3Dsurvey

Aerial image processing software

USER MANUAL

Version 1.8.3

TABLE OF CONTENTS:

ABOUT

3Dsurvey is a photogrammetric software solution that lets you create your own orthophotos (DOF), generate digital surface models (DSM) and calculate volumes in a fast and easy manner. Processing is fully automatic and is done based on images and ground control points (GCP).

The contents of this user manual will let you know everything you need to work like a professional and get stunning results. For more information, support details or tutorials visit our website www.3Dsurvey.si.

RECOMMENDED HARDWARE SPECIFICATION

System:	**Windows XP, 7, 8, 10, 64 bit**
CPU:	**Intel i5/i7**
Memory:	**8GB RAM or more**
Graphics card:	**GeForce GTX 760 or any other Nvidia**

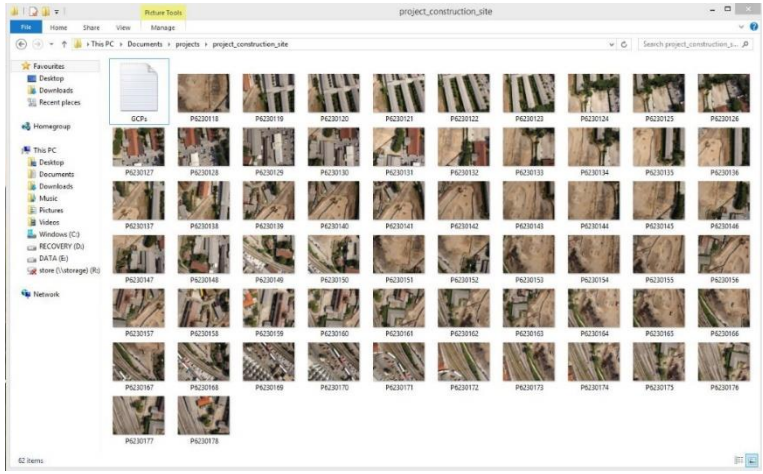
Recommended system settings:

a) **Using notebook PC: Set Power plan to *high performance***
b) **Using additional graphics card: Dedicate it to 3Dsurvey**

WORK FLOW

3.1 Preparation

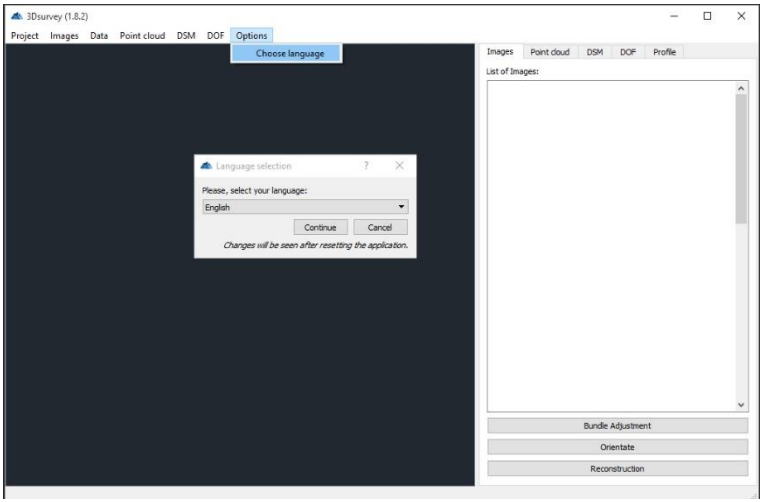
Create a project folder on your hard drive and copy images from SD card into the folder. Save ground control points coordinates (GCP) file into the same folder. GCP file needs to be saved as *.txt. File data needs to follow this order: point name, x coordinate, y coordinate, z coordinate – space delimited.



Example of a GCP file:

```
2000    461826.497    101890.277    299.055
2002    461890.872    101944.218    306.204
2003    461912.476    101975.102    298.454
2004    461918.598    102038.315    298.804
2005    461924.782    102083.948    298.882
2006    461889.252    102029.085    297.492
2007    461862.244    101990.371    294.797
2008    461863.334    102042.424    294.880
2009    461828.060    102028.207    300.632
2010    461796.036    101953.868    299.634
```

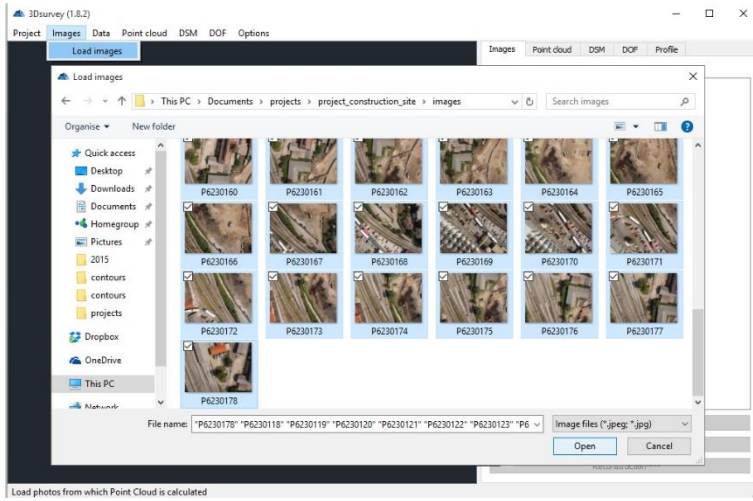
Start 3Dsurvey and set preferred language. Click *Options -> Language* and select language. Changes will be seen after resetting the application, as noted in a pop up window.



3.2 Aerotriangulation and reconstruction

3.2.1 LOAD IMAGES

Start 3Dsurvey, click *Images - > Load images* and select project images in your folder.

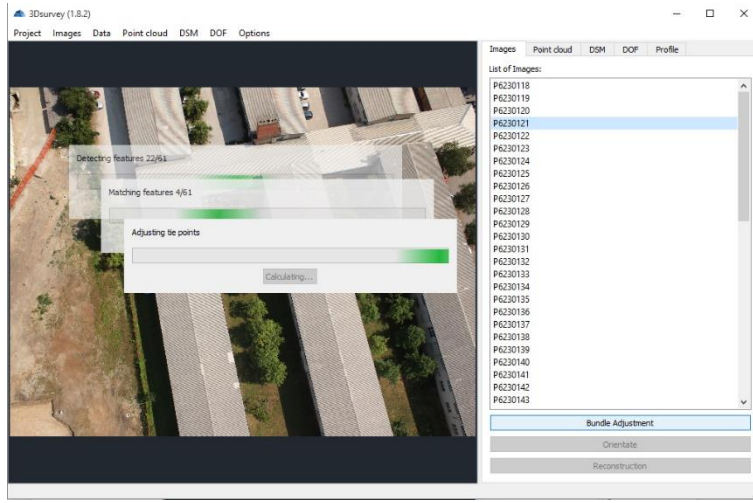


3.2.2 BUNDLE ADJUSTMENT

Click *Bundle Adjustment* tab to calculate parameters of camera orientations.

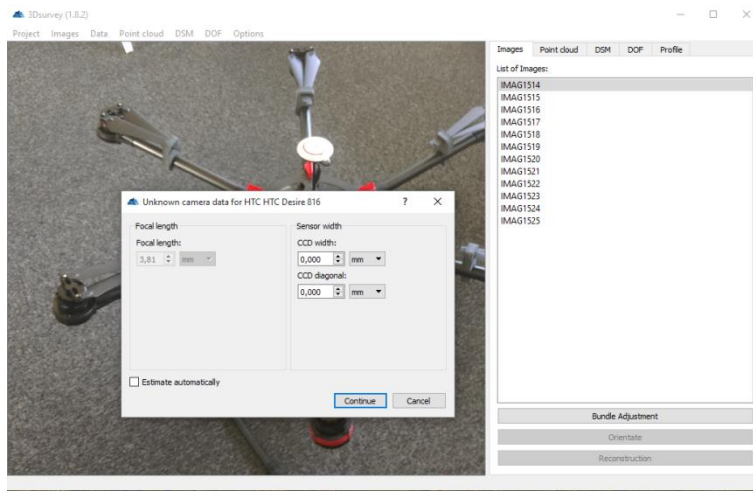
3.2.2.1 Sensor size and focal length

3Dsurvey has a large database of camera models and their sensor sizes. If the camera is not in the database an *Unknown camera data type* will appear as its *device name*.



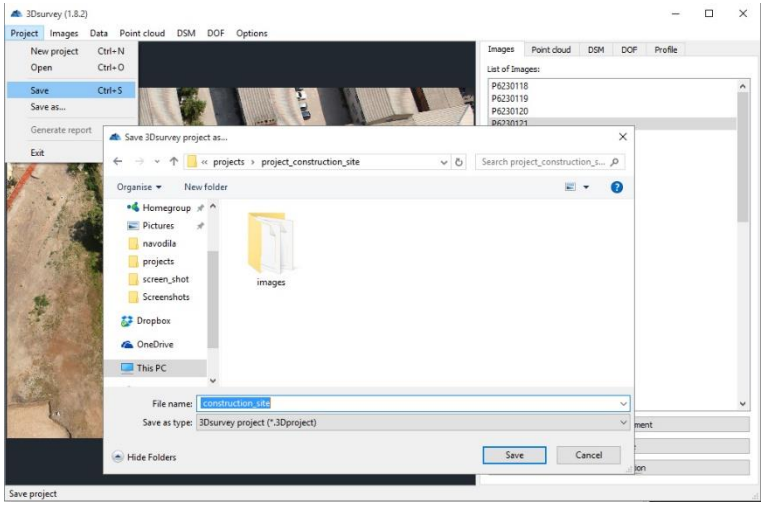
Set the correct *Focal length*, *Sensor Width* or *Sensor diagonal* in *millimetres* or *inches*.

If you are not able to find camera parameters select *Estimate automatically* and the software will calculate the best value for your camera.



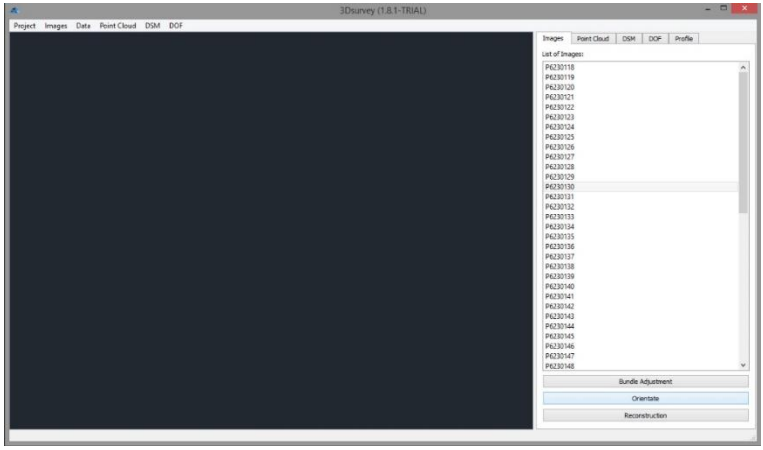
Click *Continue* to start Bundle adjustment.

After you are finished with Bundle Adjustment, click *Project -> Save* and continue with *orientation* and *reconstruction*.



3.2.3 ORIENTATION

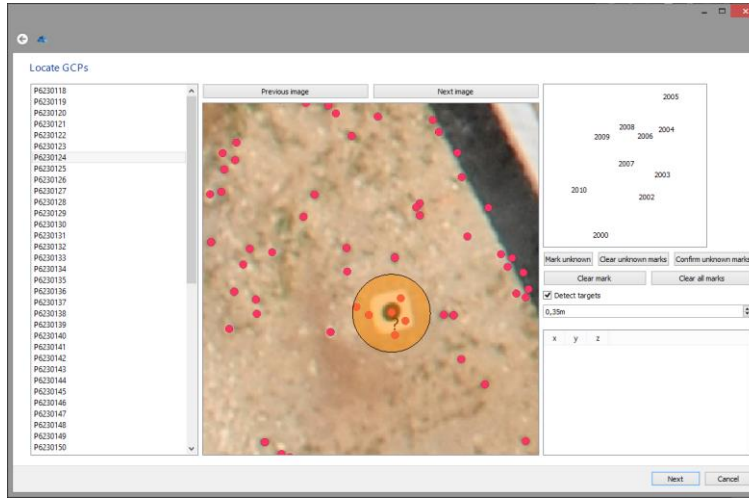
Click *Orientation* tab to geo-locate your project.



Follow the Orientation pop up wizard; select the *ground control points* file (*.txt) and click *next*.

3.2.3.1 Automatic orientation

Select an image containing GCP in the left pane of the pop up window. Scroll to zoom in or out. For automatic orientation, mark GCP with a right mouse click. The point gets an orange circle and a question mark, as its name isn't defined yet.



Mark two additional GCPs from across the surveyed area. Upon selecting the third GCP the automatic recognition for all other GCPs will start automatically. GCPs now appear in green circles with names identified.

If you mismark the position of a GCP click *Clear all marks* button and repeat the steps.

3.2.3.2 Semiautomatic orientation

Use the GCP Map and; 1) select the name of the ground control point on the GCP map with a left mouse click (i.e. 2009); 2) mark its position on an image with a left mouse click. The position gets a blue circle and an ID.

If you mismark the position of a GCP click *Clear mark* button and repeat the step. *Clear all marks* button clears all selected positions.

Mark two additional GCPs from across the surveyed area. Upon selecting the third GCP the automatic recognition for all other GCPs will start automatically. GCPs now appear in green circles with names identified.

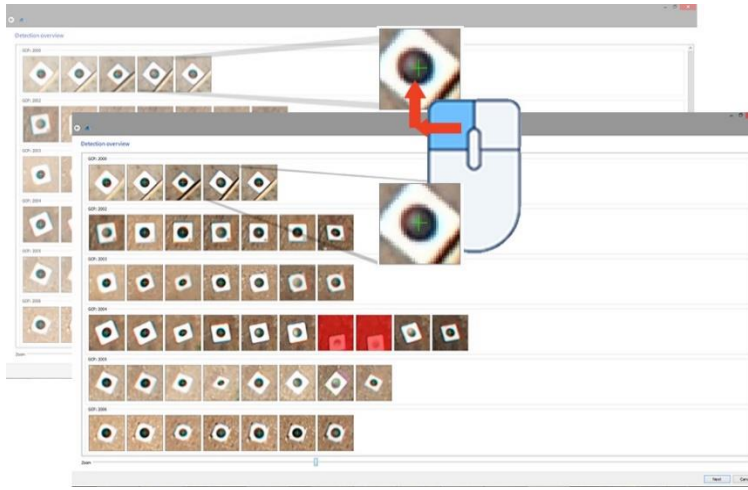
In the lower right pane of the window you will find residuals of marked points. Residuals should be within 1m. Keep in mind that the selected GCPs automatic positions need to be checked for calculation errors on all images. Green circles must mark all GCPs targets. If not, correct them manually by selecting the name of a GCP on a GCP Map followed by marking the exact position on an image.

When all markers are in place click *next* to continue with orientation.

In the figure below we can see the automatic recognition of ground control points. If the target is not recognised marking is eliminated and coloured in red. If you want to include it in your orientation anyway simply double-click it and the red overlay will disappear.

