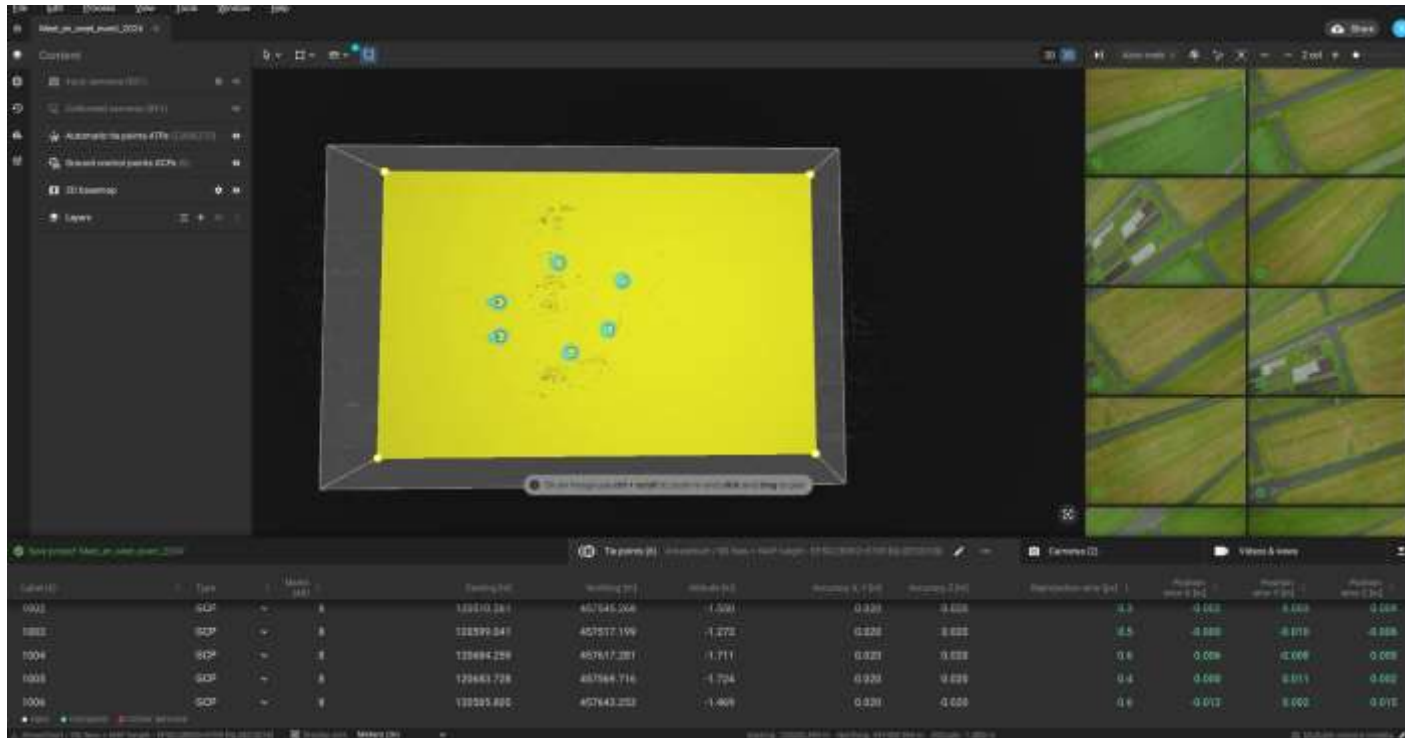
Region of Interest (RoI) in Pix4Dmatic



The screenshot displays the Pix4Dmatic software interface. The main window shows a 3D point cloud of a field with a Region of Interest (RoI) highlighted in green. The left sidebar shows the project structure with layers for '3D Georeferencing' and 'Layers'. The bottom of the interface features a table of Ground Control Points (GCP) with the following data:

ID	Type	Height [m]	Stationing [m]	Numbering [m]	Altitude [m]	Accuracy X [m]	Accuracy Y [m]	Accuracy Z [m]	Registration error [m]	Position error X [m]	Position error Y [m]	Position error Z [m]
1002	GCP	0	120010.281	457545.268	-1.550	0.020	0.020	0.020	0.3	0.002	0.002	0.008
1003	GCP	0	120590.041	457517.199	-1.273	0.020	0.020	0.020	0.3	0.000	0.016	-0.006
1004	GCP	0	120664.186	457517.281	-1.711	0.020	0.020	0.020	0.6	0.004	-0.008	0.001
1005	GCP	0	120685.728	457585.776	-1.724	0.020	0.020	0.020	0.4	0.000	0.011	0.002
1006	GCP	0	120585.800	457543.333	-1.469	0.020	0.020	0.020	0.6	-0.012	0.002	0.013

