PointCab TUTORIALS

VEKTORIZER

We start this tutorial by preparing our orthophotos to get the best possible result when using semi-automatic vectorisation on our floor plan. Then we will create and edit the vector lines.

At the end of this tutorial we will show the manual vectorisation in detail and give you some application examples for the Vectorizer module.

Prepare the project for vectorisation

It is useful to first create a floor plan or section that only contains the elements we need to digitalise the lines. To be able to create an optimal vector image, it is important to choose a narrow area.

Here we choose an area directly under the ceiling so that only the walls are visible in the 2D plan. Openings, such as windows and doors, are omitted here, but of course you can change the height of the floor plan to include these elements as well. We omit them in our example so that the Vecorizer finds as many lines as possible in our floor plan.

Then we calculate the floor plan:
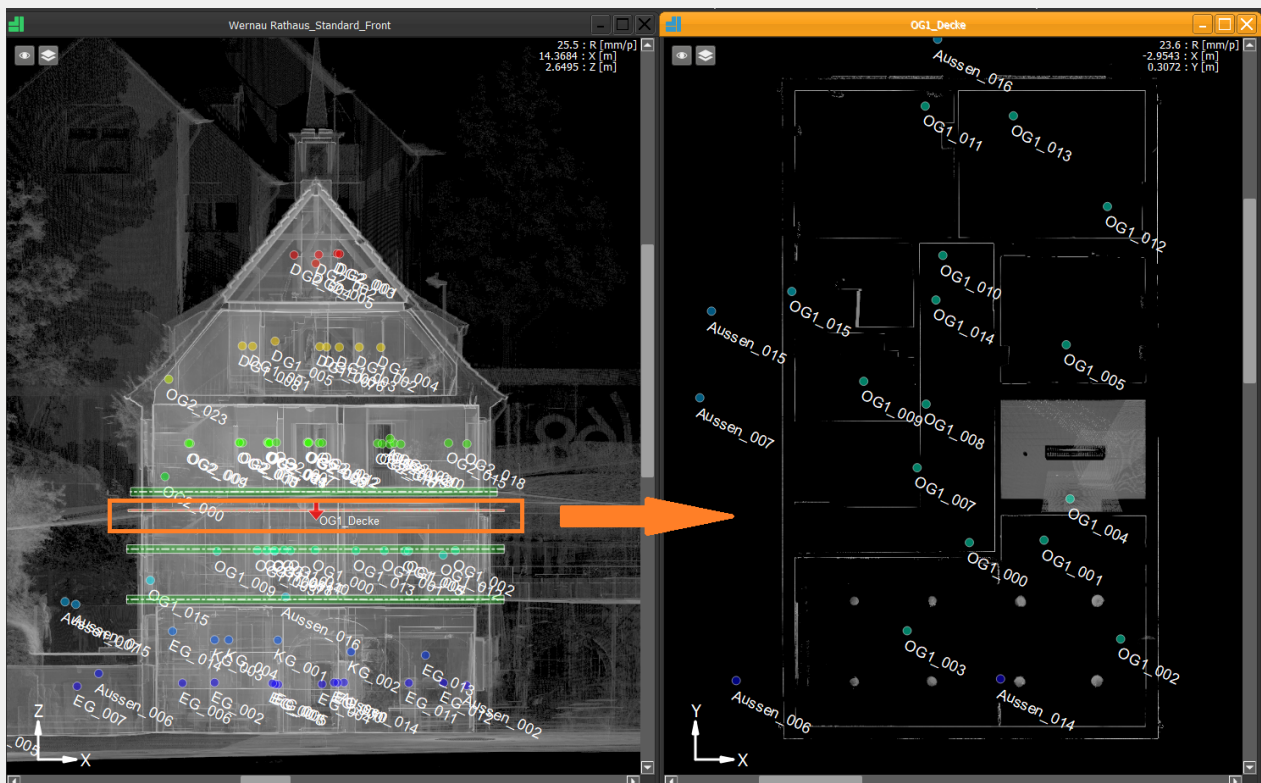
Automatic vectorisation