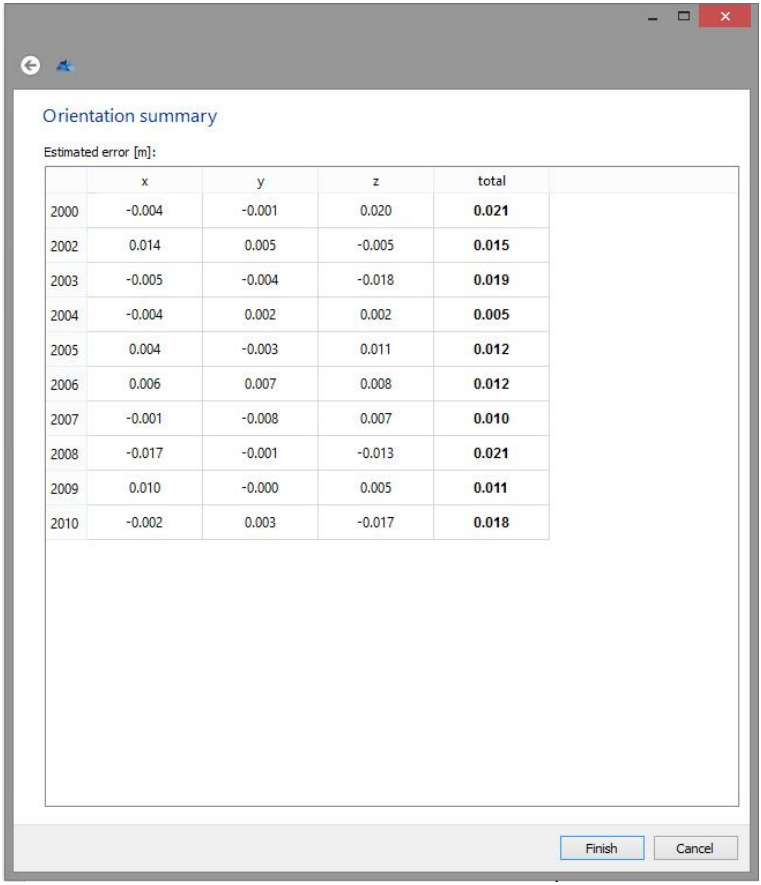
You can also correct the automatic recognition simply by clicking the image and moving the centre of GCP to the green cross. The same

applies if you want to correct the positions of GCPs that have been automatically detected but not measured perfectly due to bad conditions during data acquisition. If you wish to change the scale of the images use the slider at the bottom of the pane.

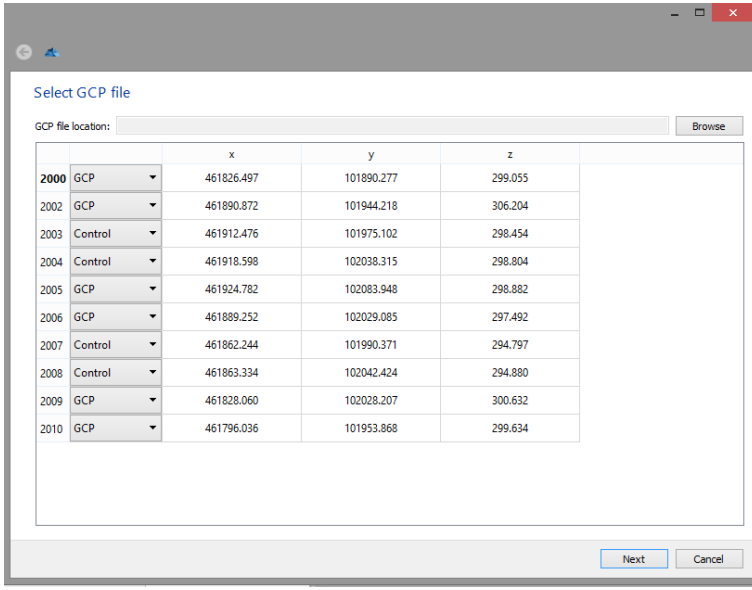


When all points are marked correctly, click *next*, to check for orientation's accuracy.

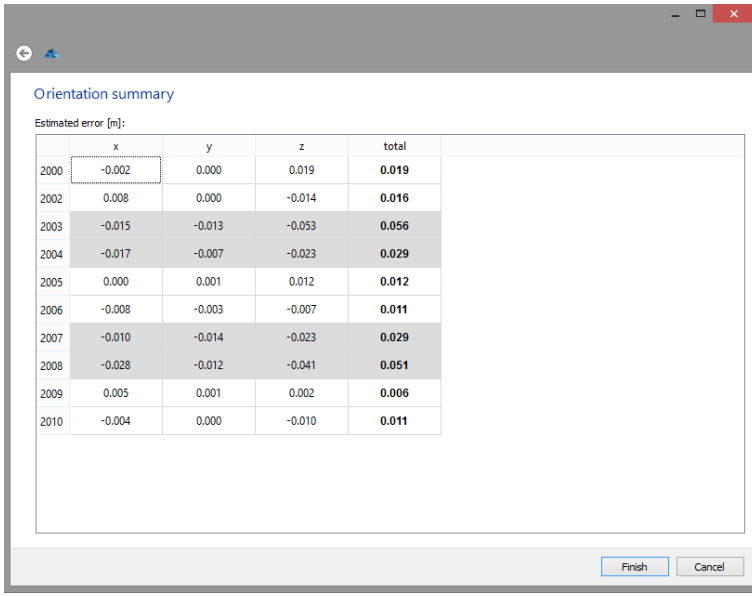
***Orientation summary* displays GCP errors. Check GCPs accuracy by observing their residuals. If residuals show high misplacement of a certain GCP it should be revisited. Click back button in the upper left corner and repeat the marking. Click *Finish* when they are adequate. Save your project.**



To achieve better accuracy select a couple of GCPs as *Check points*, or mark points that you established for control.



Proceed with either automatic or semi-automatic orientation as previously described.



Going back to *orientation summary*, you can observe the adjusted accuracy. In this case orientation is computed based only on selected GCPs due to 4 points being used as control points. As described above, residuals need to be low. If they are high markings need to be corrected.

If you do not use control points your results will be similar to those presented on page 14.

3.2.3.3 Troubleshooting with orientation

If your automatically selected point markers do not match, residuals will show coordinate differences that exceed 1m limit. Click *clear all marks* and proceed with semiautomatic orientation, as described above.
Keep in mind that all selected points need to be checked manually, as well. Look for misplacements and readjust the markers where necessary. An example of such situation is in the image below.

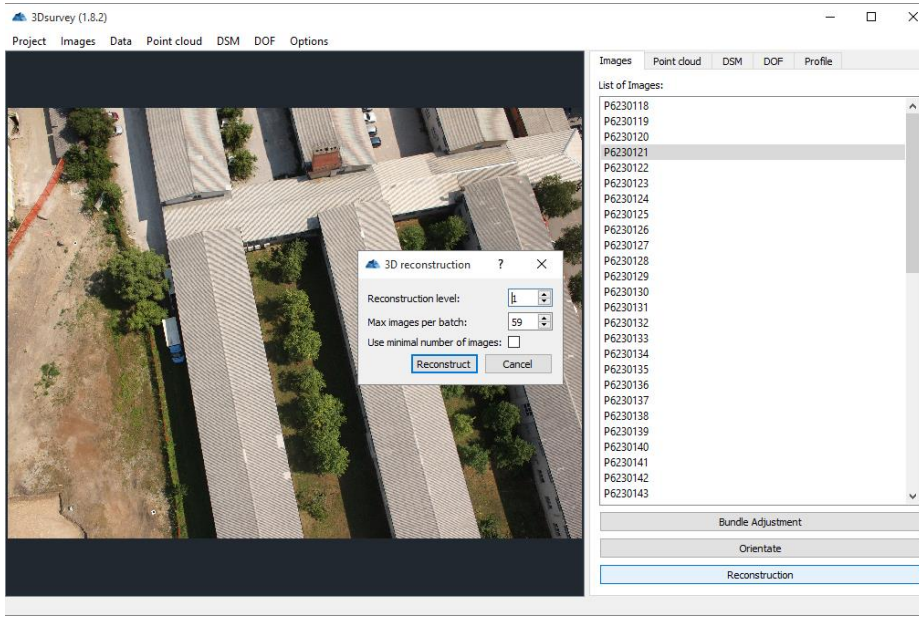
3.2.4 RECONSTRUCTION

The next step is Reconstruction of a dense point cloud. Click *Reconstruction* and set your Reconstruction level. There are 6 levels (5 – lowest, 0 – highest). Below is a description of all levels along with the processing time. There were 61 images to reconstruct in this case.

- **5 with a maximum of 1000 images per batch (3'/61 images),**
- **4 with a maximum of 1000 images per batch (4'/61 images),**
- **3 with a maximum of 858 images per batch (9'/61 images),**
- **2 with a maximum of 214 images per batch (34'/61 images),**
- **1 with a maximum of 53 images per batch (2h16'/61 images),**
- **0 with a maximum of 13 images per batch (27h30'/61 images).**

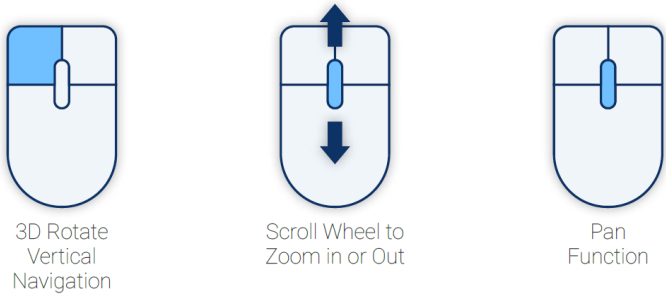
Processing speed and number of images per batch both depend on RAM capability and image resolution.

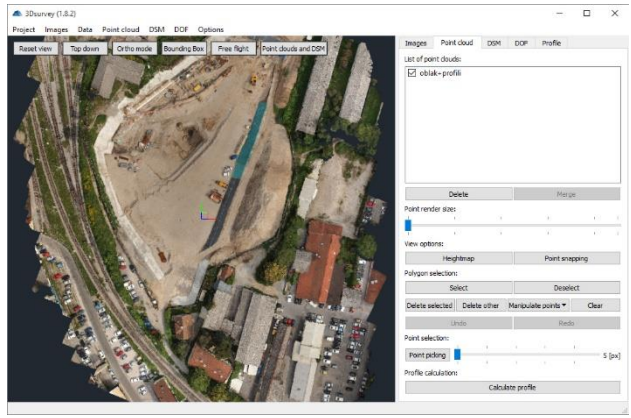
Use minimal number of images should NOT be ticked if you want the best results.



3.3 Point cloud manipulation

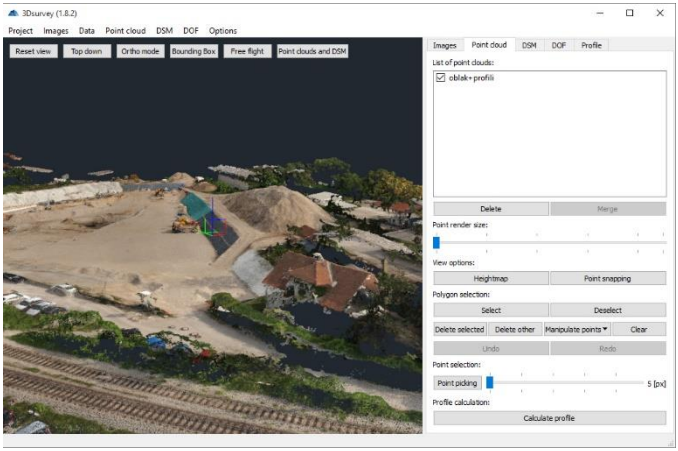
The calculated point cloud will appear in Point Cloud tab. To manipulate the point cloud use: 1) left mouse click to rotate, 2) scroll to zoom in or out and 3) middle mouse button to pan the model.



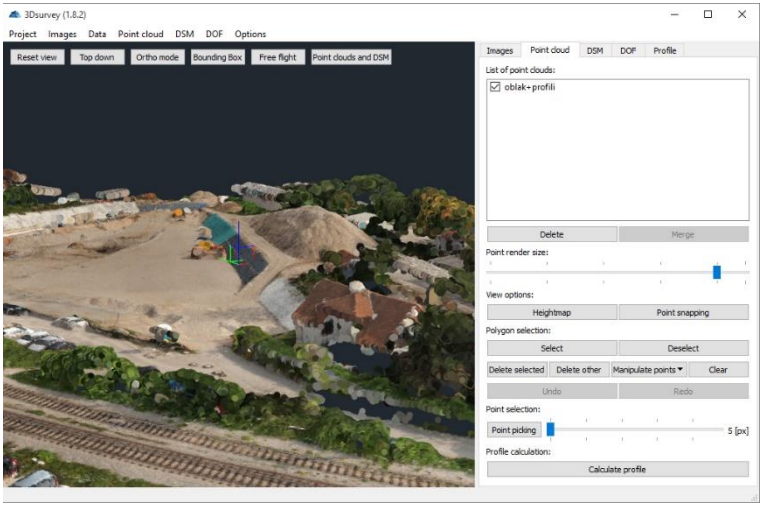


Point Cloud includes points from surface, buildings, vegetation and other objects. Digital Orthophoto production requires a digital terrain model; therefore all obstructions and points that do not define the terrain itself need to be deleted.

3.3.1 POINT RENDERING

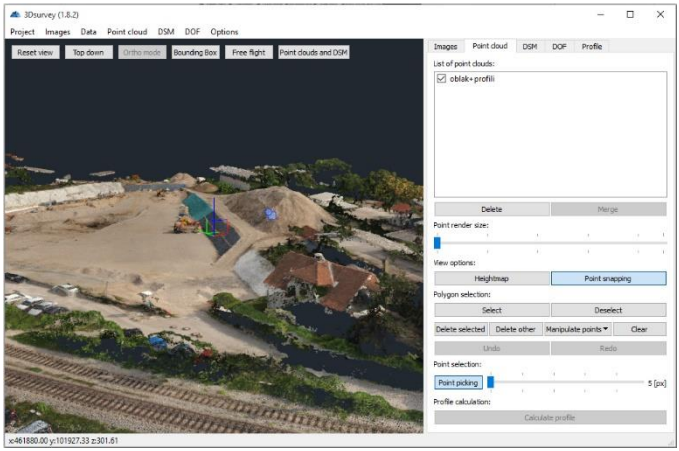


Use the *Point render size* bar to increase or decrease the point size of a Point Cloud (PC).



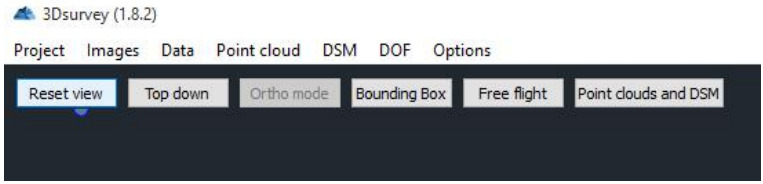
3.3.2 POINT SNAPPING

Use the Point snapping tool to inspect the 3D coordinates of a Point Cloud. The x, y, z values are presented in the lower left corner of 3Dsurvey window.

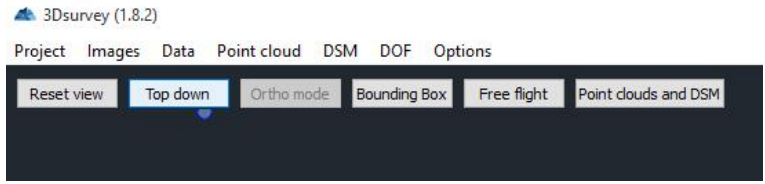


3.3.3 3Dsurvey VIEWER

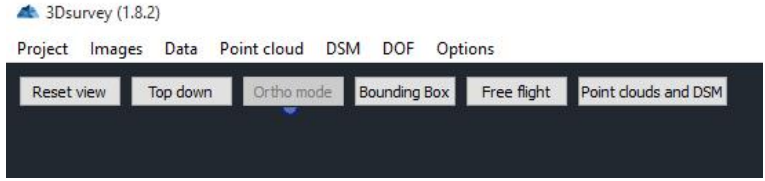
Use Reset view to set the default view.



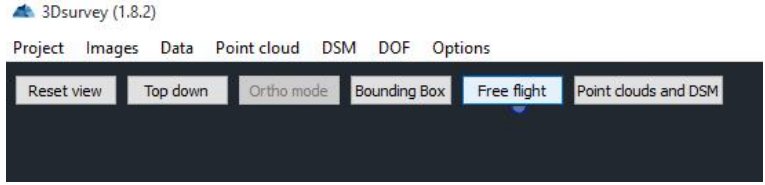
If you would like to view a Point Cloud or DSM in nadir, click *Top down* button. The model can now be rotated only around z axis. The button is coloured blue when turned on and stays ON unless it is manually turned OFF.



If you would like to view a Point Cloud in orthogonal projection, click *Ortho mode* button. The model can be rotated in any direction. Disable the Ortho mode by clicking the button one more time.