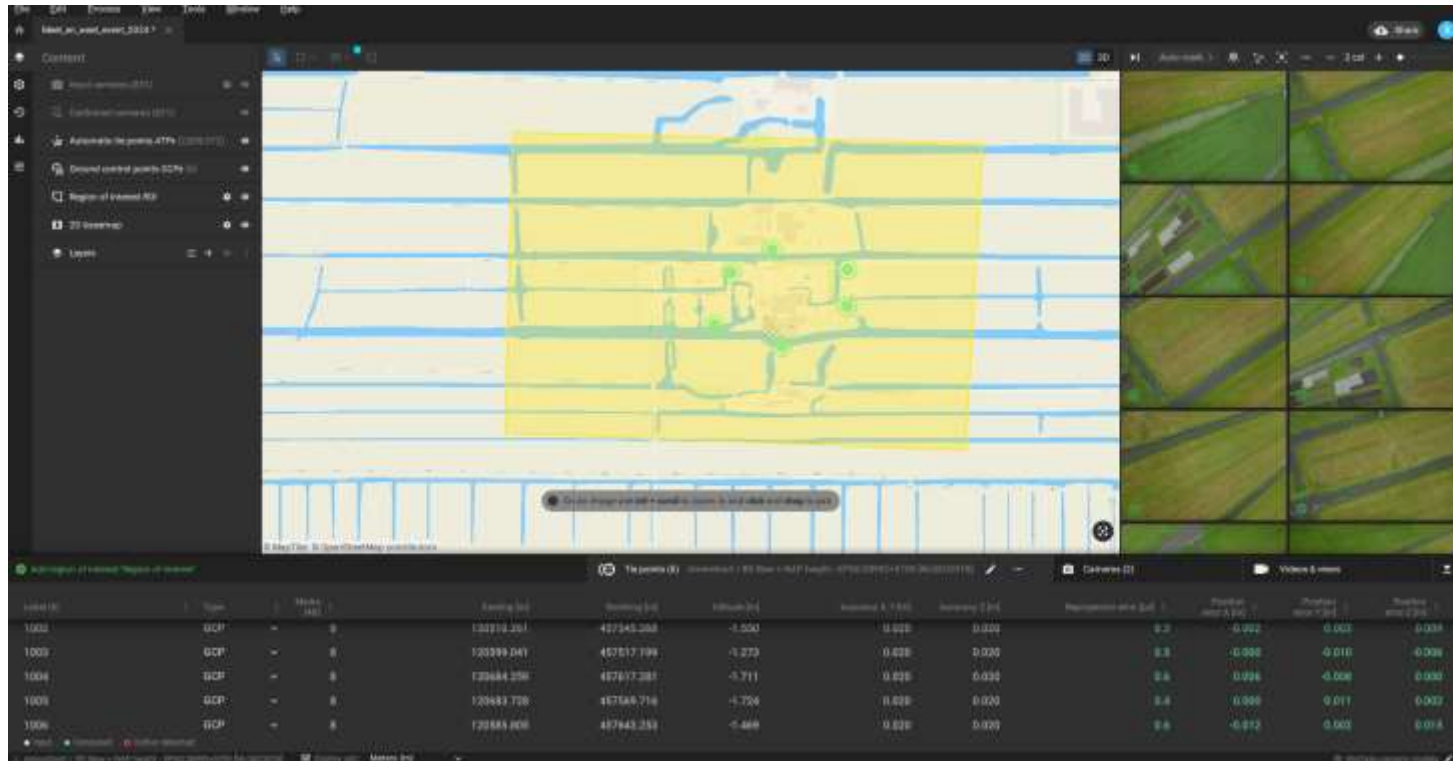
Region of Interest (RoI) in Pix4Dmatic



The screenshot displays the Pix4Dmatic software interface. The central view shows a 3D point cloud map with a yellow rectangular Region of Interest (RoI) box. To the right, a grid of aerial images is visible. The bottom of the interface features a data table with the following columns: Label ID, Type, Model, X [m], Y [m], Z [m], Rotation X [°], Rotation Y [°], Rotation Z [°], Orientation error [°], Position error X [m], Position error Y [m], and Position error Z [m].

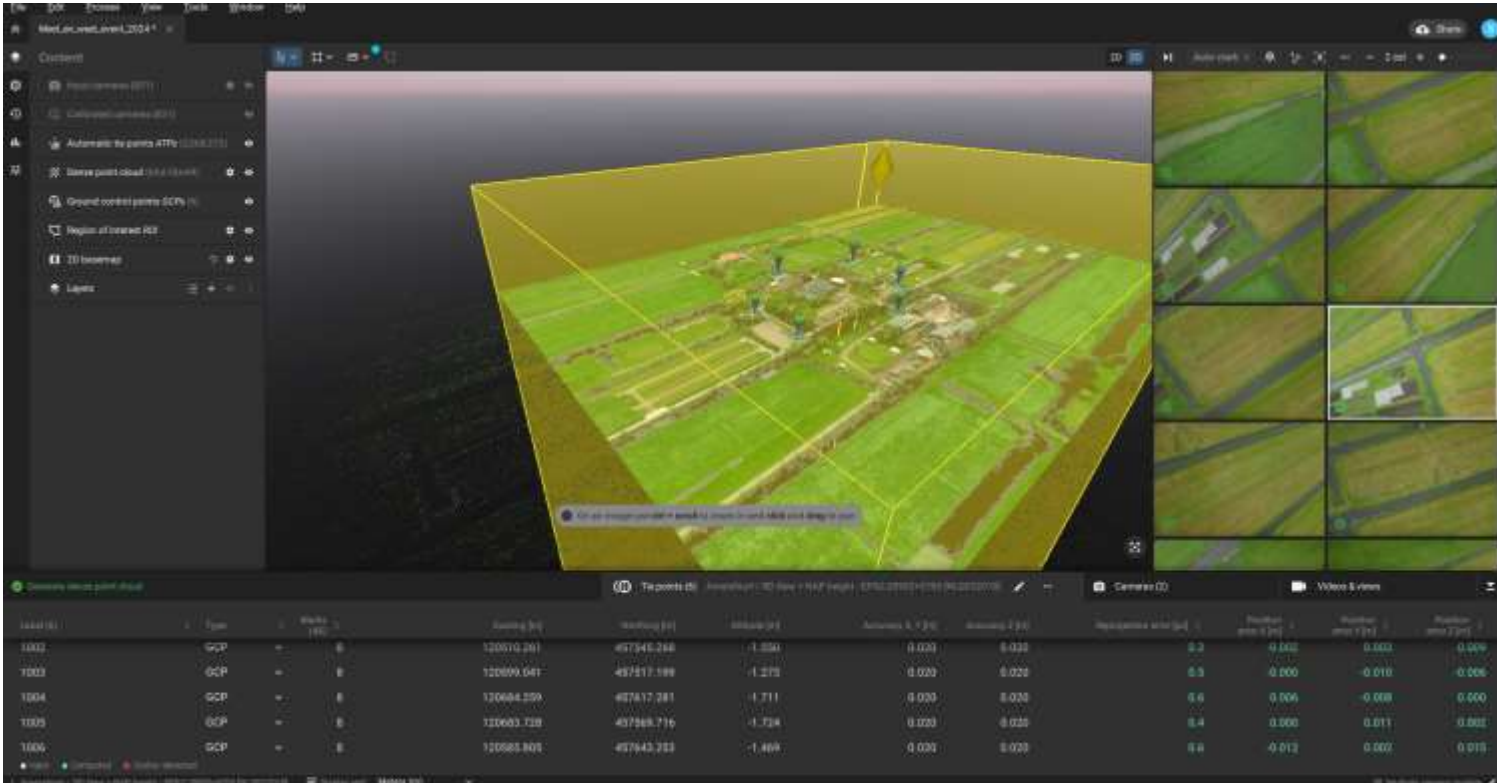
Label ID	Type	Model	X [m]	Y [m]	Z [m]	Rotation X [°]	Rotation Y [°]	Rotation Z [°]	Orientation error [°]	Position error X [m]	Position error Y [m]	Position error Z [m]
0002	SCP	-	8	122410.281	457545.068	-1.391	0.339	-0.028	-3.3	-0.002	0.008	0.008
1002	SCP	-	8	122379.247	457517.199	-1.272	0.228	0.022	-5.5	-0.008	-0.019	-0.008
1004	SCP	-	8	122494.229	457617.281	-1.711	0.323	0.023	0.6	0.009	-0.008	0.009
1005	SCP	-	8	122463.728	457566.716	-1.704	0.928	0.028	0.4	0.009	0.011	0.009
1006	SCP	-	8	122583.890	457642.202	-1.409	0.320	0.020	0.6	-0.012	0.000	0.010

Region of Interest (RoI) in Pix4Dmatic



Index	Type	Height (m)	X (m)	Y (m)	Z (m)	Roll (°)	Pitch (°)	Yaw (°)	Position error (m)	Position error (m)	Position error (m)
1002	GCP	8	132119.261	477945.268	-4.550	0.028	0.020	0.0	0.002	0.003	0.039
1003	GCP	8	132399.041	477617.799	-4.273	0.028	0.020	0.0	0.000	0.010	0.008
1004	GCP	8	132684.256	477617.281	-4.711	0.028	0.030	0.0	0.006	0.008	0.006
1005	GCP	8	132943.728	477626.716	-4.726	0.028	0.020	0.0	0.000	0.011	0.002
1006	GCP	8	132683.808	477443.253	-4.468	0.028	0.020	0.0	0.012	0.003	0.018


Region of Interest (RoI) in Pix4Dmatic



The screenshot displays the Pix4Dmatic software interface. The central 3D view shows a point cloud of a rural area with a yellow wireframe box indicating the Region of Interest (RoI). The left sidebar contains a 'Layers' panel with various project elements like 'Automatic tie points (ATPs)', 'Ground control points (GCPs)', and 'Region of Interest (RoI)'. The bottom of the interface features a table of GCPs.

