MESH

With the Mesh tool you can create **2.5D meshes** directly in PointCab. The tool is suitable for meshing structures such as fills and pits, but can also be used to create facades of a building, for example. Since we use 2D views with depth information in PointCab, i.e. 2.5D views, and the mesh is calculated on the basis of these views, the mesh tool cannot map a complete 3D mesh.

Of course, there are applications where you need a full 3D mesh. The PointCab Mesh is not suitable for this, e.g. when meshing pipes, equipment, machines, etc.

The Mesh tool in PointCab is an easy-to-use tool that allows you to create a mesh which you can export into a DWG/DXF/DAE format for further processing in the CAD system.
Here, we will show you an application example for the use of our mesh tool and the options available in the job editor so that you get the best possible results for your CAD system.

Surface model of a façade

Recording a façade using a laser scanner is a very simple task. Evaluating the façade is less simple. With the mesh tool you can create a surface model of the façade.

To do this, we activate the **Mesh tool** ⬡ and mark the inner area of the façade. We finish the selection by clicking on the starting point again.


Now we can adjust the settings for the calculation in the **job editor**. For a façade, a meshing accuracy of 1 cm is sufficient. We start the calculation as usual.
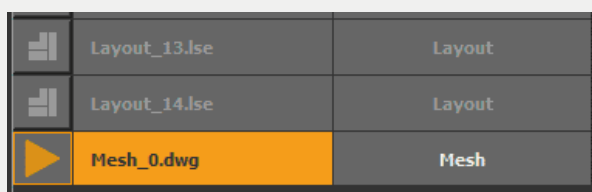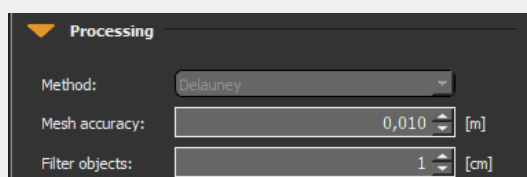
After calculation, PointCab displays the mesh directly in the orthophoto. We can also open the mesh in the **3D view** for further observation.

To do this, double-click the job in the job list.

The **3D view** opens in a new tab. Here we can view the 3D surface model. The rotation point is always in the middle of the project after opening. We can adjust the rotation point by holding down the *mouse scroll wheel* and moving the position.
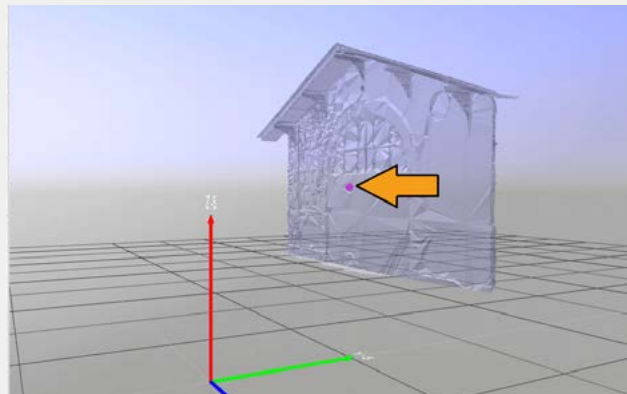
Of course we can open the result in our CAD software as well. To do this, we open the path, e.g. by *right-clicking* on the job:

The path is opened directly. Here we select the CAD file by double-clicking and open the mesh in, for example, Autodesk TrueView:
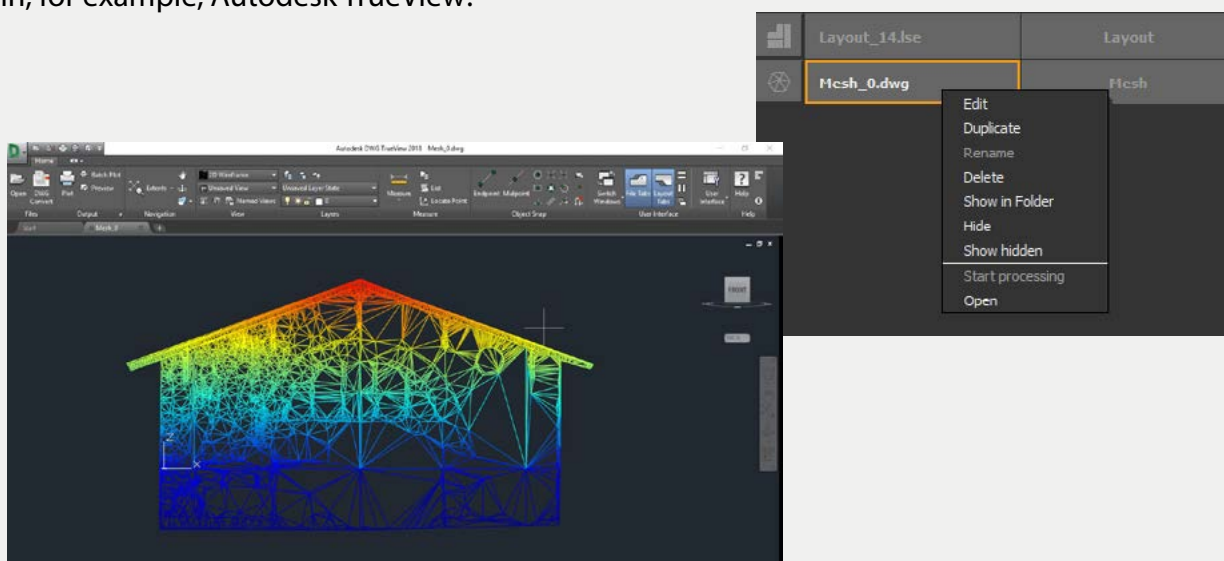
Meshing options

Now we would like to take a closer look at the parameters in the Job Editor, which we can change depending on the project and our needs.

Processing

The **meshing accuracy** describes the maximum deviation allowed between the generated triangular areas of the meshing and the measured point cloud. The smaller this value, the finer the triangles. The file size increases the smaller the value you select.

The **object filter** smoothes the surface and omits points within a specific value. This means that if an object filter of 5 cm is selected, the points that are 5 cm above or below the surface are not taken into account. So if there is a prism pole in the terrain, it will not be included in the calculation.

CAD & File
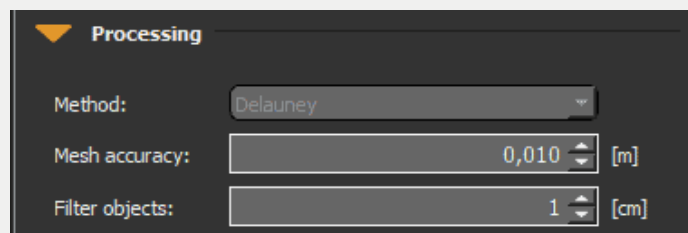
In the **CAD** tab you can adjust the **export unit**. For example, you can export the meshed surface in millimetres and thus import it directly into your CAD system.

You can change the **name** of the job under the **File** tab. In addition to the created DWG format, you can also export a DXF file or a DAE file, depending on the CAD system in which you want to further process your mesh.