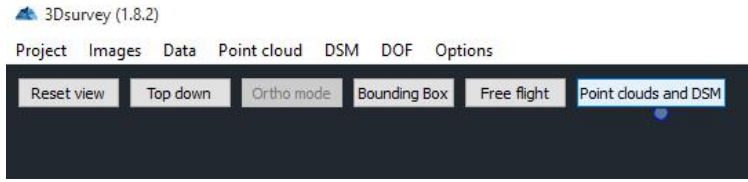


Use Free flight to capture movies of your 3D model. Use any external software and smoothly fly through and around your 3D model and objects. Do so by using: left mouse click + keyboard; A to move left, D to move right, W to move forward, S to move backward, F to zoom in, R to zoom out, V to zoom in the centre, Scroll to set vertical view angle, + to speed up and – to slow down.



If you wish to see Point Cloud and DSM at the same time, click *Point cloud & DSM* button. You can use this function in Point Cloud tab or

DSM tab. This is a useful tool when working with Point Picking function.



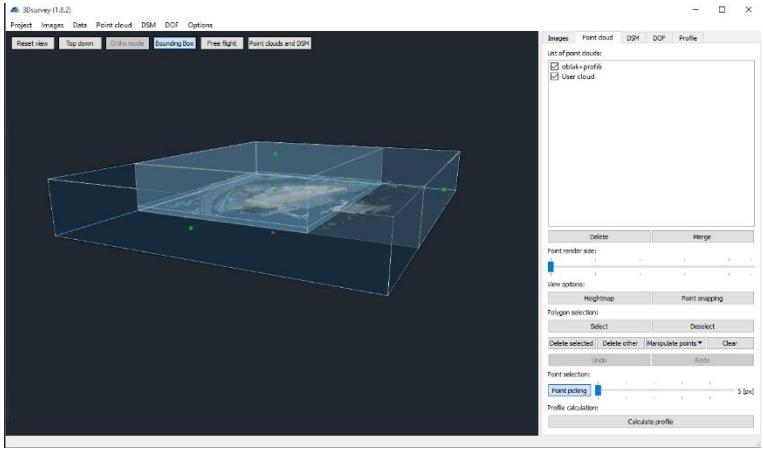
Bounding Box is a useful tool for two reasons.

First; move sections freely left, right, up or down and the tool lets you easily inspect the data inside the box whilst ignoring everything outside your box selection.

Second; sliding 2 opposite Bounding Box panes together gives you a 3D profile of the surface model. To move through the 3D model press CTRL and left- click the Bounding Box pane and you'll be able to slide it in any direction and explore all the sections on the fly. Turning on the Heightmap displays the height differences even more clearly.

Use Bounding box in either point cloud tab or DSM tab.

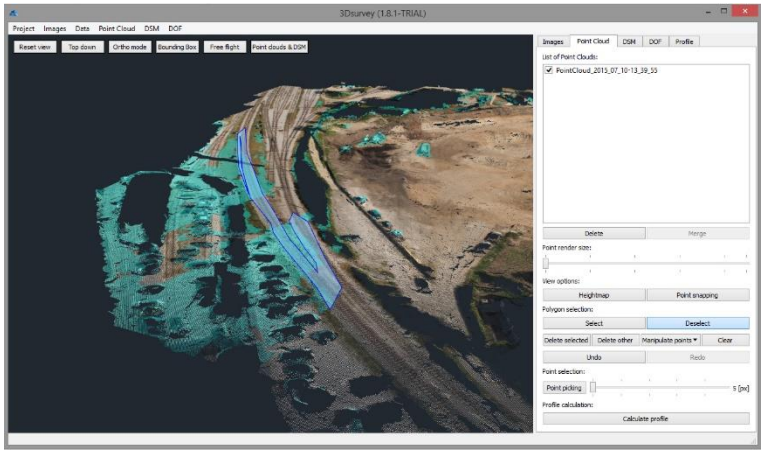
It is possible to inspect the differences between several point clouds or surfaces, of course. For example, loading two point clouds from the same area but measured at a different time and using Bounding Box will clearly show the difference. Apply different colours to surfaces for even more impressive results.



3.3.4 POINT SELECTION

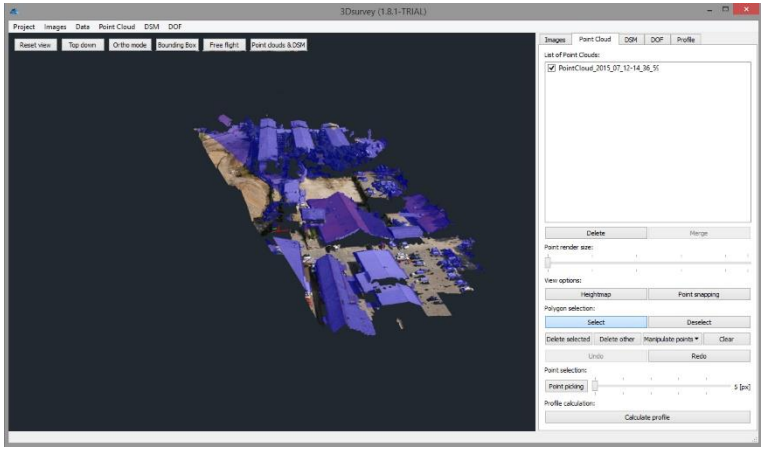
Click Select button and draw a selection around the area. Use a left mouse click and finish the selection with a right mouse click. Selected points will be coloured.

Use Deselect function to remove points from your selection. Again, select with a left mouse click, finish with a right mouse click. Use ESC on your keyboard to cancel selection or click clear button.



3.3.5 DELETING POINTS

To delete points you need to select them first.



Delete selected points either by clicking *Delete selected* button or use delete button on your keyboard.

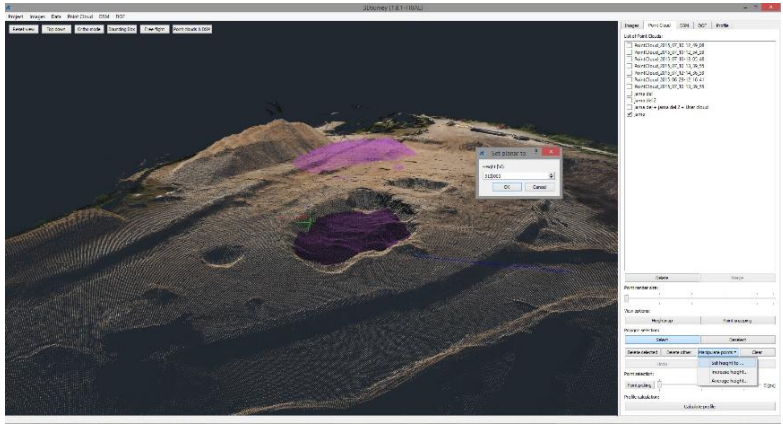
Use *Delete other* function to quickly delete everything else not selected.

Use Undo or Redo function in case you change your mind.

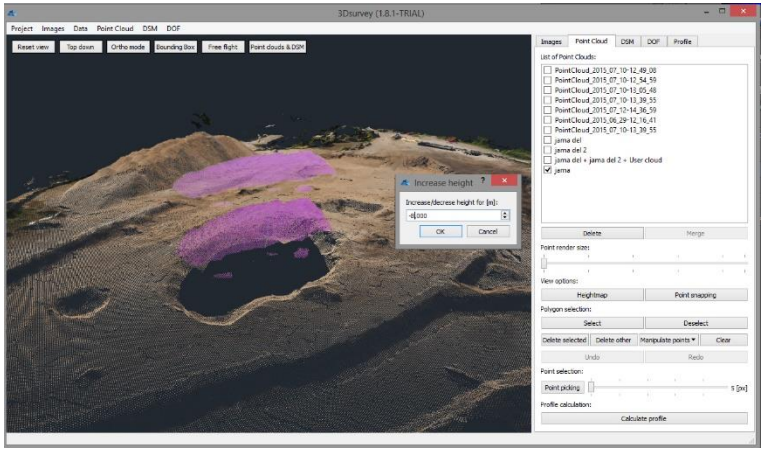
3.3.6 MANIPULATING POINTS

Pop up window *Manipulate points* enables you to *set height*, *increase height* or *compute average height* of selected area.

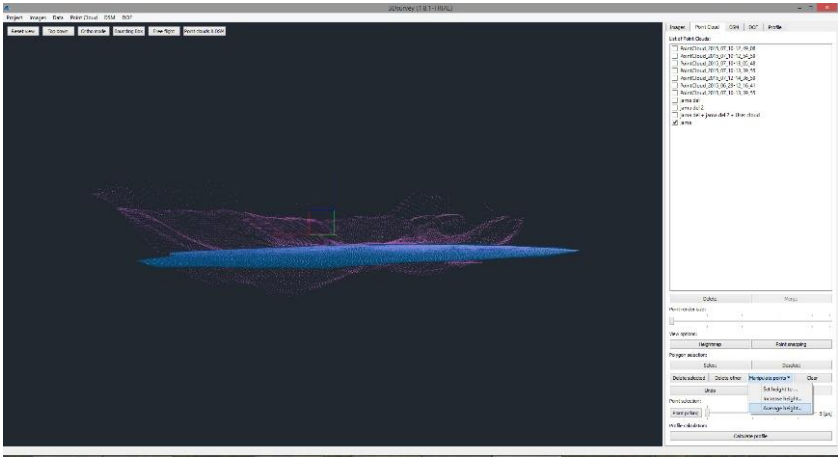
***Select* the area and click *set height*. *Type* in the new *height* and click *OK*. The selected points will be moved to the new value.**



In case you would like to lower or raise the selected points use *increase height* function and type in the value. For example, to lower the points by 0,5m enter -0,5. To raise the points by 1,5m enter 1,5 and click OK.



You can also compute the average height **of selected points. First, select the area, go to Manipulate points and click Average height.**



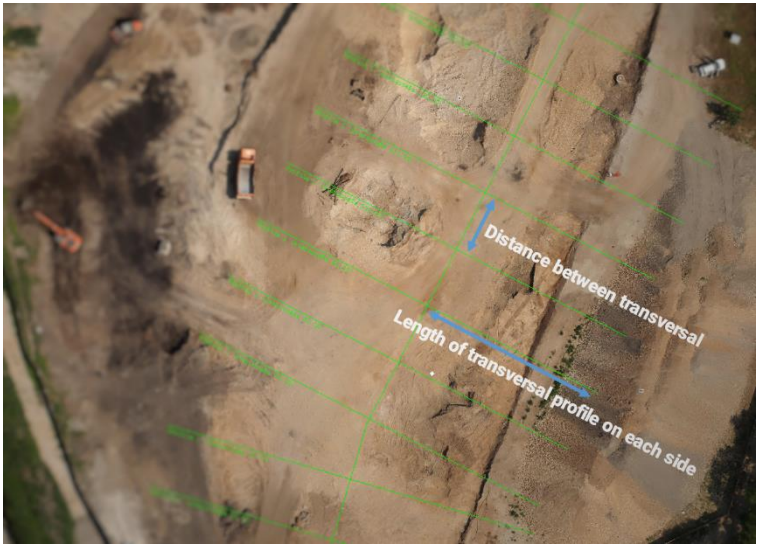
3.3.7 CALCULATING PROFILE

Calculate profile is a nice tool to present 3D terrain model with characteristic lines. 3Dsurvey offers great functionalities for calculating profile lines as well as a lot of manipulation tools and export options.

Start the Calculate profile function in the Point Cloud tab by clicking Calculate profile. The pop up window will appear and you can set the following:

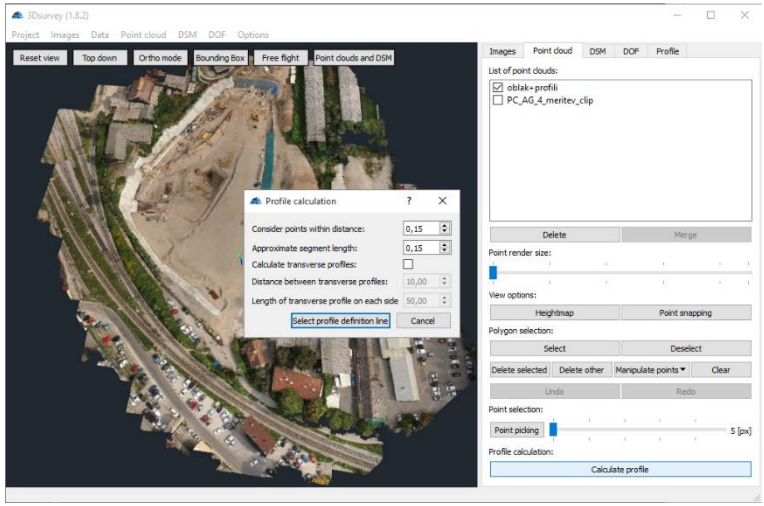
- **Consider point within distance: *0.15* by default – distance of buffer zone for snapping longitudinal profile to Point Cloud,**

- **Approximate segment length: *0.15* by default – approximate stationary distance of longitudinal profile,**
- **Calculate transverse profiles: *disabled* by default – set computing of transverse profiles,**
- **Distance between transverse profiles: *10* by default – stationary distance on longitudinal profile to compute transverse profiles**
- **Length of transverse profile on each side: *10* by default – width of either flank of transverse profile.**

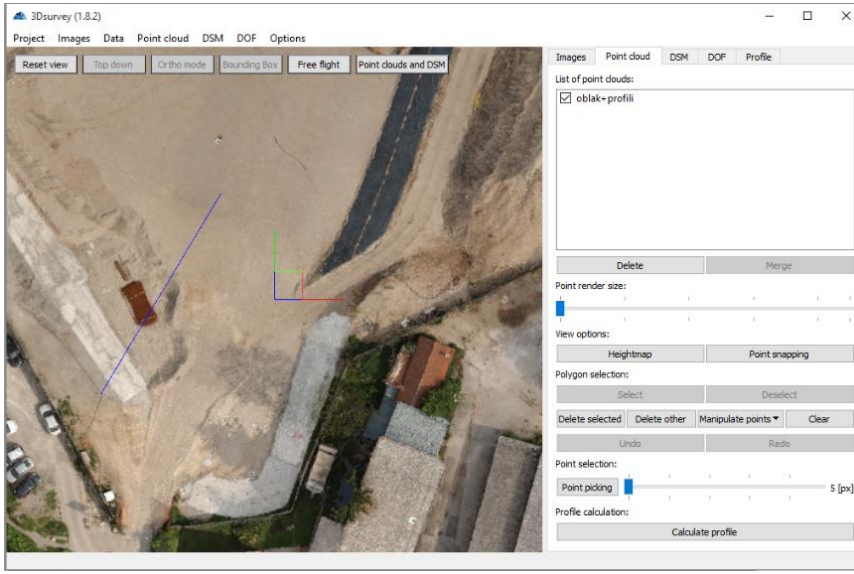


3.3.7.1 Single profile

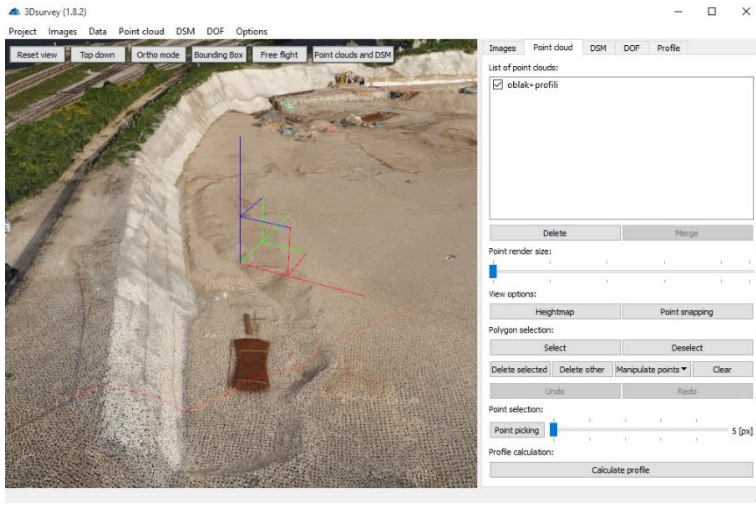
To calculate a Single profile the *Calculate transverse profiles* must be *disabled*. Click *Select profile definition line* to define a profile.