ID	Type	Marked	Heading [m]	Widthing [m]	Altitude [m]	Accuracy X, Y [m]	Accuracy Z [m]	Reprojection error [m]	Residual error X [m]	Residual error Y [m]	Residual error Z [m]
1002	GCP	-	120910.261	497945.266	-1.896	0.020	0.020	0.3	0.000	0.000	0.000
1003	GCP	-	120699.041	497817.199	-1.275	0.020	0.020	0.3	0.000	0.010	0.006
1004	GCP	-	120694.209	497817.281	-1.711	0.020	0.020	0.6	0.006	0.008	0.000
1005	GCP	-	120603.739	497968.716	-1.724	0.020	0.020	0.4	0.000	0.011	0.002
1006	GCP	-	120585.805	497943.283	-1.469	0.020	0.020	0.6	-0.012	0.000	0.010

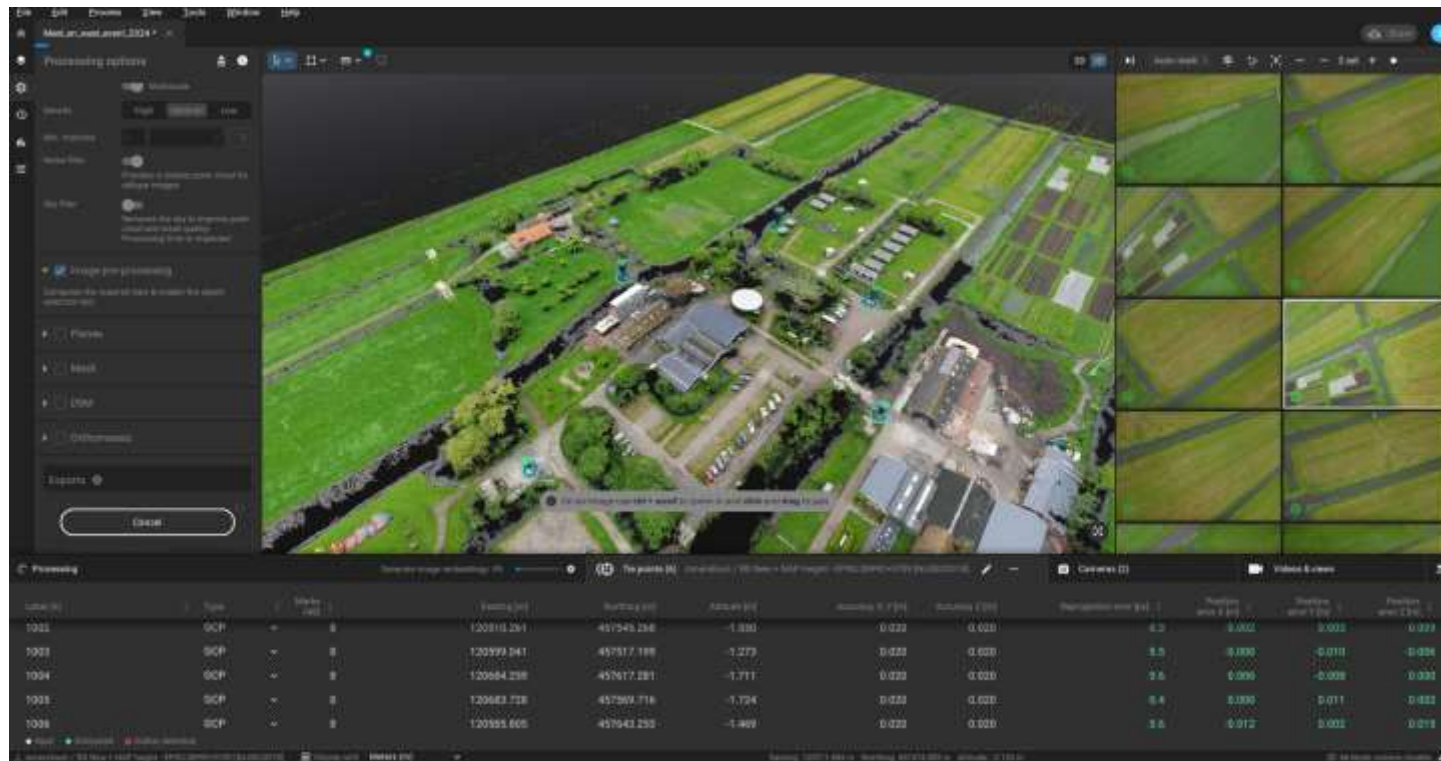
Region of Interest (RoI) in Pix4Dmatic



The screenshot displays the Pix4Dmatic software interface. The main window shows a 3D point cloud of a rural landscape with a red-outlined Region of Interest (RoI) covering a central area. The left sidebar lists various layers, including '3D landscape' and 'Layers'. The bottom of the interface features a data table with columns for 'ID', 'Type', 'Area [m²]', 'Volume [m³]', 'Height [m]', 'Volume [m³]', 'Volume [m³]', 'Volume [m³]', 'Volume [m³]', 'Volume [m³]', 'Volume [m³]', 'Volume [m³]', and 'Volume [m³]'. The table contains five rows of data for different points of interest (POI).

ID	Type	Area [m²]	Volume [m³]	Height [m]	Volume [m³]	Volume [m³]	Volume [m³]	Volume [m³]	Volume [m³]	Volume [m³]	Volume [m³]	
1002	GCP	-	0	120158.267	457245.388	-1.556	0.000	0.000	0.0	-0.000	0.000	-0.000
1003	GCP	-	0	120399.041	457517.198	-1.272	0.000	0.000	0.0	-0.000	-0.000	-0.000
1004	GCP	-	0	120484.259	457617.381	-1.711	0.000	0.000	0.0	0.000	0.000	0.000
1005	GCP	-	0	120683.728	457569.716	-1.724	0.000	0.000	0.0	0.000	0.000	0.000
1006	GCP	-	0	120885.906	457542.252	-1.469	0.000	0.000	0.0	-0.000	0.000	0.000

