


PointCab TUTORIALS

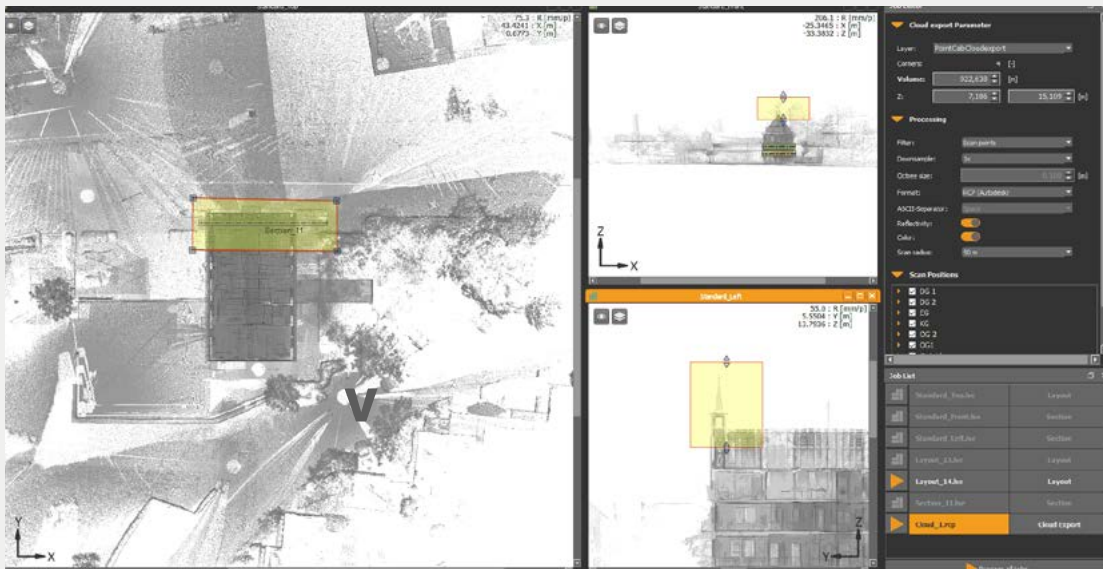
POINT CLOUD EXPORT

There are situations where you want to import the point cloud or parts of it into your CAD software instead of orthophotos. For example, for further modelling of very detailed objects or simply for verification purposes.

With PointCab, even exporting very large point clouds is no problem. Whether you need every single point captured with the laser scanner, or a reduced point cloud, or whether you need to convert your point cloud into a specific format, all this is very easily possible with the Point Cloud Export module.

In the following tutorial we explain step by step how to export parts of your point cloud from PointCab and which options are available for export.

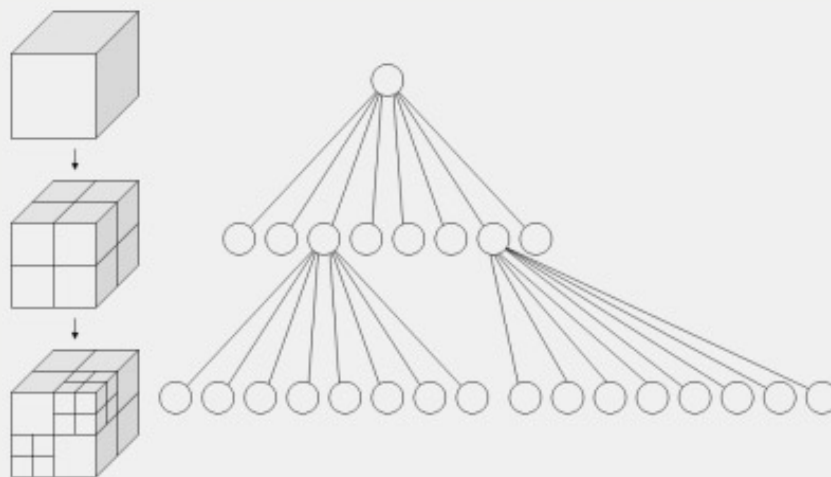
Select the **Point Cloud Export**  tool and select an area in one of the standard views or in a planar panorama. Edit the selected area by setting the lower and upper bound in the vertical direction (front or side view).



In the **job editor**, we select the desired filter and set further export options.

Filter options

- **Scan points:** The number of scan points is additionally reduced by the selected factor. With a selected factor of 2, only every second scan point is used.
- **Block filter (Octree):** The number of scan points is spatially thinned out and thus homogenised. With a selected block size of 0.05m, only one point in a cube of the edge length is exported at a time. This means that in areas with low point density almost all information is retained. In areas with high point density, redundant points are omitted. This can massively reduce the point cloud without losing essential information and considerably speeds up subsequent processing with the exported data, e.g. in the CAD system.



- **Height points („height profile“):** You obtain the raster DGM as a point cloud for the respective floor plan or section view. The number of points depends on the image resolution originally selected for the floor plan or section. To avoid vegetation as much as possible, create a floor plan and reverse the viewing direction - i.e. viewing direction from below. When exporting with the height point filter, it will detect the „surface“ and not the „vegetation“.

All the above options are solutions for exporting an unstructured point cloud, which means that the panorama views will be missing. However, this is usually sufficient in order to simply import the point cloud into the CAD system. Normally the CAD software cannot read the panorama views of a point cloud.

But let's assume that your client also needs the point cloud project, along with the other outputs that PointCab offers.

In PointCab you also have the option to export a structured point cloud into the E57, RCP or PTX/PTG format. To do this, instead of filtering the point cloud, you select the **Separate Scans** option from the drop-down menu in the filter area. Please note that even if you select a limited area in the standard views, the entire point cloud will be exported. This is just a conversion process from a given format to the format you need and no information will be lost.

Export formats

XYZ, LAS, LAZ, E57, STL, POD (Bentley), SPW (Sema), PTX, PTG

RCP: PointCab also enables the point cloud export for the AutoCAD RCP format. This allows you to import the data directly into AutoCAD via ReCap without diversions and without loss of time.

Start the calculation of the export in the job list.

You can now import the generated point cloud file (right-click to open *_/projectname/projectname_Results/3D/*) into any CAD program or create a new PointCab project from the point cloud itself.