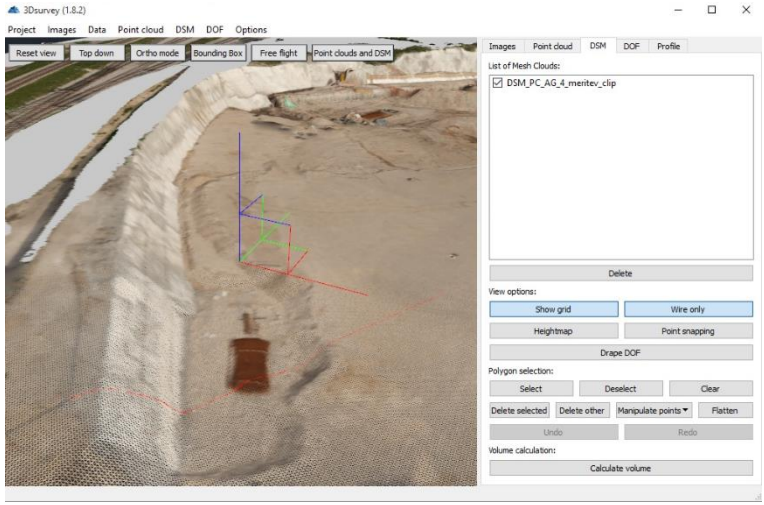
Use a left mouse click to select a profile definition line and a right mouse click to finish the selection.



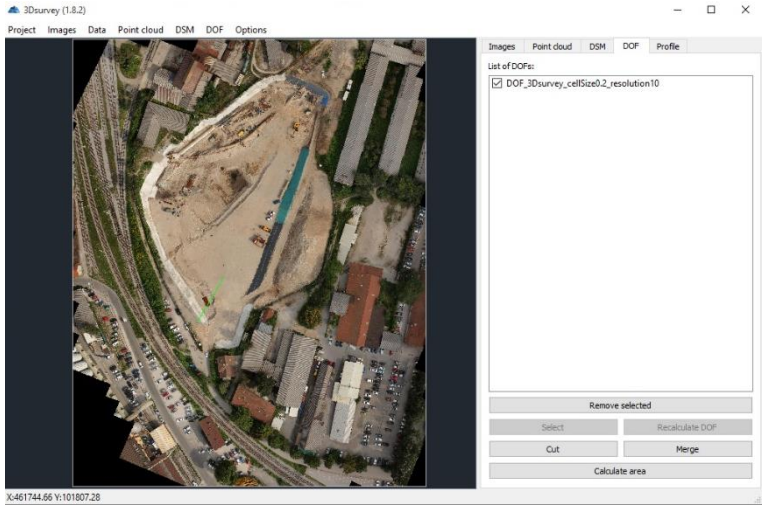
Calculated profile in the Point cloud tab.



Calculated profile in the DSM tab.



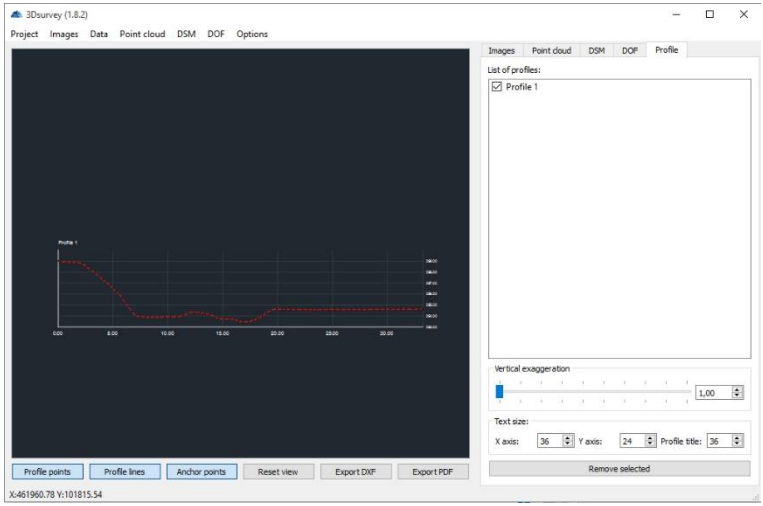
Calculated profile in the Orthophoto tab.



You can access the calculated profile via the Profile tab, as well. There is an option to manipulate profile data:

- **You can change the text size for X axis, Y axis or Profile title. You can rename the profile by double clicking the profile name.**
- **Reconnect the anchor point by left mouse clicking the 2 red dots and Reconnect button or the R key on your keyboard.**
- **Move the anchor point by drag & dropping it or delete it with left mouse click selection and delete button on your keyboard.**
- **You can turn off profile point, profile lines or anchor points.**
- **You can change the scale between X and Y axis.**

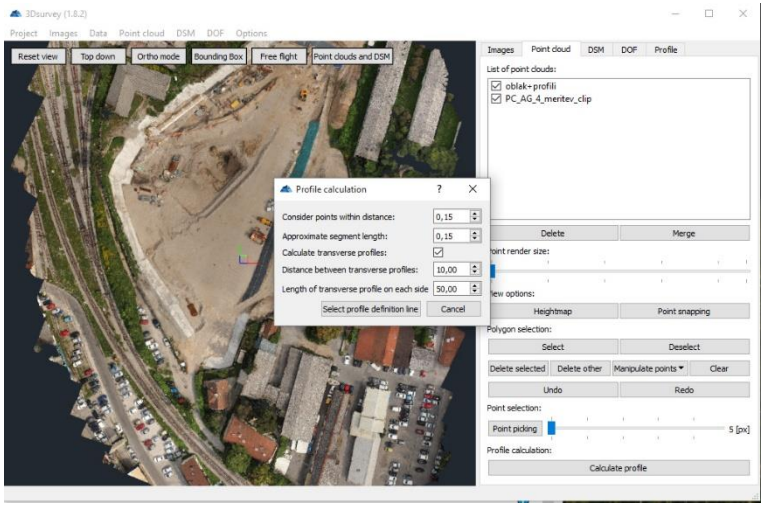
When you are pleased with your profile section graph you can export it to *.dxf or *.pdf.



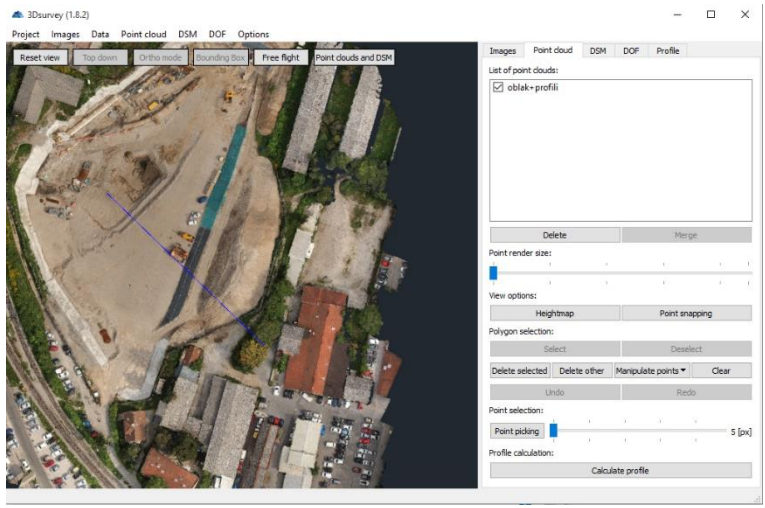
3.3.7.2 Transverse profiles

To compute a transverse profile, *Calculate transverse profiles* must be *enabled*. Click *Select profile definition line* to define a profile.

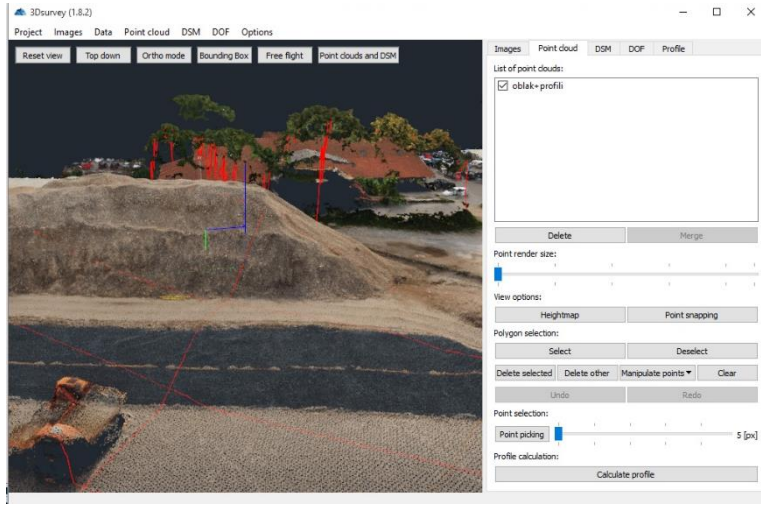
Enter the distance between transversal profiles, 10m for example. Go on by entering the length of the profile on each side, 50m for example. Click Select profile definition line.



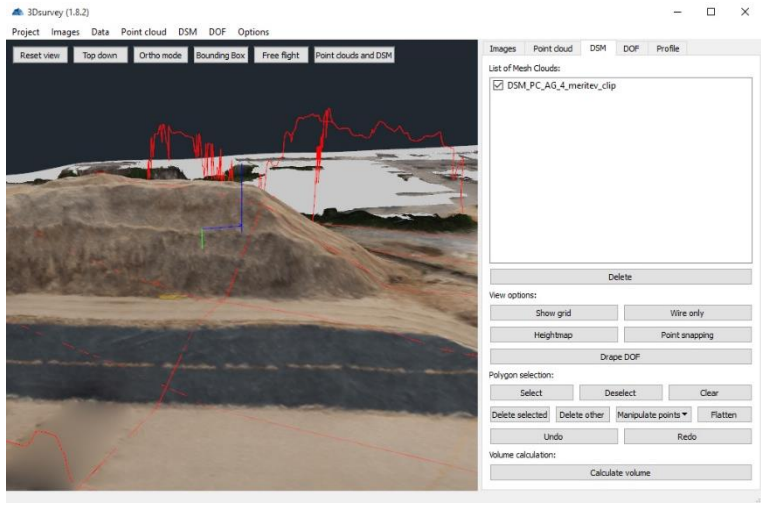
Start the selection with a left moose click and finish it with a right mouse click. Give it a few moments and you'll see the transversal profiles or section lines automatically generated based on selected parameters.



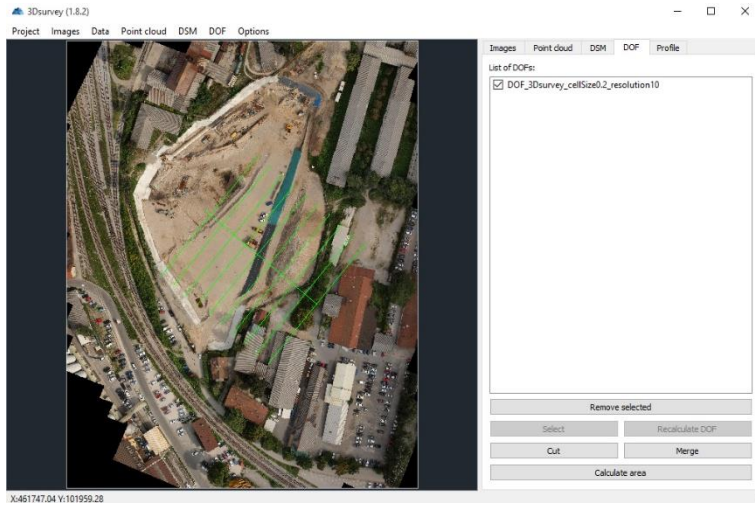
Here you can see the profile of selected definition line along with transverse profiles. Delete all obstructions for a clear representation of terrain model. Raw point cloud is left turned on in this case to see the difference even more clearly.



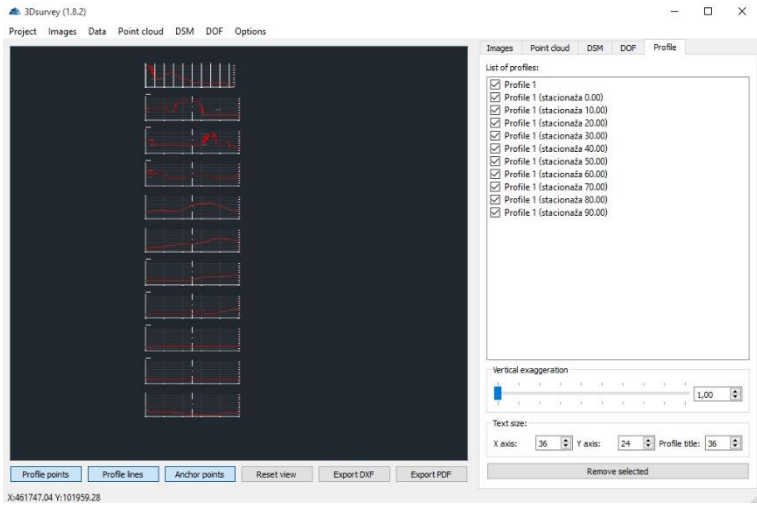
The same profile presented in the DSM tab.

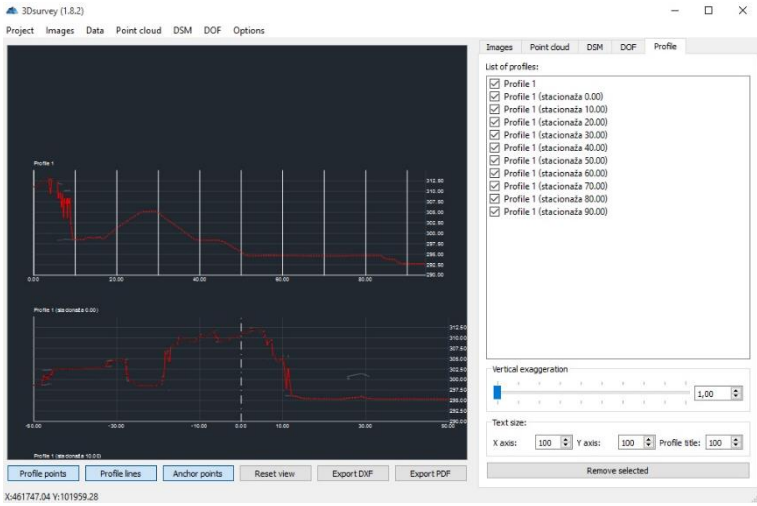


Calculated profiles in the DOF tab.

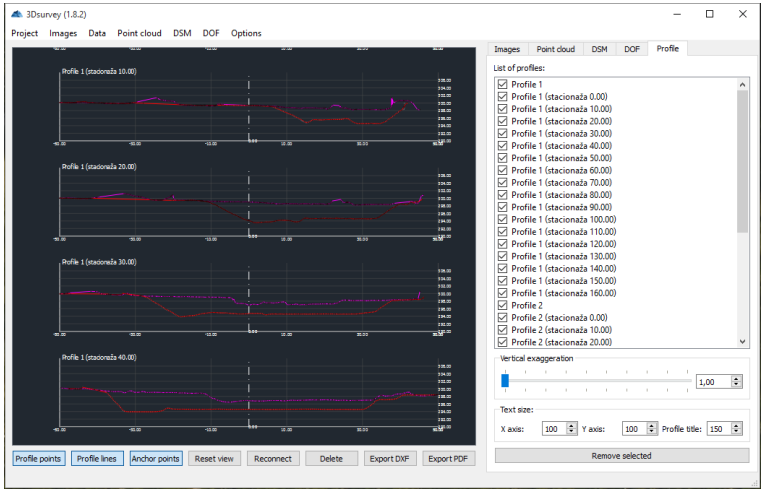


Profile tab - Transverse profiles are presented under the longitudinal profile. Zoom in to inspect the specific profile or double-click the profile in the list. You can also zoom in to specific profile by left-clicking a section line in the longitudinal profile.