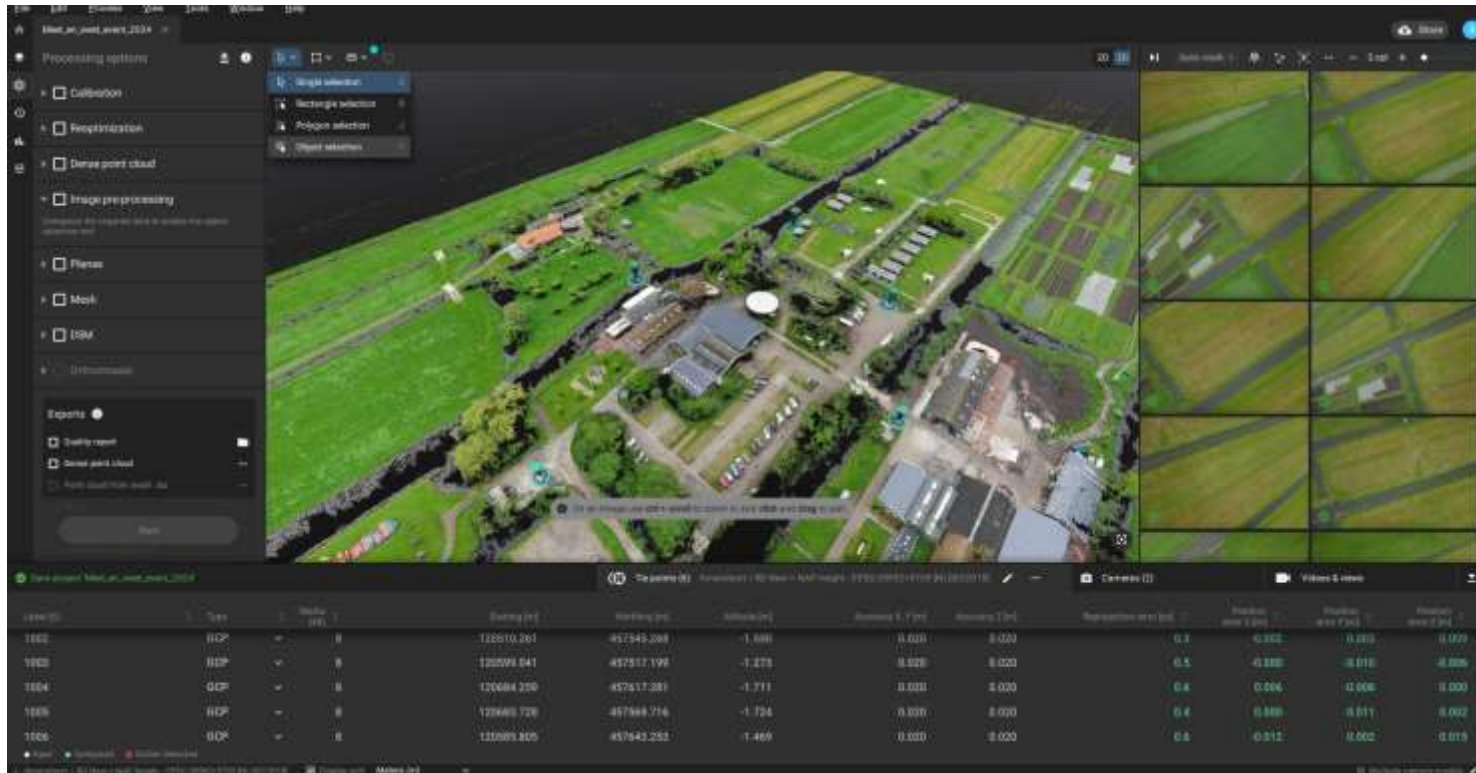
Object detection in Pix4Dmatic



The screenshot displays the Pix4Dmatic software interface. On the left, the 'Processing options' panel is visible, showing settings for 'Quality' (High), 'Resolution' (10800), and 'Object detection' (checked). The main 3D view shows a model of a building complex with several objects highlighted in green. To the right, a grid of zoomed-in images shows the detected objects in detail. At the bottom, a table lists the detected objects with their coordinates and other data.

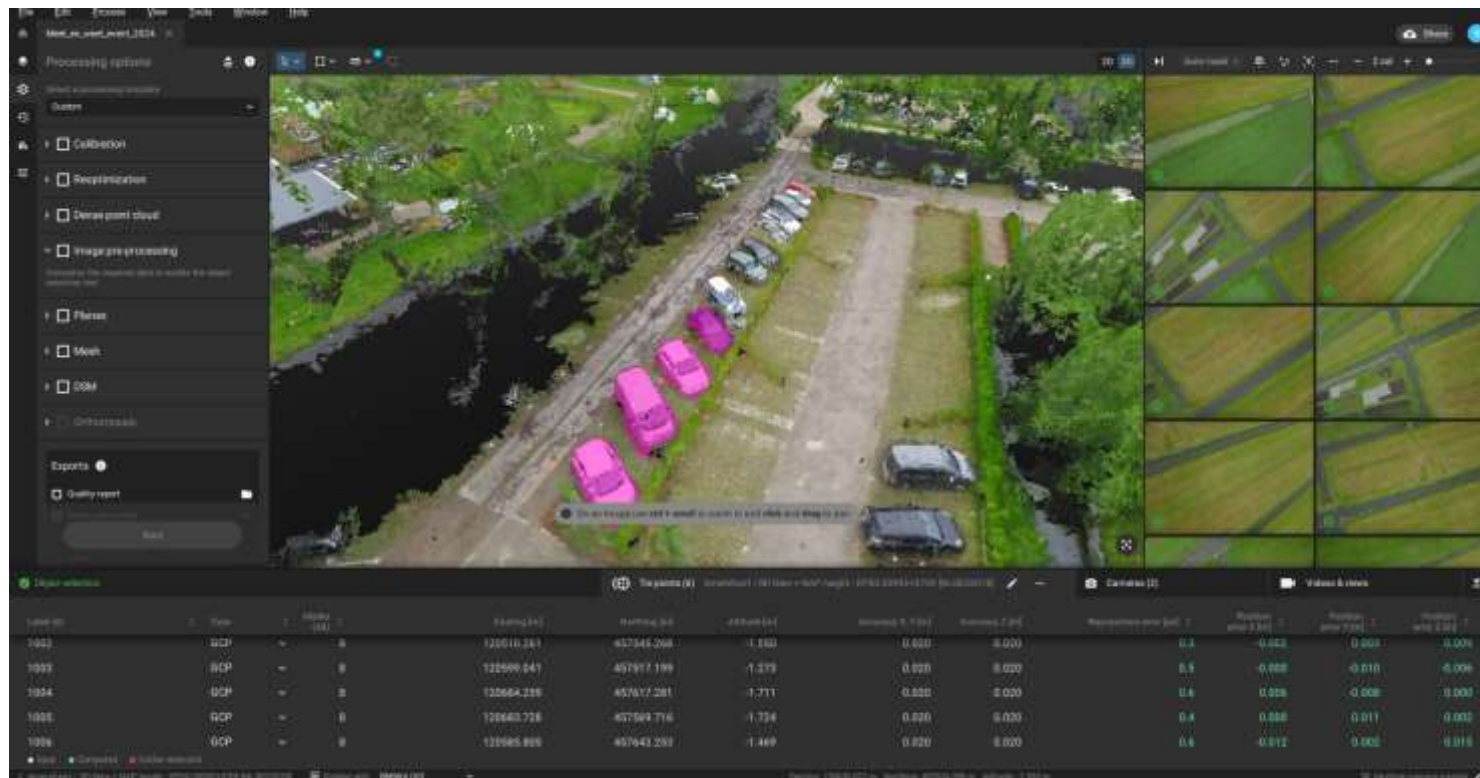
Label ID	Type	Width [m]	Height [m]	Volume [m ³]	Area [m ²]	Perimeter [m]	Position along X [m]	Position along Y [m]	Position along Z [m]
1002	OCF	0	0	0.000	0.000	0.000	0.0	0.000	0.000
1003	SCP	0	0	0.000	0.000	0.000	0.0	0.000	-0.011
1004	OCF	0	0	0.000	0.000	0.000	0.0	0.000	0.000
1005	SCP	0	0	0.000	0.000	0.000	0.0	0.000	0.011
1006	SCP	0	0	0.000	0.000	0.000	0.0	0.012	0.000