We activate the **Vectorizer tool** and select the area to be vectorised. In the **Job Editor** we can adjust the vectorisation parameters. The default settings for the Job Editor can be adjusted via File > Settings > Vectorizer:

- **Minimum line length:** With a smaller value more vectors are created
- **Polygon corners:** Blending
- **Histogram:** A darker value creates fewer vectors.
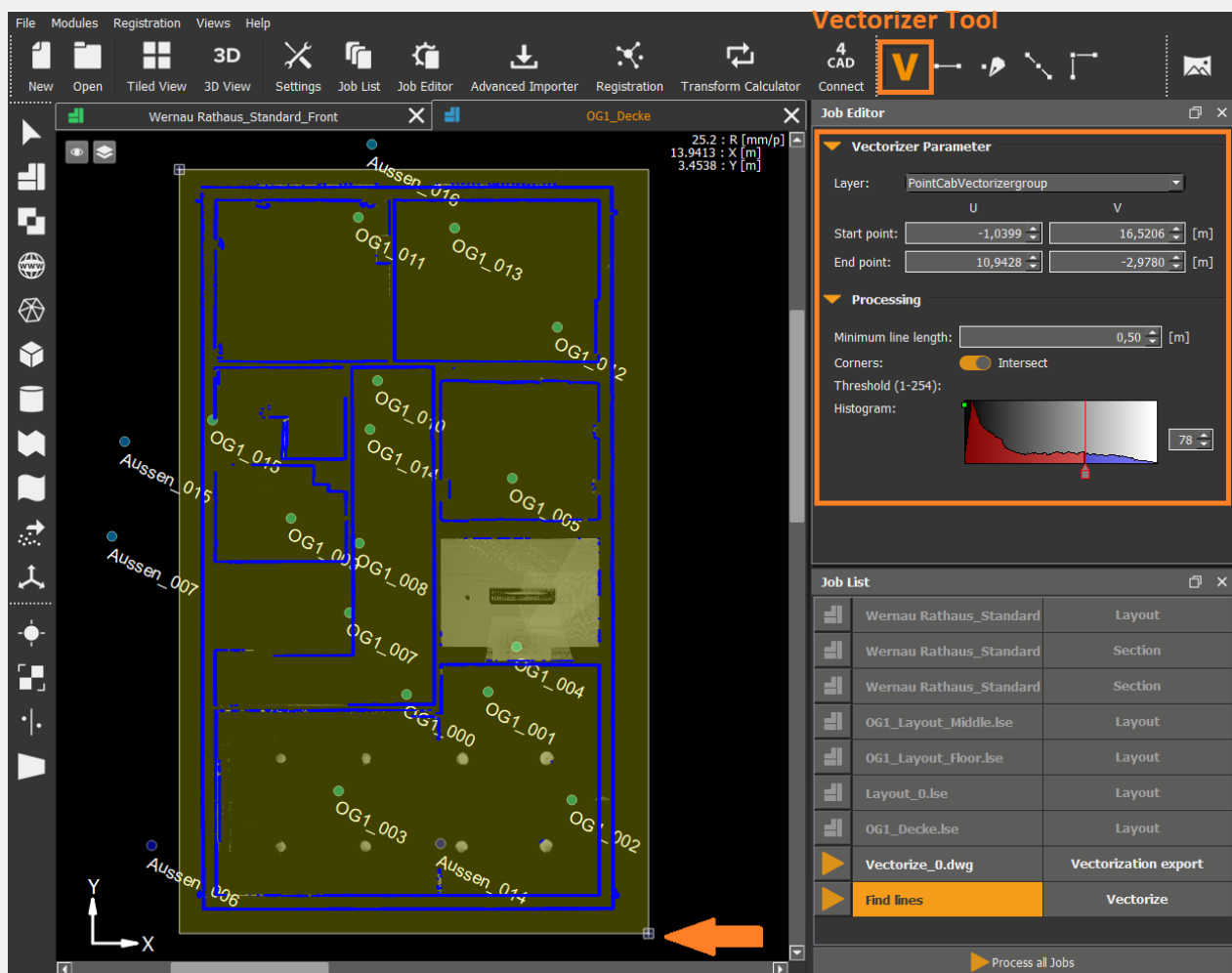
Editing the vector lines