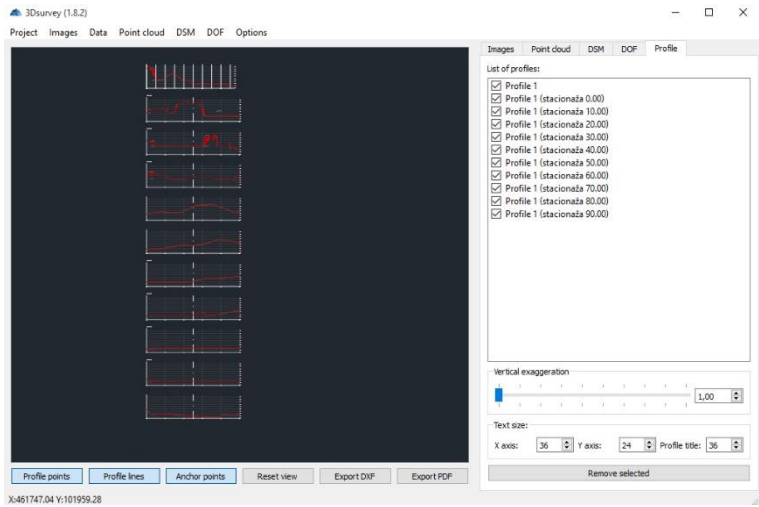


Use the same functionalities when working with multiple point clouds to observe and compare all the differences.



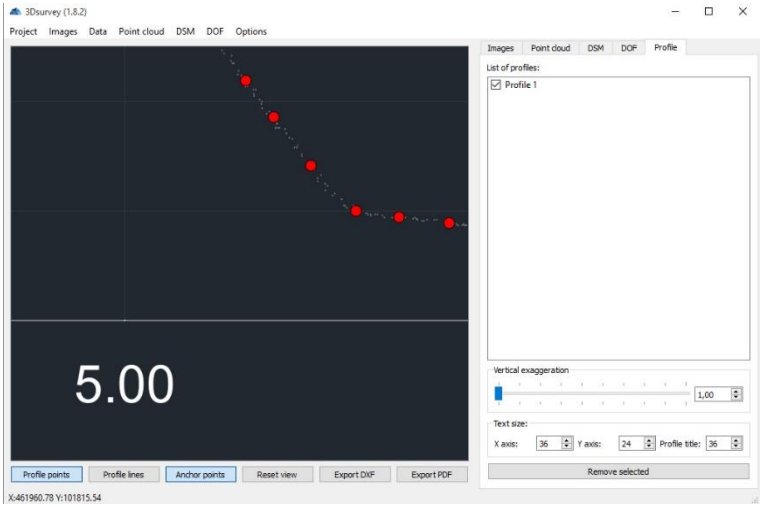
3.3.7.3 *Profile manipulation*

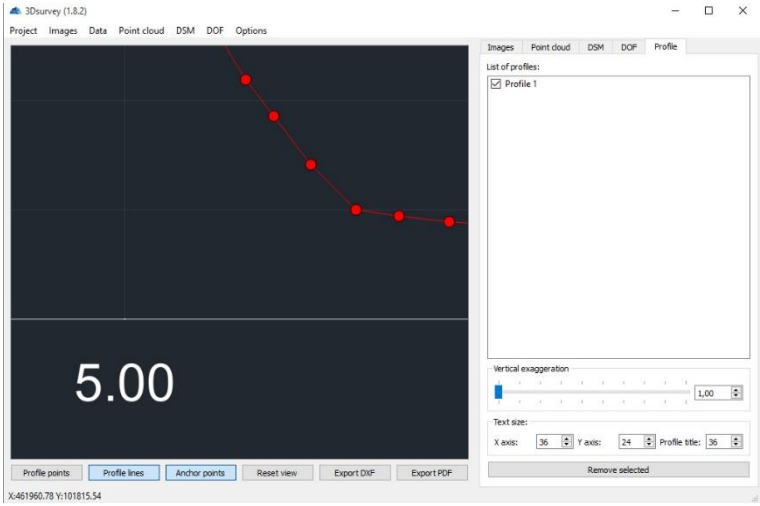
Use profile manipulation buttons from the bottom of the profile window to play with your results.



3.3.7.3.1 Profile points

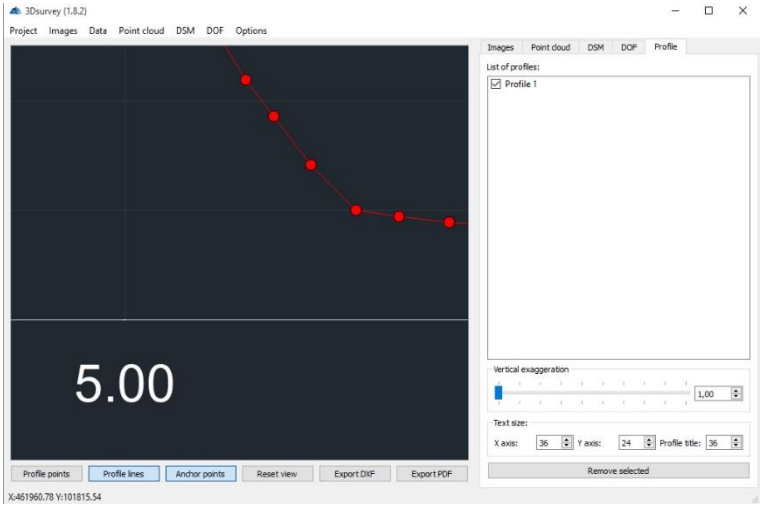
Profile points **(coloured in grey) are calculated based on the point cloud data - points detected in the definition line buffer zone.**





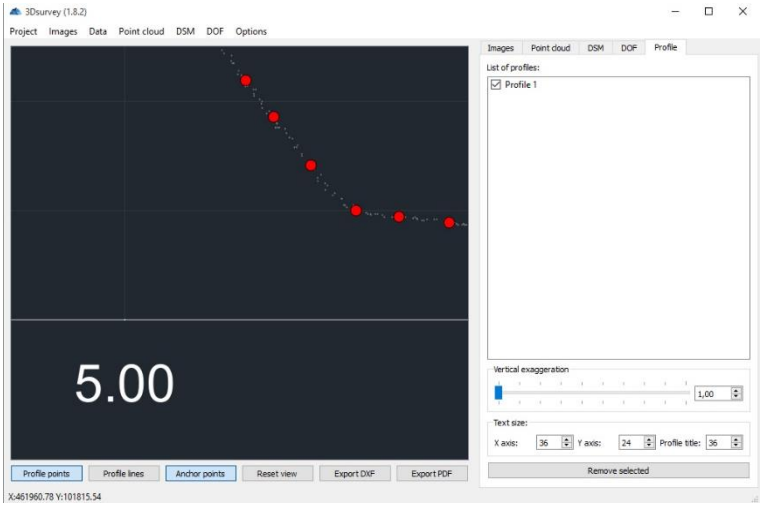
3.3.7.3.2 Profile lines

Profile lines **are lines that define the profile by connecting the anchor points.**



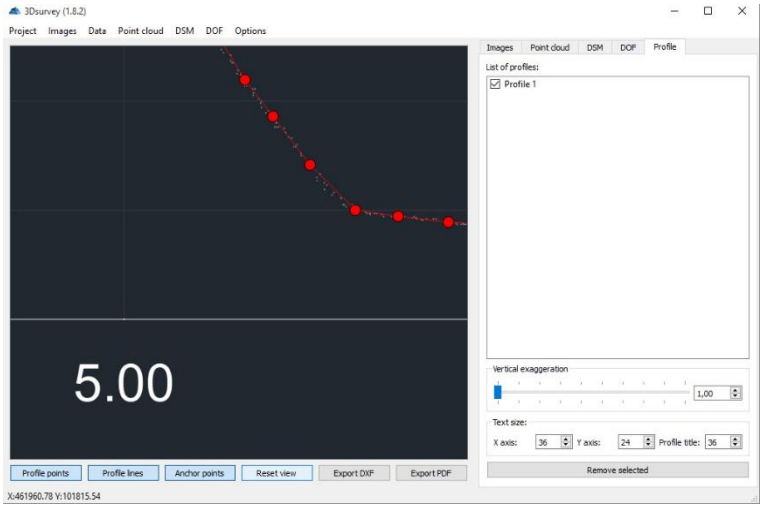
3.3.7.3.3 Anchor points

Anchor points **- interpolated points based on profile points.**



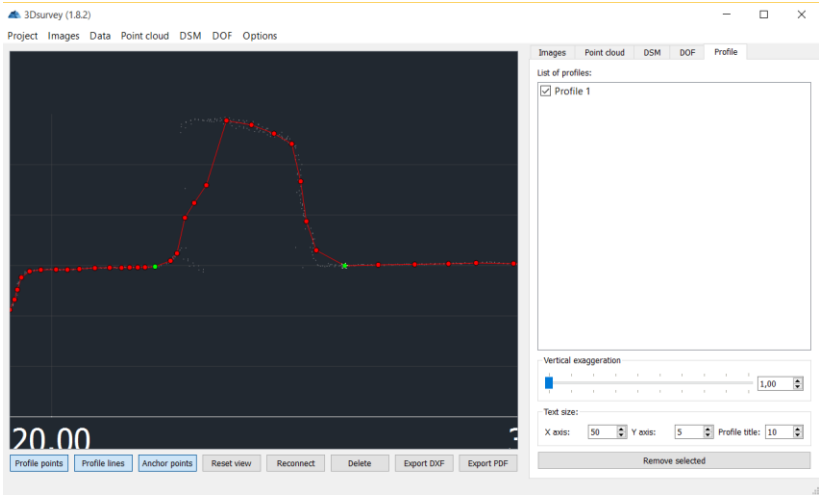
3.3.7.3.4 Reset view

***Reset view* – default view.**

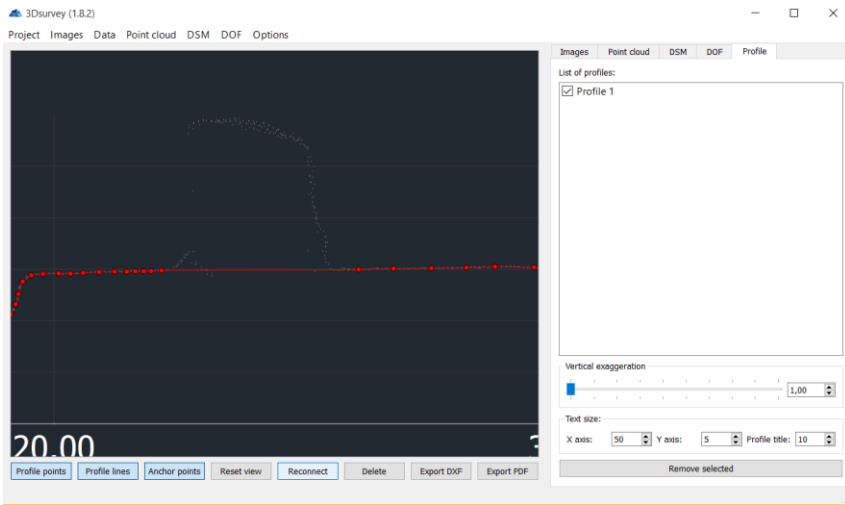


3.3.7.3.5 Reconnect

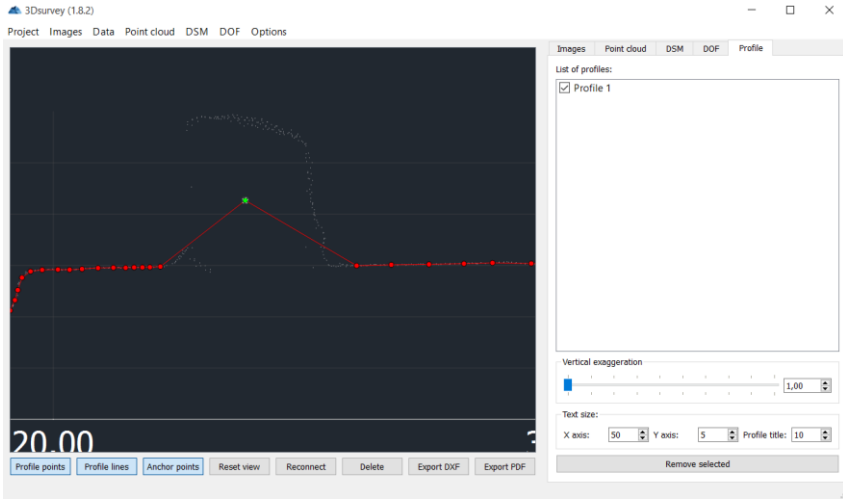
It is a tool that helps you correct profile lines for even better results. Reconnect the anchor point by selecting 2 red dots and Reconnect button or the R key on your keyboard.



All the anchor points between two selected ones will be deleted.



Use a double mouse click to add a new anchor point.



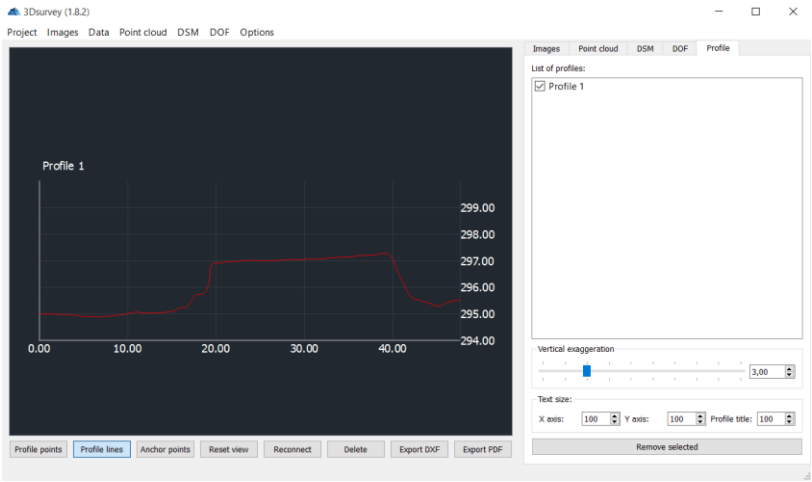
To move the existing anchor points drag & drop them with a left mouse click.

3.3.7.3.6 Delete

This function deletes selected anchor points and automatically reconnects their former neighbouring points.

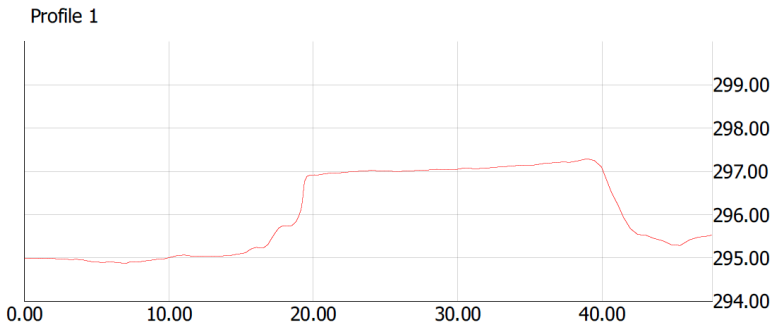
3.3.7.3.7 Export DXF

3Dsurvey offers an option to export profile lines in *.dxf format which is compatible with most of CAD software.



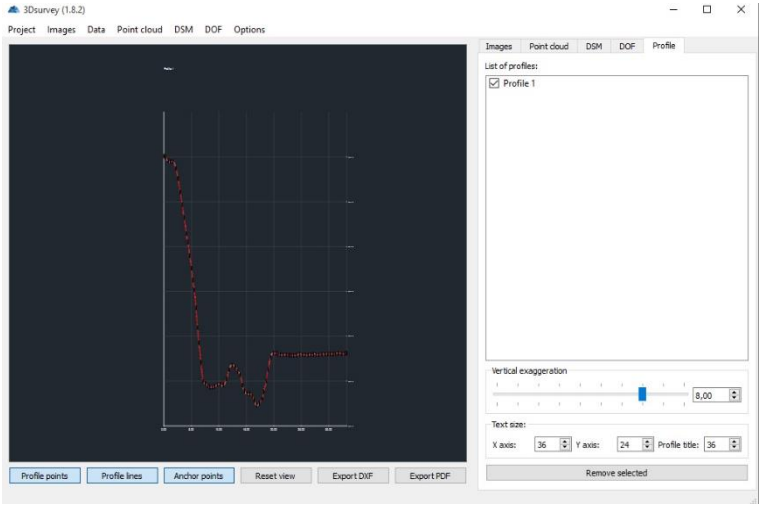
3.3.7.3.8 Export PDF

Use this option to export the actual view in *.pdf. Before the export set all the parameters (text size, profile name, view...)