Object detection in Pix4Dmatic



ID	Type	Width (m)	Height (m)	Center X (m)	Center Y (m)	Min. Z (m)	Max. Z (m)	Volume (m³)	Classification	Confidence	Position X (m)	Position Y (m)	Position Z (m)
1002	BOP	8	8	120110.261	457945.208	-1.686	0.000	0.000	0.000	0.3	0.000	0.000	0.000
1003	BOP	8	8	120593.041	457937.198	-1.275	0.000	0.000	0.5	0.330	-0.010	-0.006	0.000
1004	BOP	8	8	120684.250	457937.281	-1.711	0.000	0.000	0.6	0.006	0.006	0.000	0.000
1005	BOP	8	8	120685.726	457968.716	-1.724	0.000	0.000	0.4	0.000	0.011	0.000	0.000
1006	BOP	8	8	121093.305	457943.252	-1.466	0.000	0.000	0.8	0.012	0.000	0.019	0.000

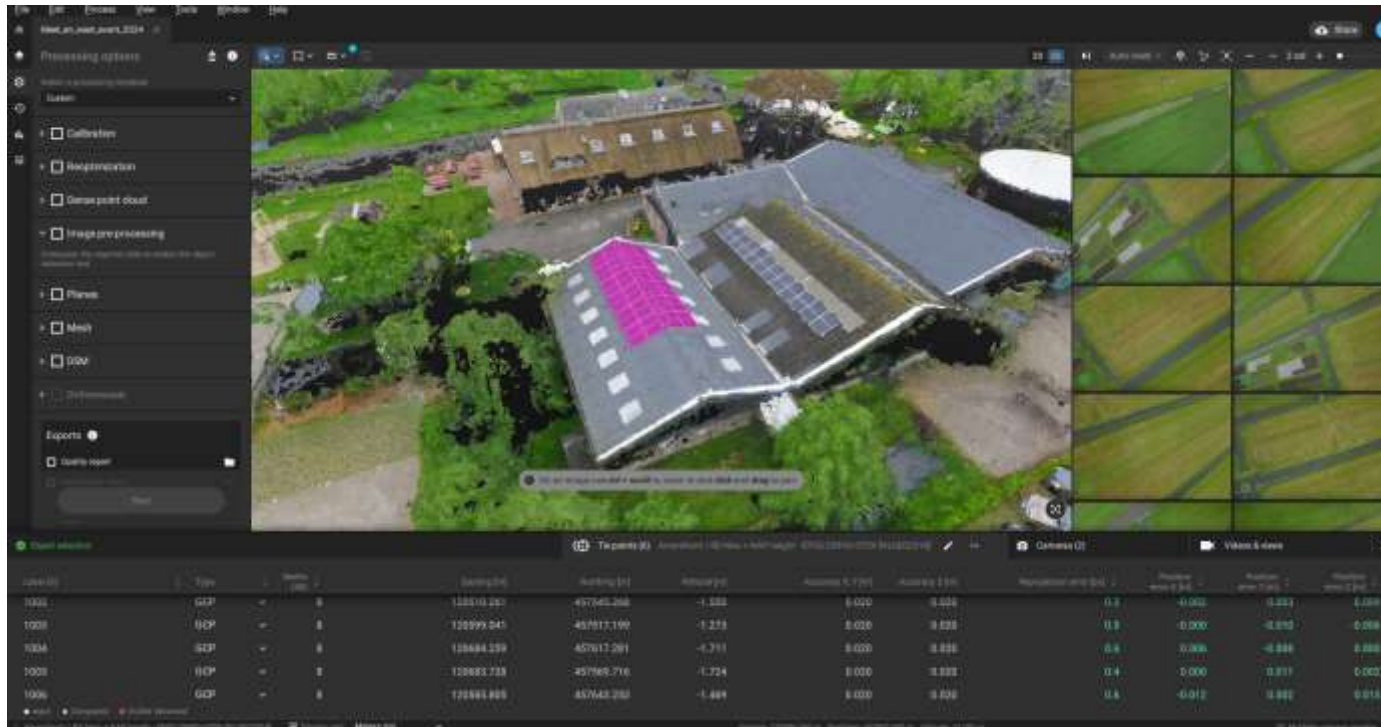
Object detection in Pix4Dmatic



The screenshot displays the Pix4Dmatic interface with object detection results. The main 3D view shows a parking lot with several cars highlighted in pink. The left sidebar shows the processing pipeline with options for Calibration, Recognition, Denoise point cloud, Merge point cloud, Photos, Mesh, and DSM. The bottom table provides detailed data for each detected object.

ID	Type	Height (m)	Volume (m³)	Volume (m³)	Volume (m³)	Volume (m³)	Volume (m³)	Volume (m³)	Volume (m³)	Volume (m³)	Volume (m³)
1043	BCP	-	8	120510.261	457345.268	-1.580	0.000	0.000	0.000	0.000	0.000
1049	BCP	-	8	122590.641	457817.199	-1.378	0.000	0.000	0.000	0.000	0.000
1054	BCP	-	8	120564.288	457617.281	-1.711	0.000	0.000	0.000	0.000	0.000
1060	BCP	-	8	120640.728	457584.716	-1.734	0.000	0.000	0.000	0.000	0.000
1059	BCP	-	8	122585.808	457643.293	-1.449	0.000	0.000	0.000	0.000	0.000