The vectorised lines are now displayed in PointCab for further editing. The Vectorizer toolbar provides simple tools for editing, adding and correcting the individual line elements. We can adjust the default settings for the job editor via the menu under File > Settings > Vectorizer:

- **Export Unit**
- **Projection:** 3D / Planar / Planar & Origin - this depends on the CAD software you use! A description of these options can be found here: https://pointcab-software.com/en/learn/tools_and_functions/vectorizer/
- **Export Format**
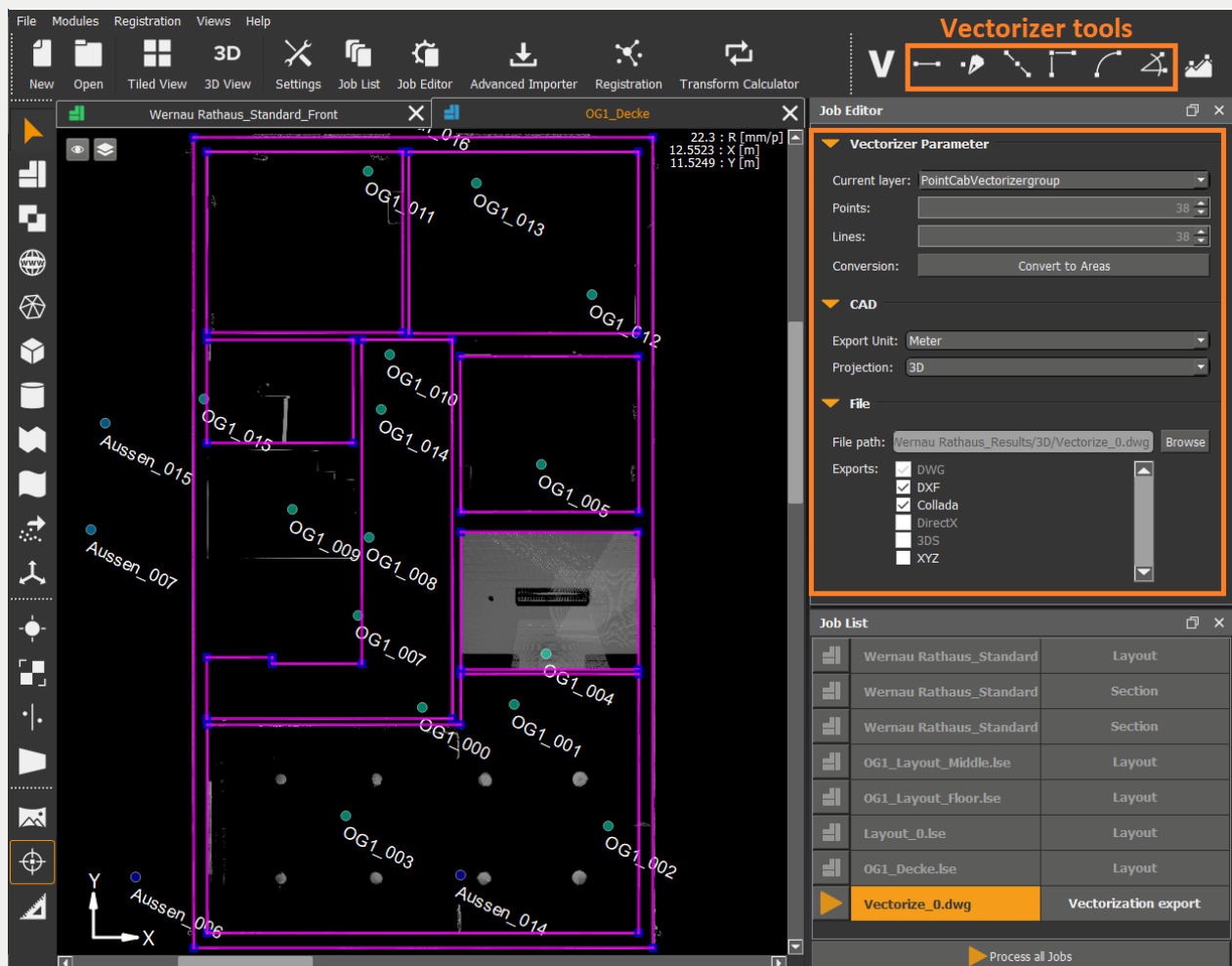
Results for CAD