3.3.7.3.9 Vertical exaggeration

Vertical exaggeration **slide bar allows you to emphasize the vertical scale of your profile.**

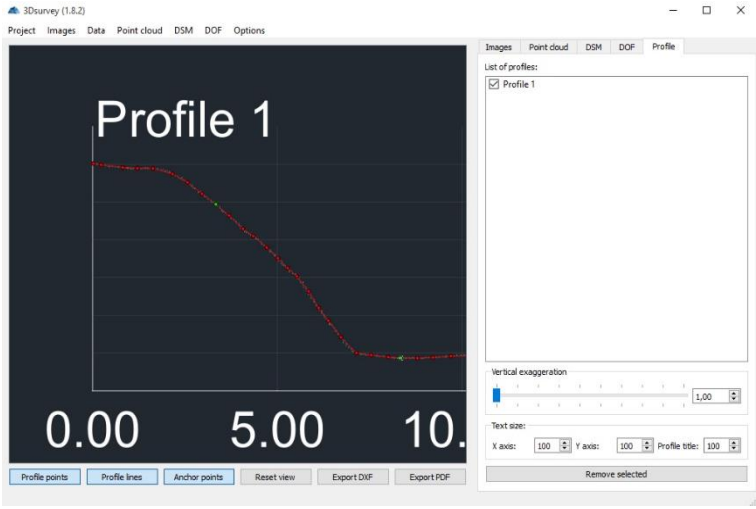


3.3.7.3.10 Text size

Profile title **– change Profile title text size.**

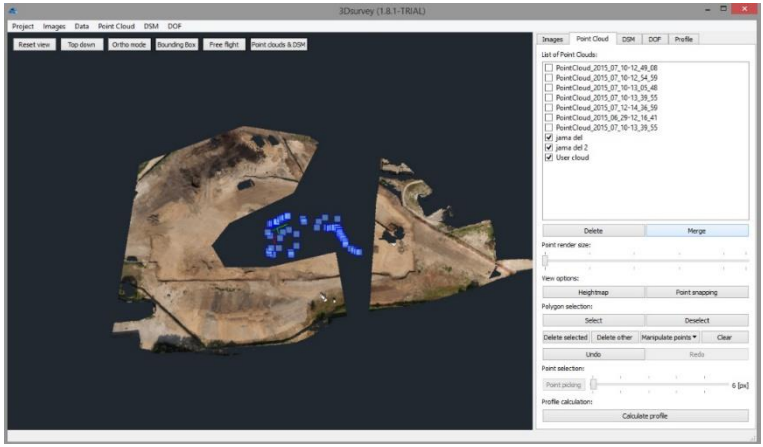
X – axis **- change X value text size.**

Y – axis **- change Y value text size.**

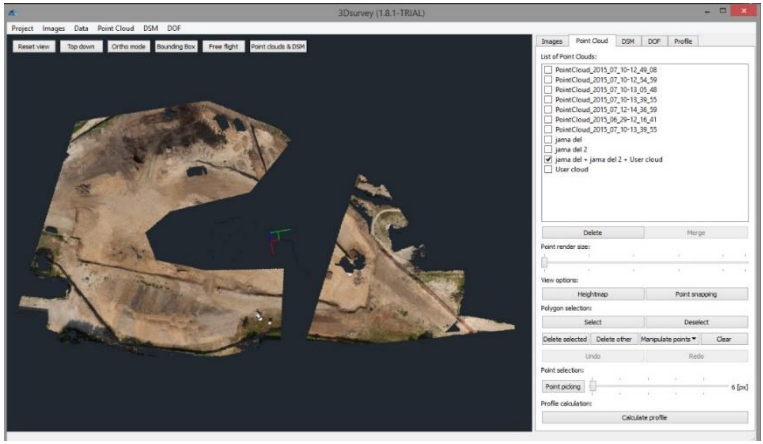


3.3.8 POINT CLOUD MERGE

3Dsurvey allows you to merge point clouds from different flights and of different types. For example, you can merge photogrammetric point cloud, LIDAR data or points measured with traditional method (control points). Simply select point clouds you would like to merge and click Merge button.

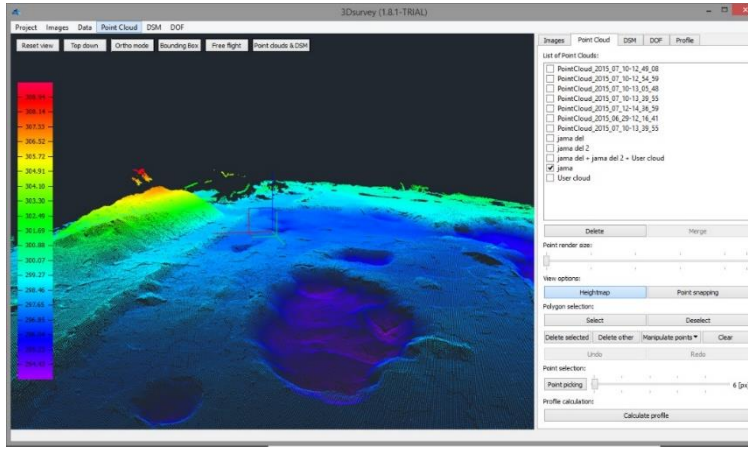


The result is a new point cloud.



3.3.9 HEIGHT MAP

Use Height map function to inspect calculated data by height. Utilize the hypsometric view in the Point Cloud tab or DSM tab. The height scale is available on the left side of the window.



3.3.10 DELETE

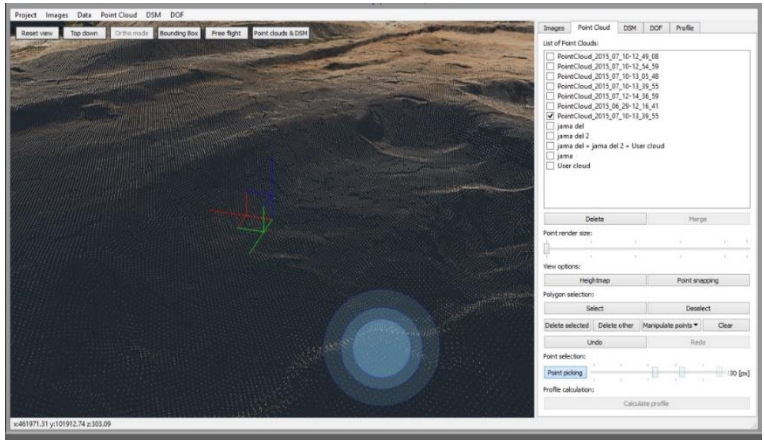
***Select* the point cloud you would like to delete and click *delete* button.**

3.3.11 POINT PICKING

Point picking tool is specifically designed to create characteristic points from a point cloud. To avoid importing millions of points into you software when generating your survey plan simply pick points you want and connect them or use them as height attributes.

The tool calculates the average height of the blue circle (see Image below) and helps you get the most accurate terrain height in case of a bad texture (i.e. asphalt). Use the Point picking slider to change the circle's radius.

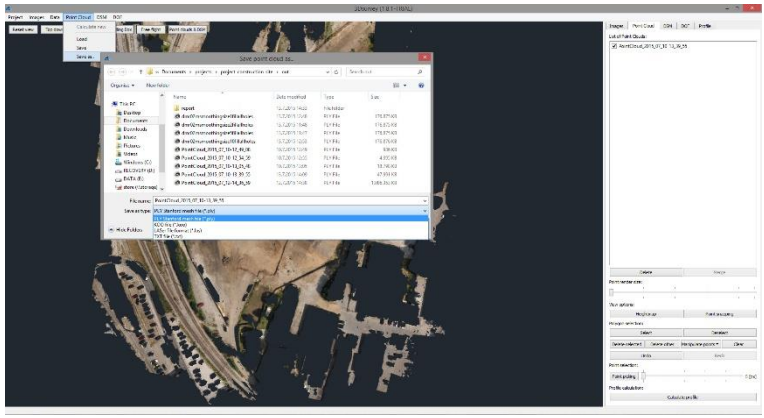
An example of three selected options:



3.3.12 SAVING POINT CLOUDS

Start by saving your project. Go to *Point cloud* -> *Save as* and select from a dropdown menu:

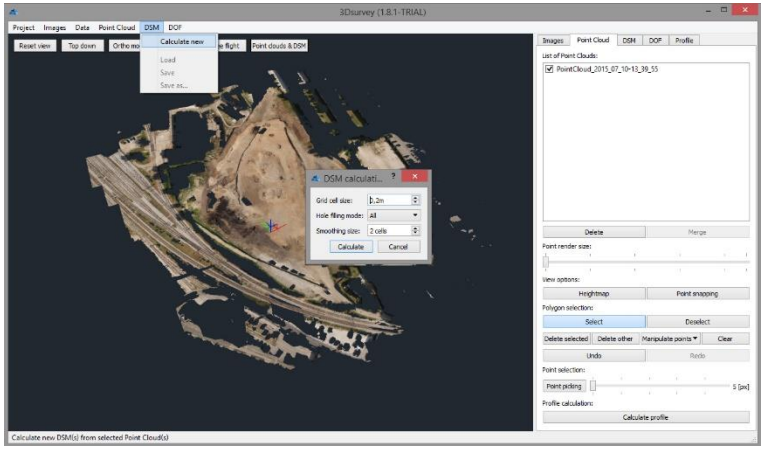
- ****.ply* – Stanford mesh file**
- ****.koo* – file of coordinates,**
- ****.las* – laser format file,**
- ****.txt* – text file.**



3.4 Digital surface model manipulation

3.4.1 CALCULATING DIGITAL SURFACE MODEL (DSM)

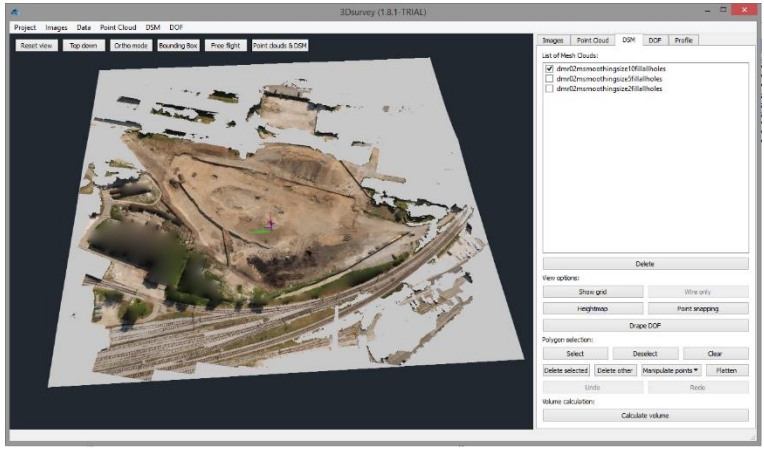
Go to *DSM -> Calculate new* and set the parameters.



To generate an Orthophoto the default parameters are:

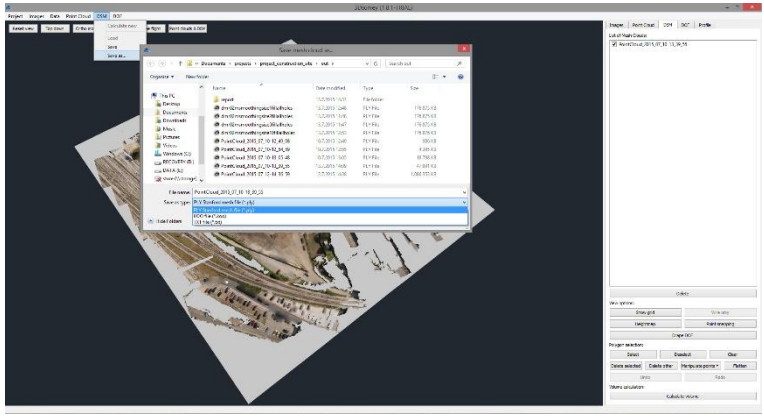
- **Grid cell size: 1.0m**
- **Hole filling mode: All**
- **Smoothing size: 3 cells**

The lowest grid cell size value is 0,02m and generates the most detailed result.



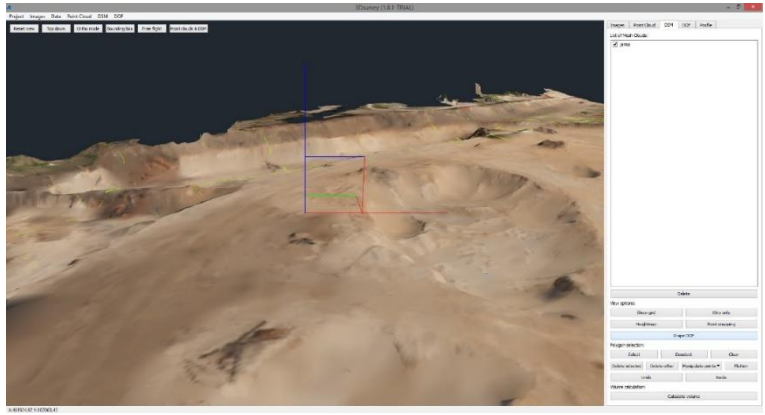
To export computed DSMs to different formats go to *DSM -> Save as* and select from a dropdown menu:

- ****.ply* – default Stanford mesh file**
- ****.koo* – file of coordinates,**
- ****.txt* – text file.**

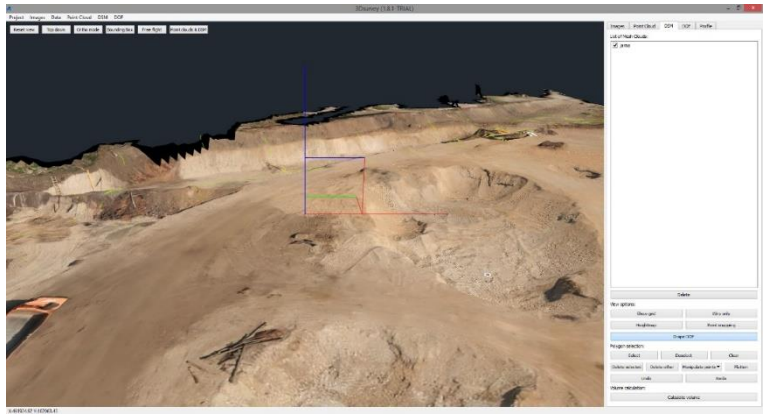


3.4.3 DRAPE DOF

For better visualization and presentation, DOF can be placed on top of DSM. Open DOF folder, select model and click Drape DOF.



The result of placing selected orthophoto over a DSM is a fully realistic 3D model.



3.4.4 VIEW STYLES

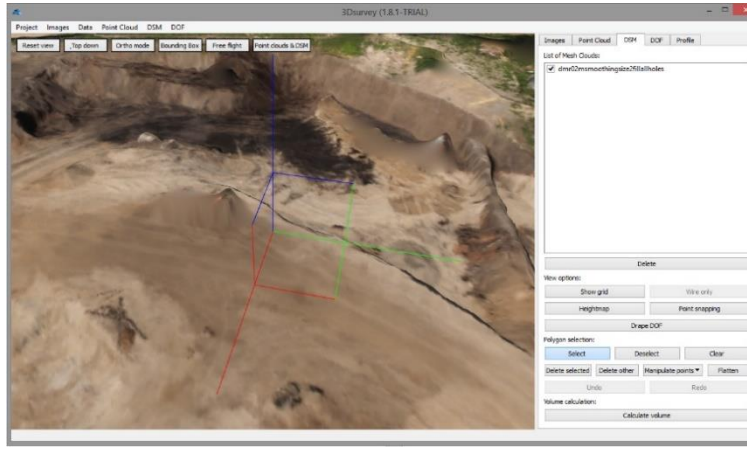
Different view styles are available.