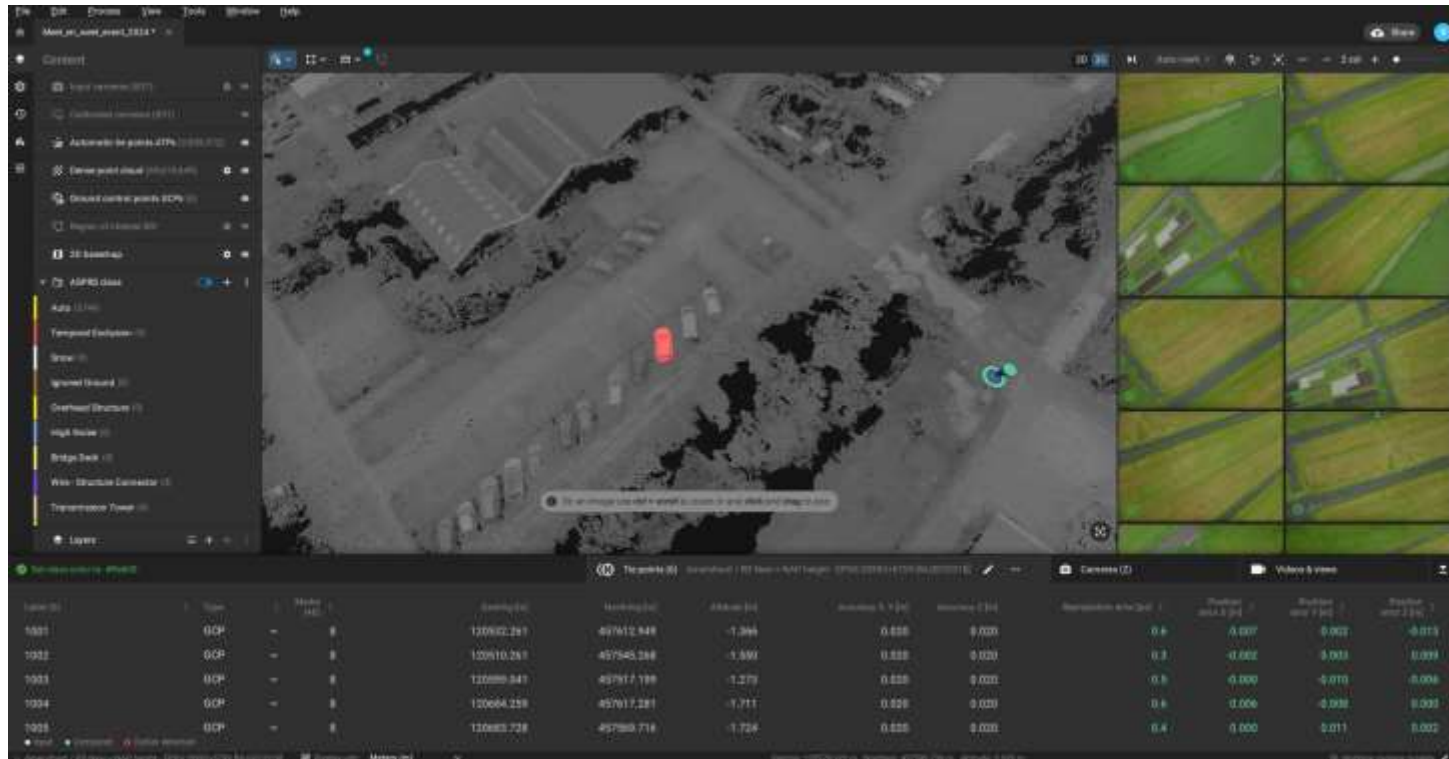
Object detection in Pix4Dmatic



The screenshot displays the Pix4Dmatic software interface. The main window shows an aerial view of a building with a pink rectangular object detected on its roof. To the right, a grid of six smaller images shows different views of the detected object. The left sidebar contains processing options such as Calibration, Registration, Dense point cloud, Image processing, Plane, Mesh, and DSM. The bottom of the interface features a table with object detection results.

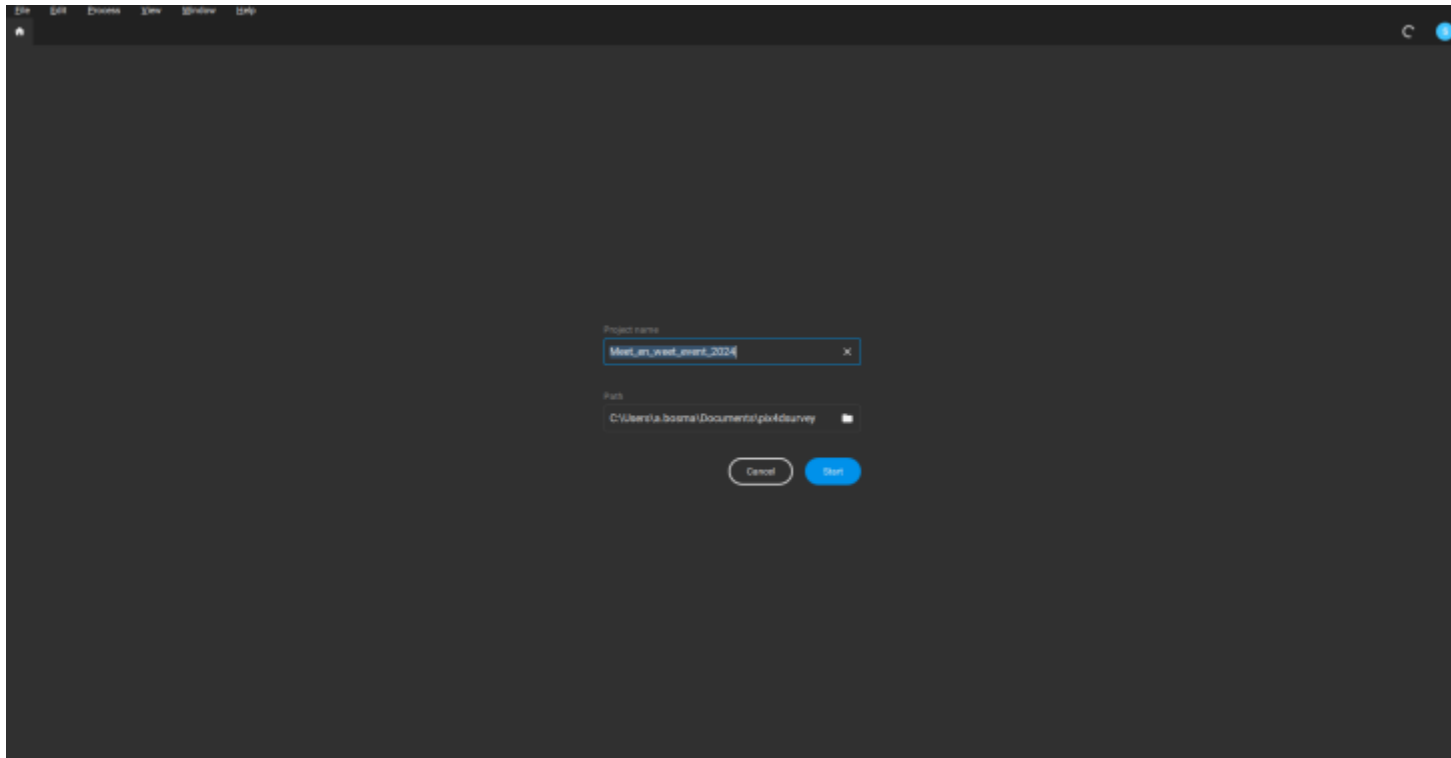
Object ID	Type	Height (m)	Center [X, Y]	Area [m²]	Volume [m³]	Accuracy X (m)	Accuracy Y (m)	Accuracy Z (m)	Volume error [m³]	Area error [m²]	Height error [m]
1000	GCP	8	12810.280	497663.268	-1.388	0.020	0.028	0.3	-0.002	0.223	1.289
1008	HCP	8	128999.041	457817.199	-1.278	0.020	0.028	0.3	-0.000	-0.010	0.008
1004	GCP	8	128484.109	457617.281	-1.211	0.020	0.028	0.3	0.000	-0.048	0.008
1009	HCP	8	128683.738	457869.716	-1.224	0.020	0.028	0.4	0.000	0.011	0.002
1006	GCP	8	128581.805	457643.283	-1.484	0.020	0.028	0.4	-0.012	0.002	0.014

Object detection in Pix4Dmatic

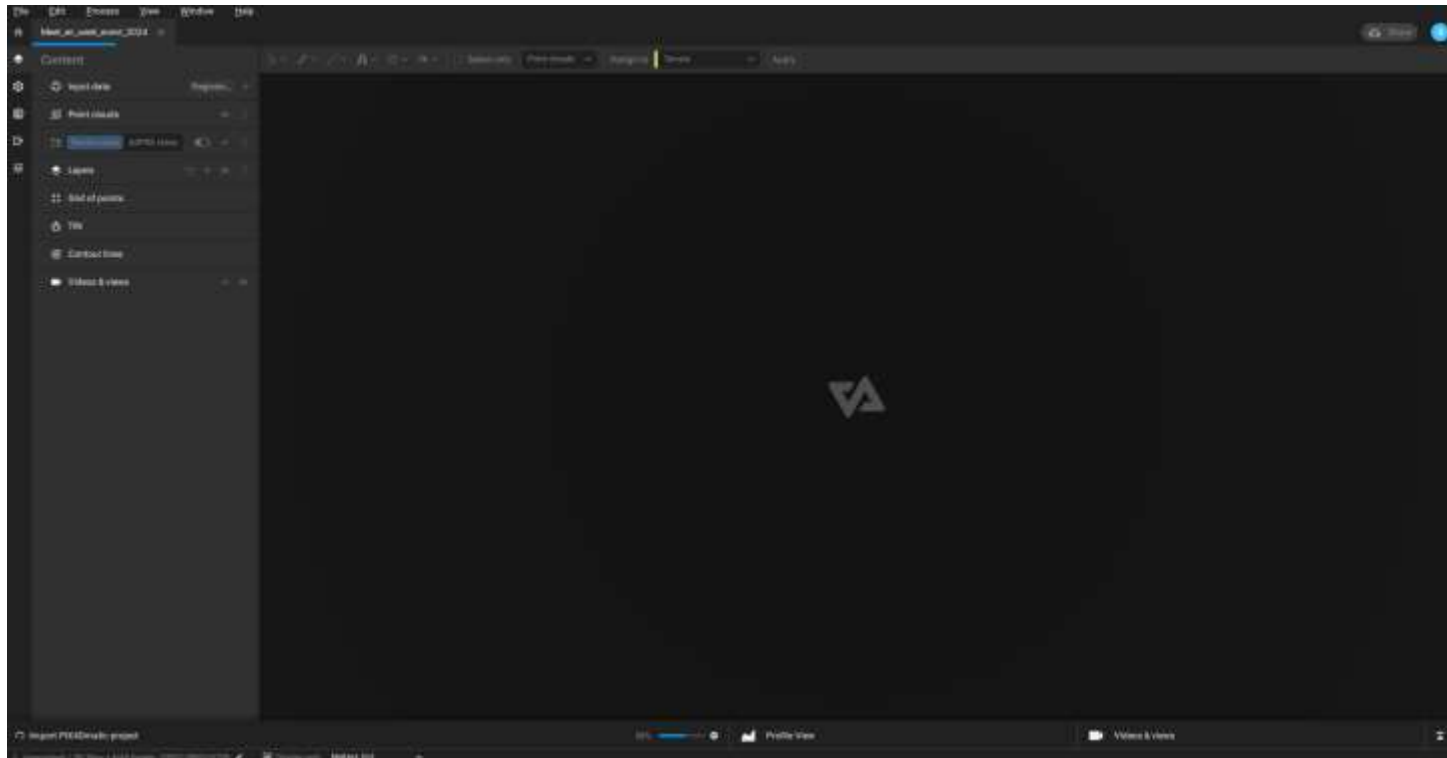


ID	Type	Height (m)	Volume (m³)	Area (m²)	Volume (m³)	Area (m²)	Volume (m³)	Area (m²)	Volume (m³)	Area (m²)		
1001	OCF	→	8	120602.291	497612.848	-1.366	0.828	0.020	0.6	-0.007	0.002	-0.013
1002	OCF	→	8	120610.261	457945.268	-1.590	0.828	0.020	0.3	-0.502	3.003	0.034
1003	OCF	→	8	120599.843	497617.199	-1.279	0.828	0.020	0.8	-0.000	-0.010	-0.006
1004	OCF	→	8	120664.258	457617.221	-1.711	0.828	0.020	0.6	0.006	-0.008	0.003
1005	OCF	→	8	120683.738	457989.716	-1.724	0.828	0.020	0.4	0.000	0.011	0.002