Click *Show grid* button to view DSM wire surface.

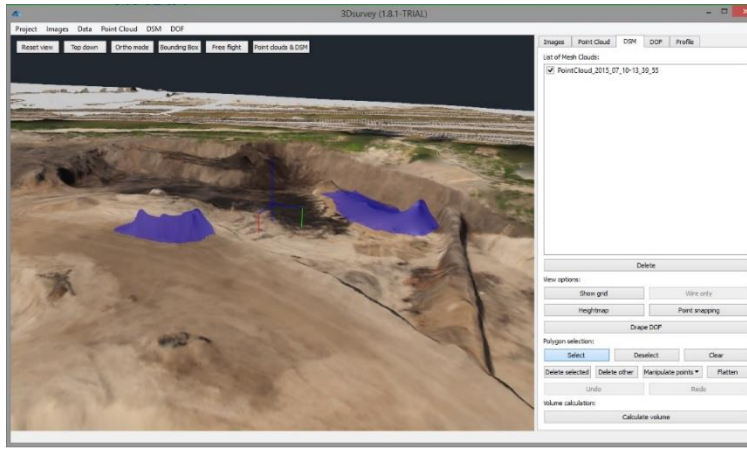
Click *Wire only* to see the triangulated mesh.

3.4.6 FLATTEN

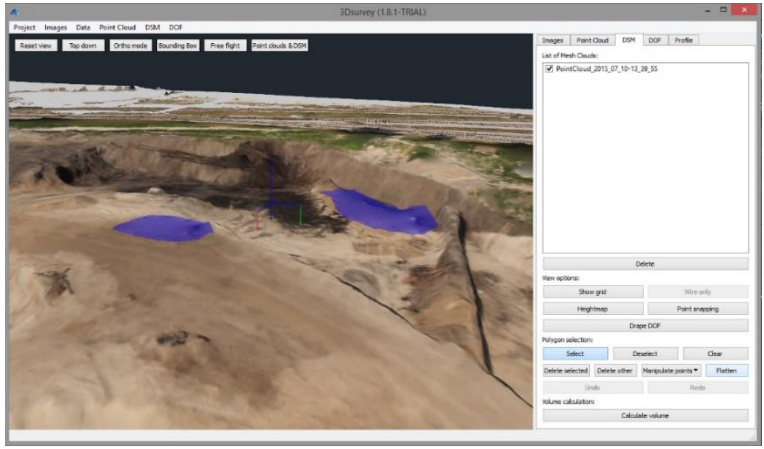
Use Flatten function to take irregularities out of DSM and apply smooth, even surface.



Select the area with a left mouse click, finish the selection with a right mouse click, inspect the selection and click Flatten. Surface smoothness will be calculated based on edge-of-selection points.



This is what it looks like after using *Flatten* function.

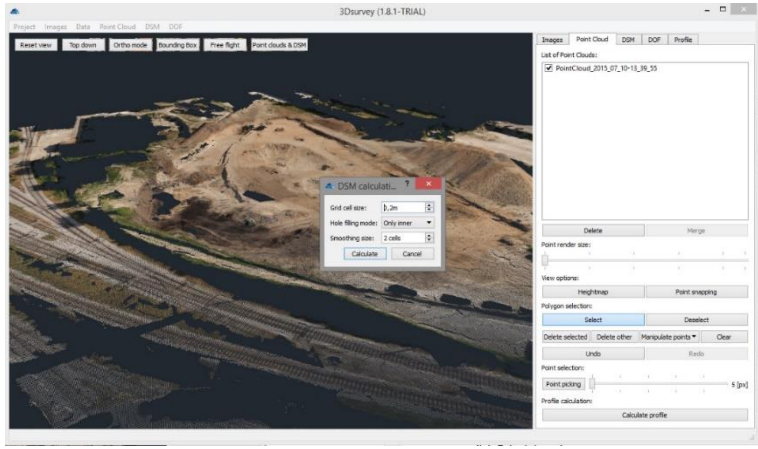


3.4.7 VOLUME CALCULATION

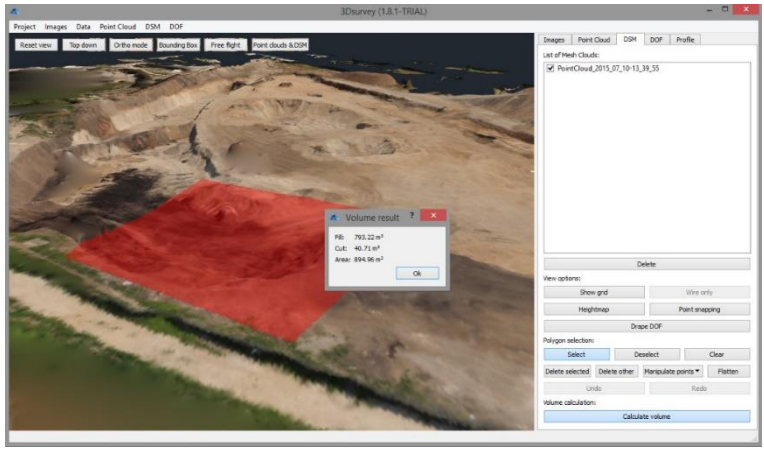
a) Volume calculation based on one surface

Calculate volume of material for a single measurement. This option comes in handy when calculating the volume of excavated material.

Calculate or load point cloud of the area -> Click *DSM* -> Calculate New and set DSM calculation parameters as shown in the image below.



Click *Select* button to define the area for which you want to calculate the volume. Start the selection with a left mouse click, finish it with a right mouse click and press *Calculate volume*.



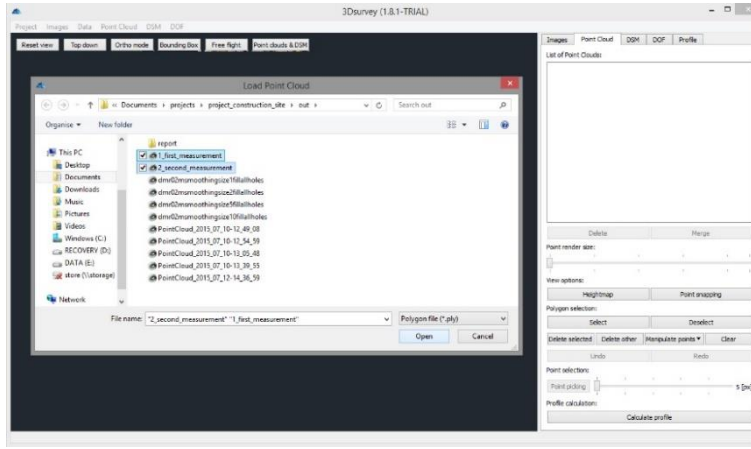
Lower surface of your selection is generated based on edge-of-selection points. The results contain the following:

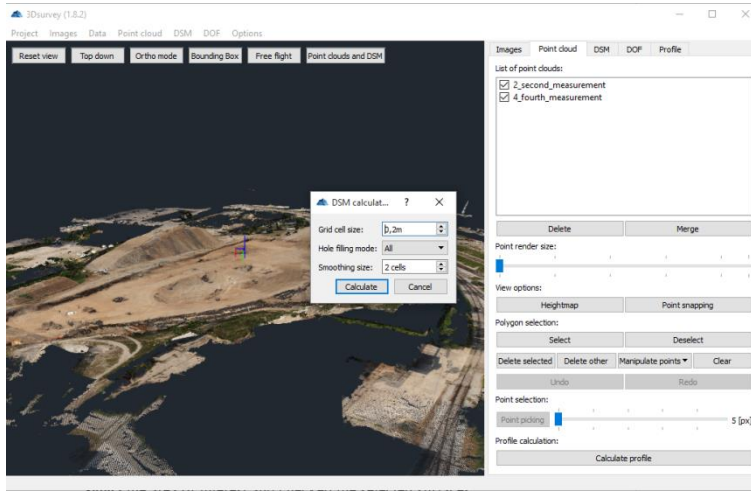
- **Fill – volume of needed mass to fill holes below mean surface.**
- **Cut – volume of mass above mean surface**
- **Area 3D – three dimensional area of selected surface**
- **Area 2D – horizontal area of selected surface**

b) *Volume calculation based on two surfaces (two consecutive measurements)* Measure the volume difference between two consecutive measurements. Ideal for construction site monitoring.

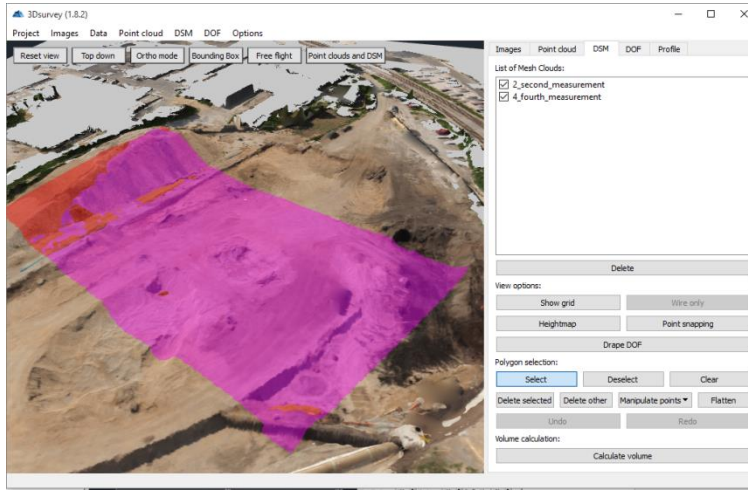
How?

Calculate or load two point clouds of the area you would like to calculate -> Click *DSM* -> *Calculate New* and set DSM calculation parameters as shown in the image below.

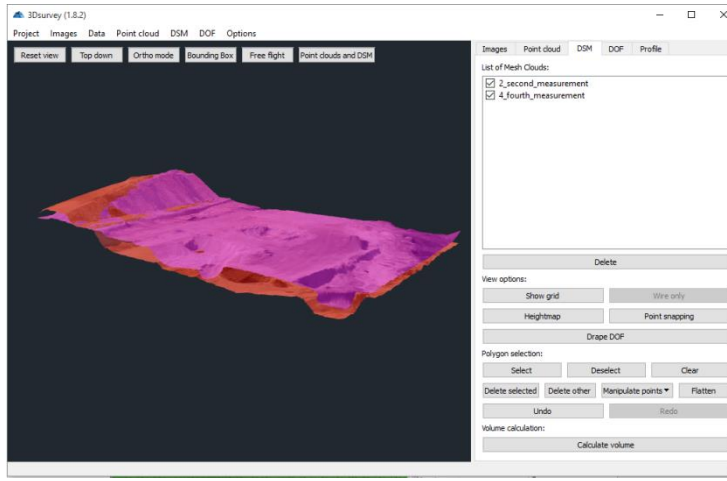


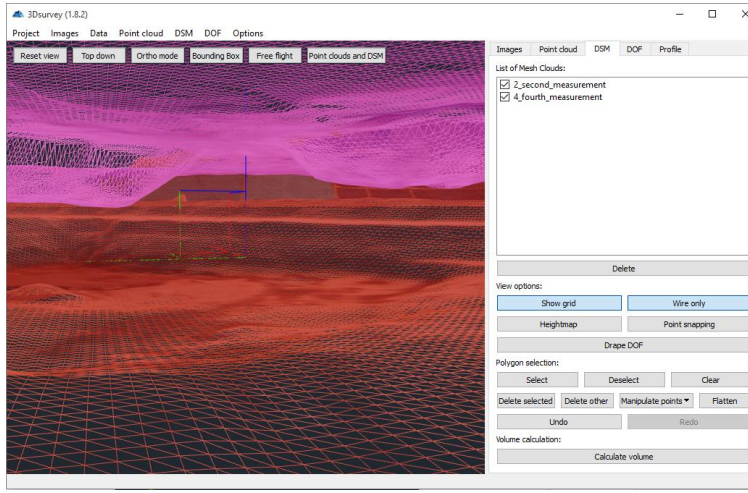


***Select* the area of interest and check the selected surfaces.**

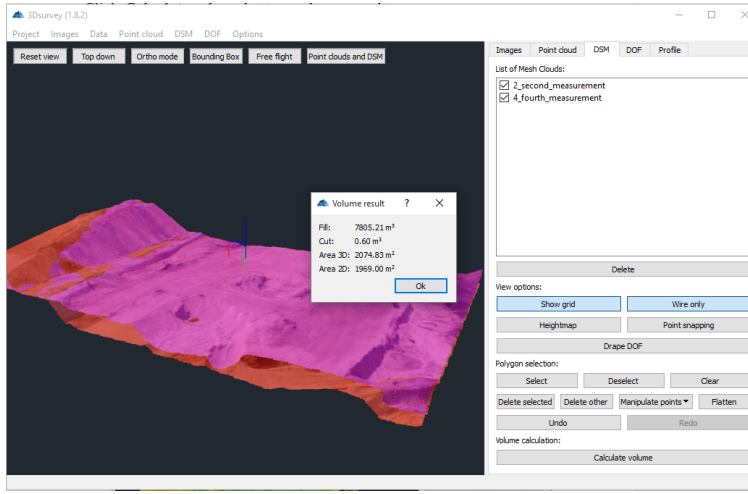


Use *Delete other* button to see the selection a bit more clearly and to be able to save the results exactly.





Click *Calculate volume* button and save results.



The results contain the following:

- **Fill – volume of added mass**
- **Cut – volume of removed mass**
- **Area 3D – three dimensional area of selected surfaces**
- **Area 2D – horizontal area of selected surfaces.**

Important: to calculate the volume differences between two surfaces the DSM parameters have to be the same!

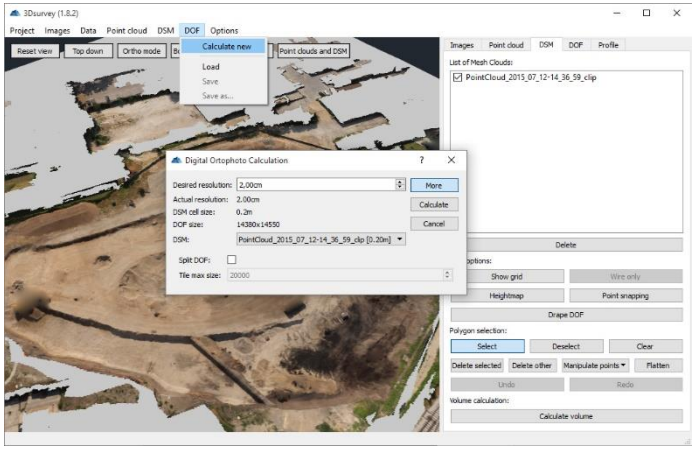
3.4.8 DELETE

***Select* DSM files you would like to delete and click *delete* button.**

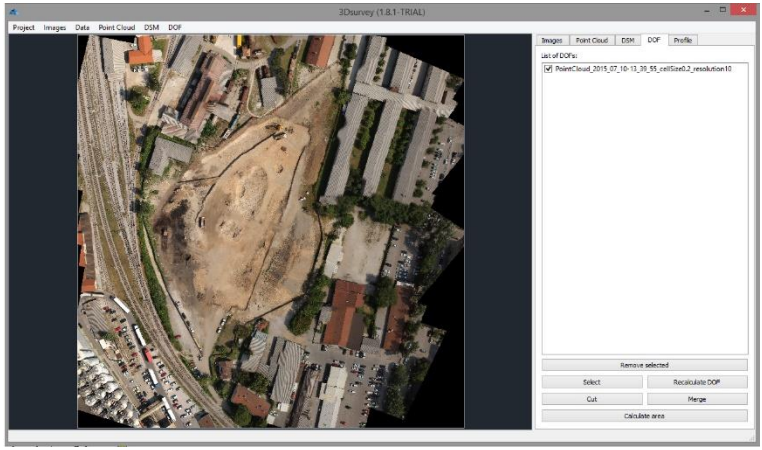
3.5 Digital orthophoto manipulation

3.5.1 DIGITAL ORTHOPHOTO CALCULATION

Go to *DOF -> Calculate new*.

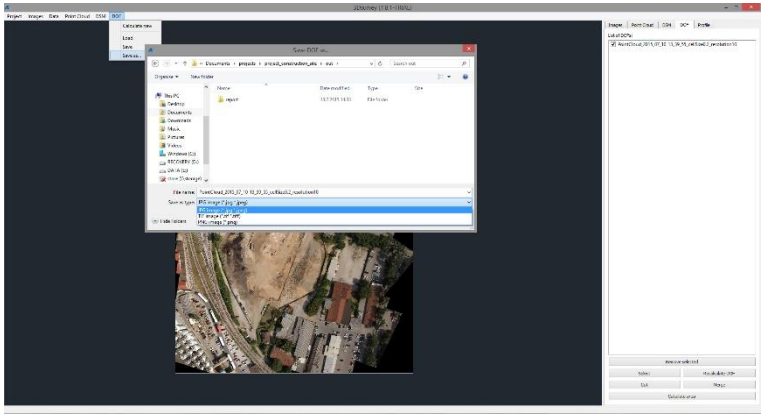


Set *Desired resolution,* 2cm for example. As the value may not be computed, *Actual resolution* is displayed below. It is an outcome of your desired value and DSM cell size, which is based on selected *DSM*. If you click *more*, you can check *split DOF* box. Default *Tile maximum size* is set to 20.000, meaning DOF will be split if it exceeds 20.000 pixels. Click *Calculate* to start the orthophoto calculation.



Save your project. Go to *DOF -> Save as* and select the export format from a dropdown menu:

- ***.jpg *.jpeg + *.jgw***
- ***.tif *.tiff + *.tfw***
- ***.png + *.pgw***



Georeferenced data file is automatically generated with every orthophoto image.

3.5.2 DIGITAL ORTHOPHOTO CORRECTIONS

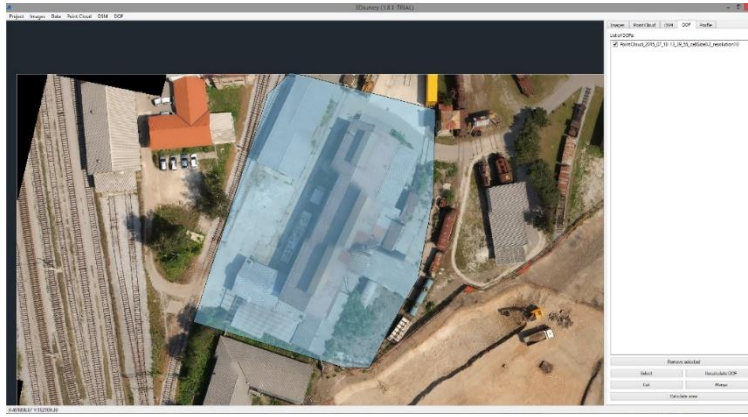
To calculate a digital orthophoto follow steps from 3Dsurvey Workflow chapter. If you are not satisfied with the results use correction tools to improve on them.

Because of low-altitude flights there are often obstructions in your imagery (i.e. objects on roofs of buildings). That can easily be corrected with the *Recalculate DOF* tool.

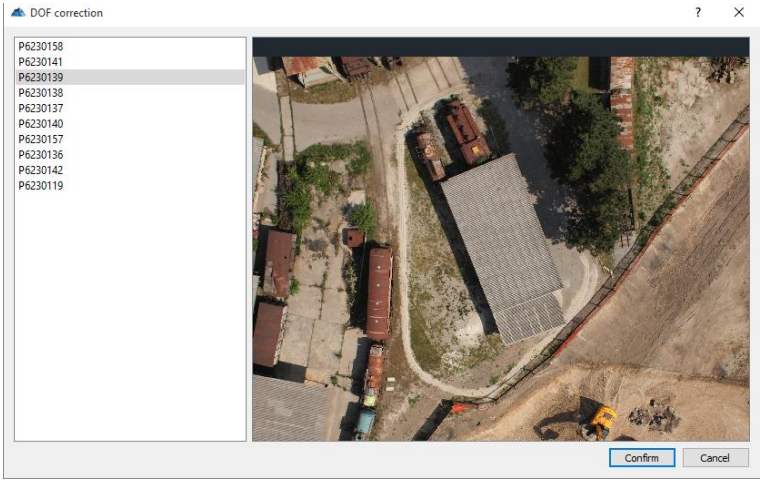
Note: Simply loading your orthophoto into 3Dsurvey is not enough to use Recalculate DOF function. To do so you need to go through the whole process of DOF calculation.

How?

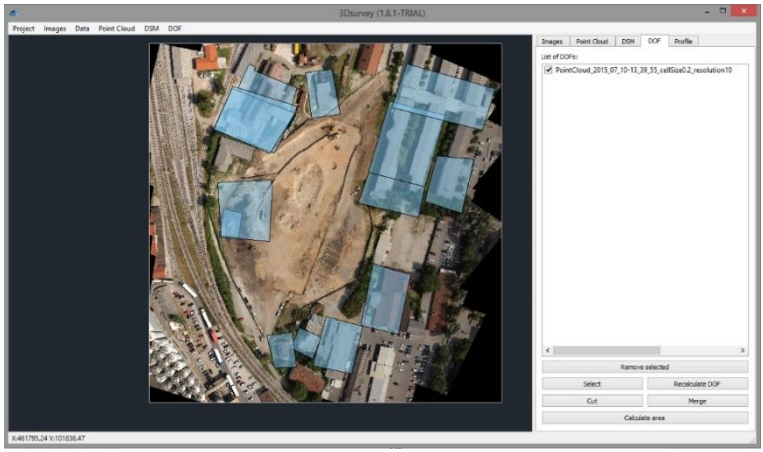
After your orthophoto is calculated, select the area you would like to recalculate with *Select* button and click Recalculate DOF.



3Dsurvey will automatically show you images needed. Select one, click Confirm and wait for results.



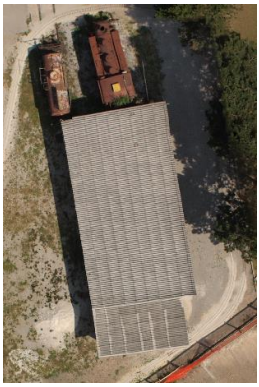
In case you have several objects to work on repeat the same process across the area. Click *Recalculate DOF* button to finish.



Results:

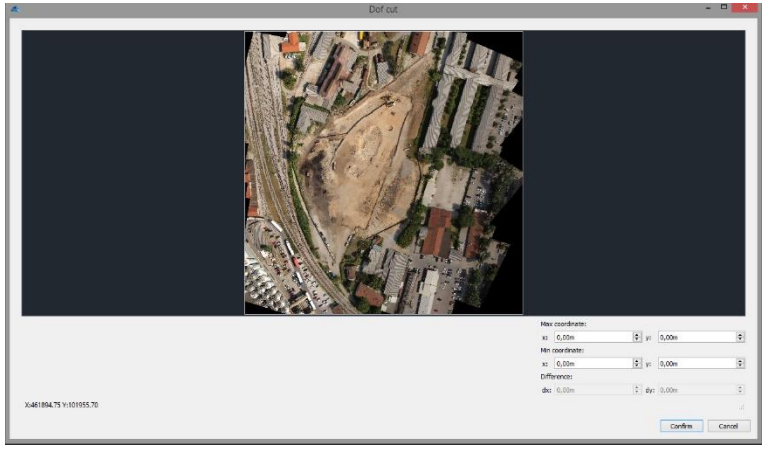
Before

After

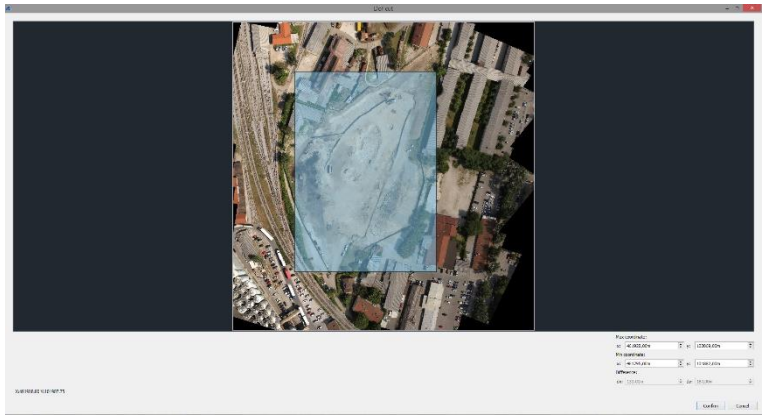


3.5.3 DOF CUT

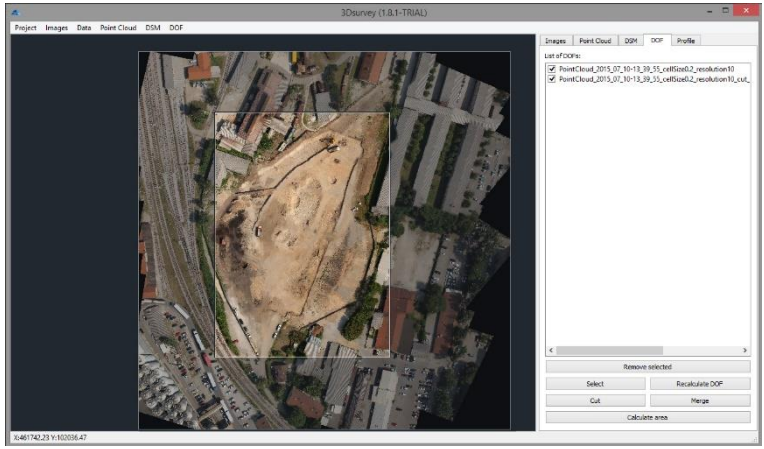
Use DOF cut function to split the orthophoto map into smaller parts or simply create a new orthophoto from the area in question. This will reduce the size of your files and speed up further work with your results.



Select the area by left-clicking and dragging your mouse over the image to draw a selection rectangle.



Click Confirm to calculate DOF cut.



3.5.4 MERGE DOF

In case you have 2 orthophoto maps calculated from images taken during two different flights you can use Merge DOF function and produce a single orthophoto map.

Click Merge button to start.

Continue by selecting the area for you merged orthophoto. To select it you can simply use a left mouse click or you can do it by setting specific coordinates of the map corners.

Select the area and click Next.

The Merge wizard will appear. Select the first orthophoto and click Paste selected DOF. Select the second orthophoto, set the Alpha to *medium position* to clearly see the coverage of two orthophoto maps.

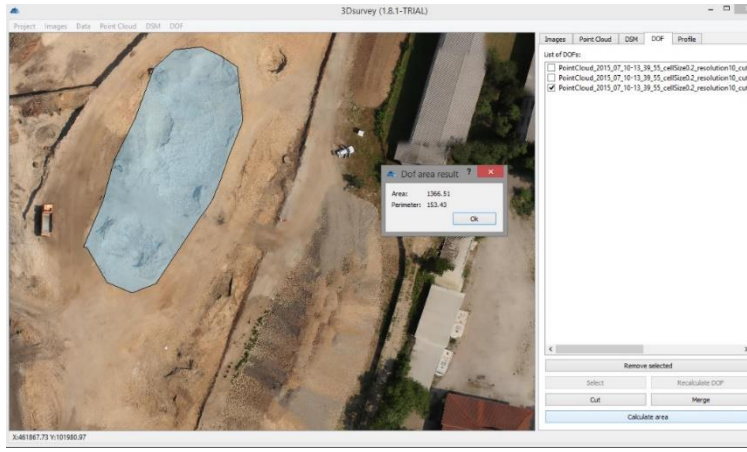
Click Select merge area and use a left mouse to select it, right click to finish it, set the *Blending size* to 50 and click Merge selection. Try to avoid any obstructions when selecting your merge area. That will help you get the best results.

As a result you get a single orthophoto map. Click Finish if you're pleased with it or simply repeat the merging process for improvements.

3.5.5 CALCULATE AREA

Use this function to compute instant information about a particular area or part of your map. Click *Calculate area* button and draw a selection. A pop up results window displays the information:

- **Area – planimetric (2D) map of selected region,**
- **Perimeter – circumference of selected region.**



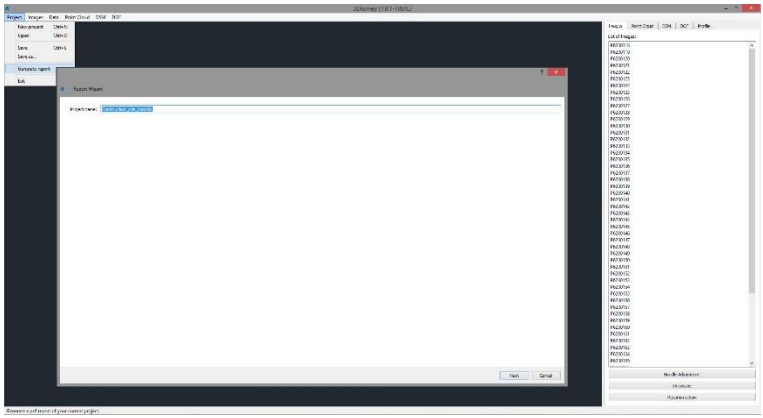
3.5.6 DELETE

Select orthophoto maps in DOF list and delete them from application by clicking *delete* button.

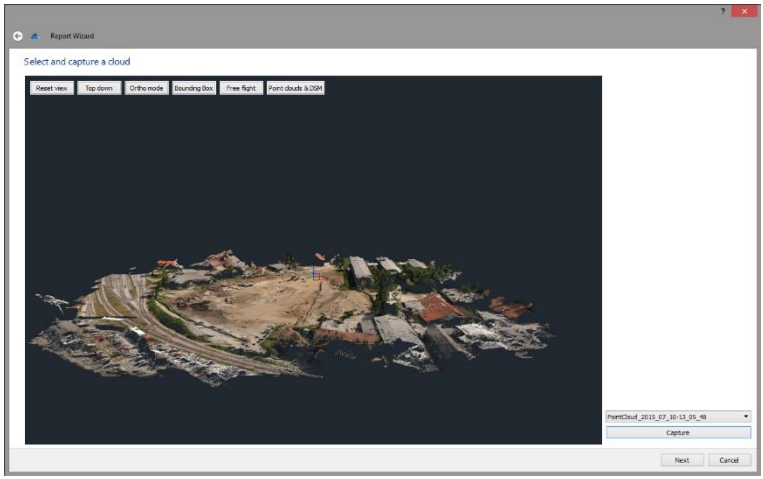
GENERATING REPORT:

Use generate report wizard to get the final tasks and results report of your project. Click *Project -> Generate report*.

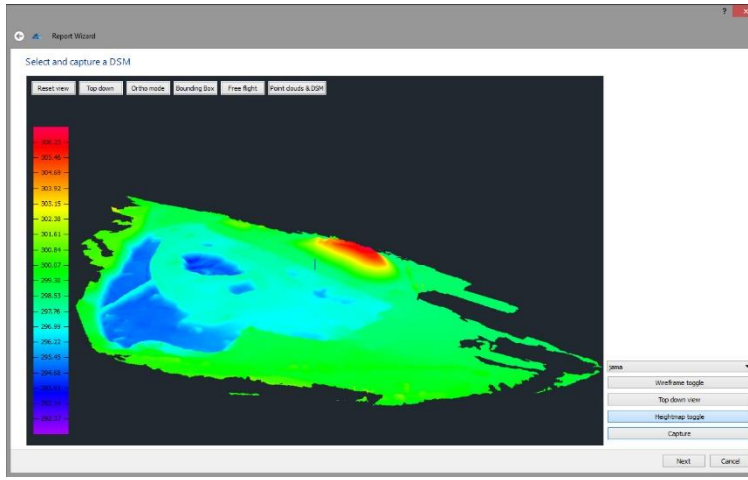
Report wizard pops up. Enter a report name or use project name by default. Click *next* to start creating it.



The next step is to *select* and *capture* a point cloud. Choose a view type, select point cloud and click capture. Click *next* to proceed.



Move on to the next step; *select* and capture a DSM. Again, you can use a view type of your choice, select DSM and select model presentation. *Capture* desired view and click *next*.



The final step of report generation is to select and capture a DOF. Select your desired DOF and click *Finish*. Your final report is saved and available in *.pdf and *.odf file formats.