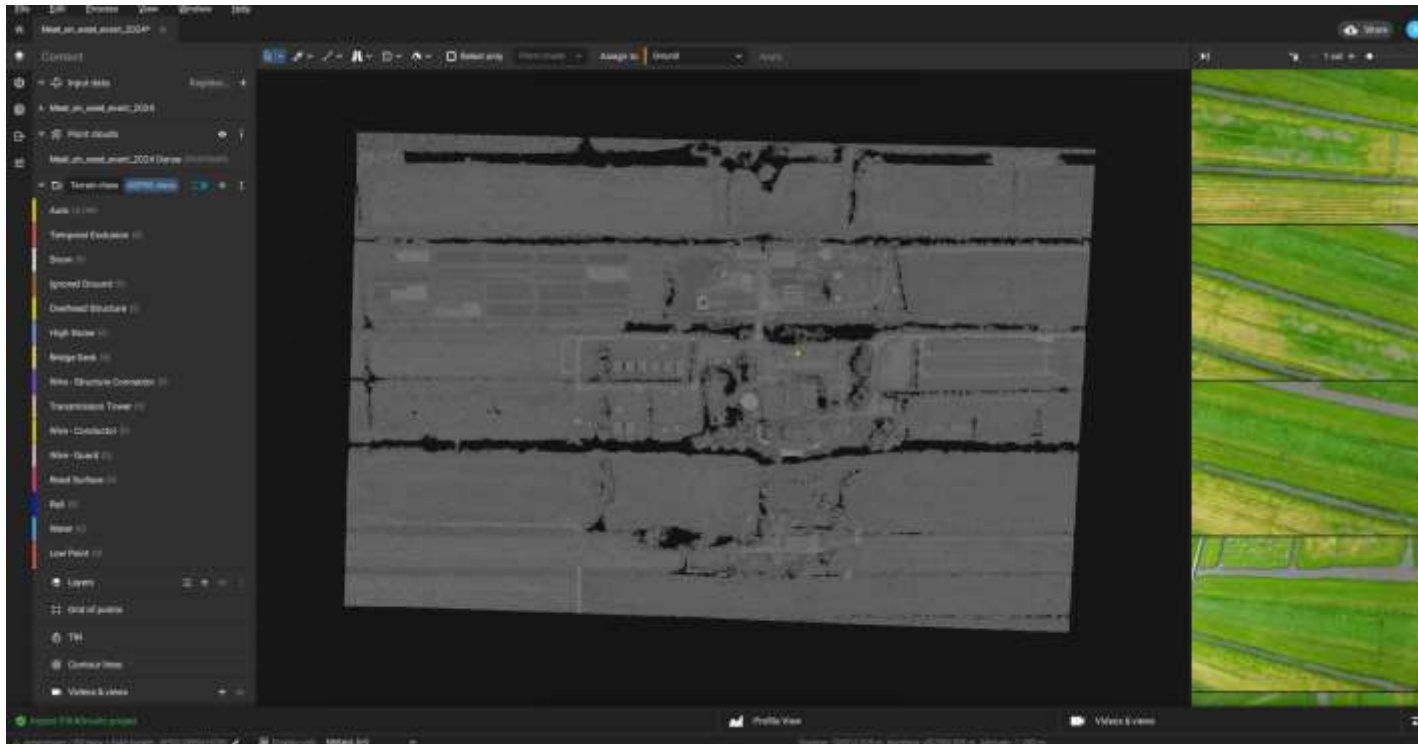
Object detection in Pix4Dsurvey



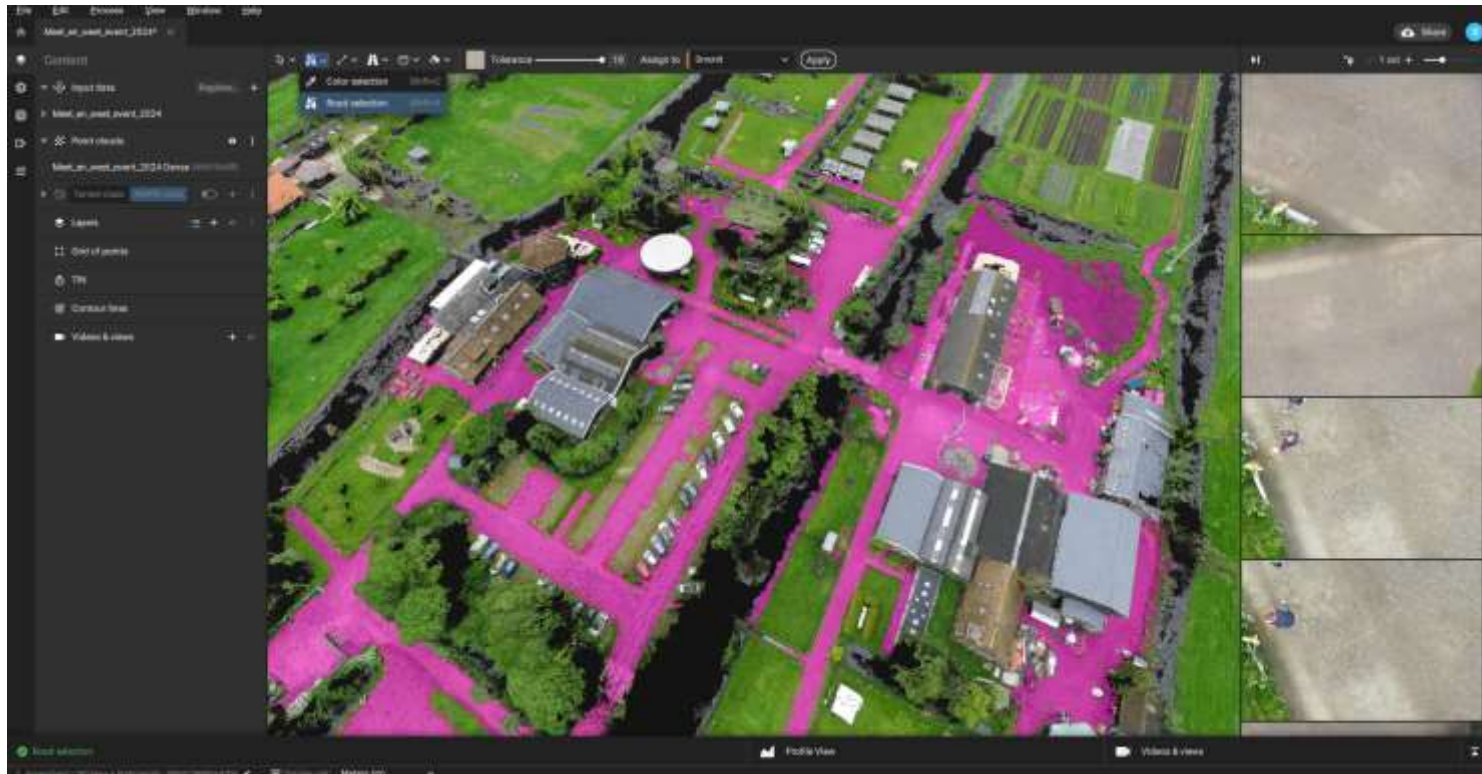
Object detection in Pix4Dsurvey



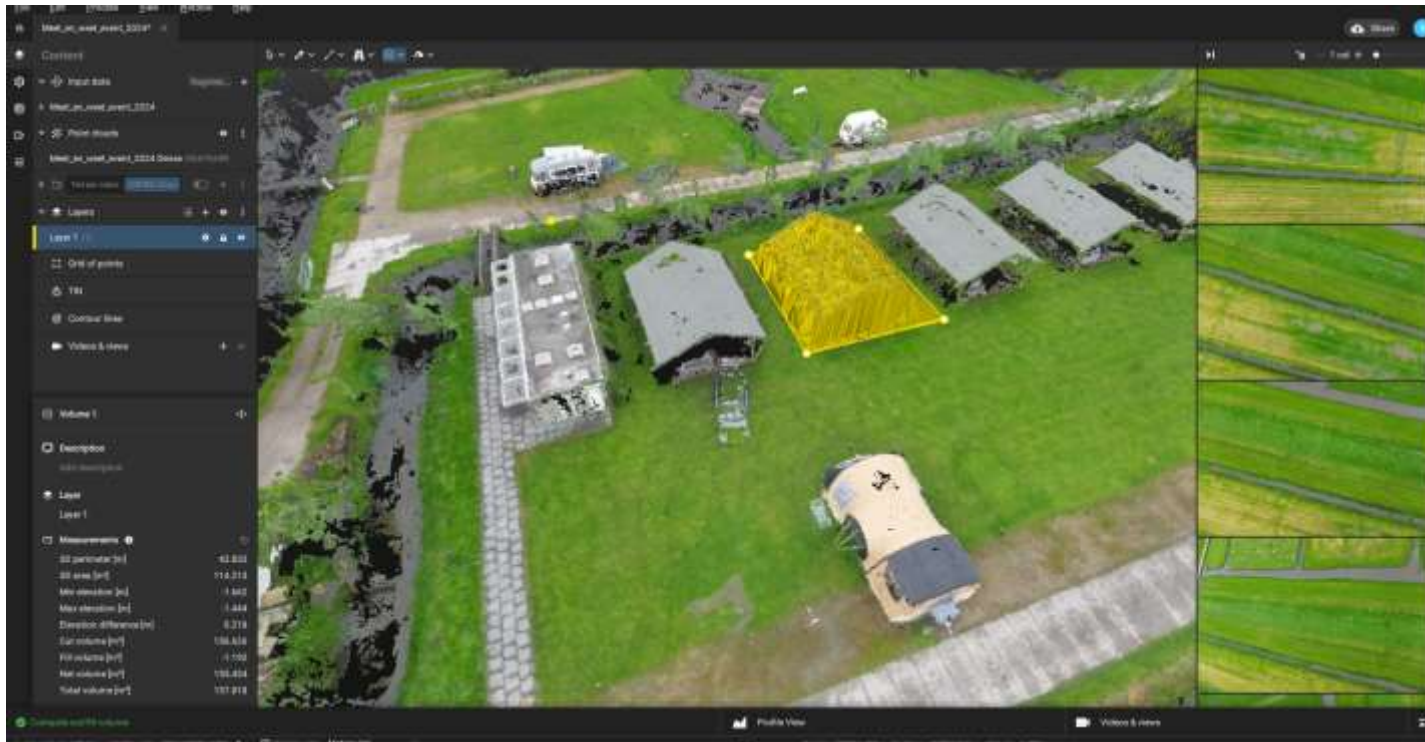
Object detection in Pix4Dsurvey



'Road selection' in Pix4Dsurvey



'Road selection' in Pix4Dsurvey



'Roof detection' in Pix4Dsurvey



Bedankt voor uw aandacht

Vragen?