You can display the results in the folder via the context menu. You can open the context menu by right-clicking on the calculated job. Depending on the output format you have set, a DWG and DXF line drawing is now created. The DWG file can be opened in AutoCAD, for example, and placed under your project:
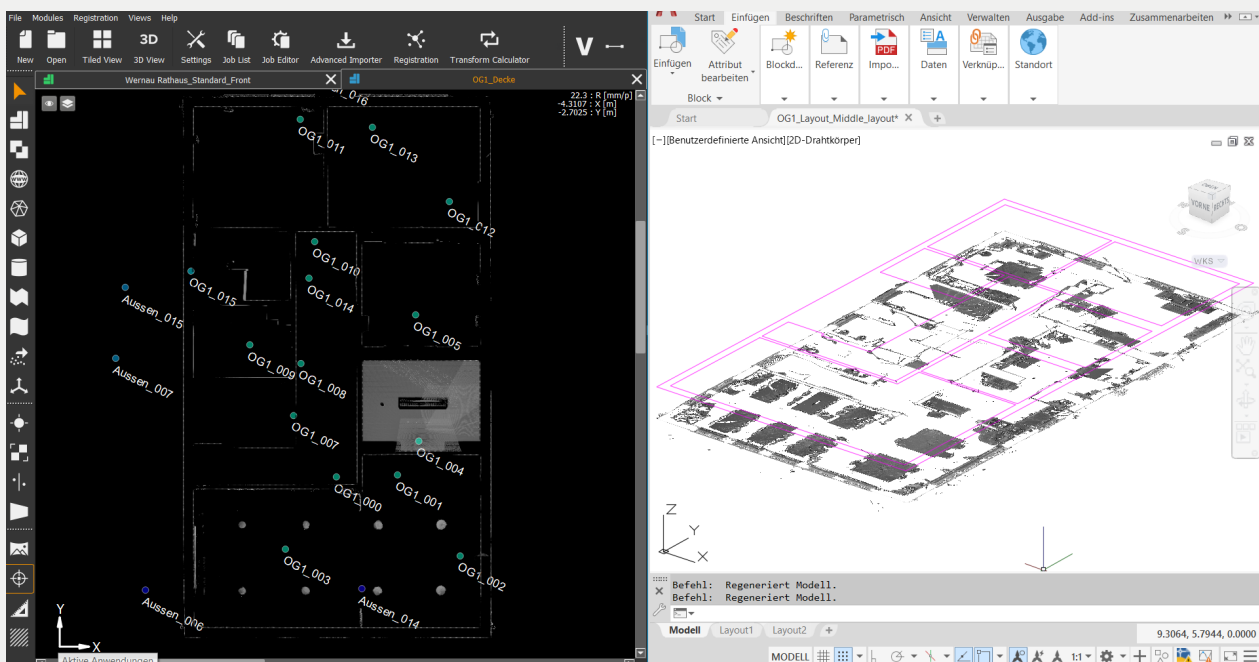

Manual vectorisation

Since the Vectorizer tool is not 100% automatic, sometimes you will still have to do some manual editing and cleaning up. In this module there are CAD-like tools with which you can correct the result. Of course, you can also use the manual vectorisation tools right from the start.
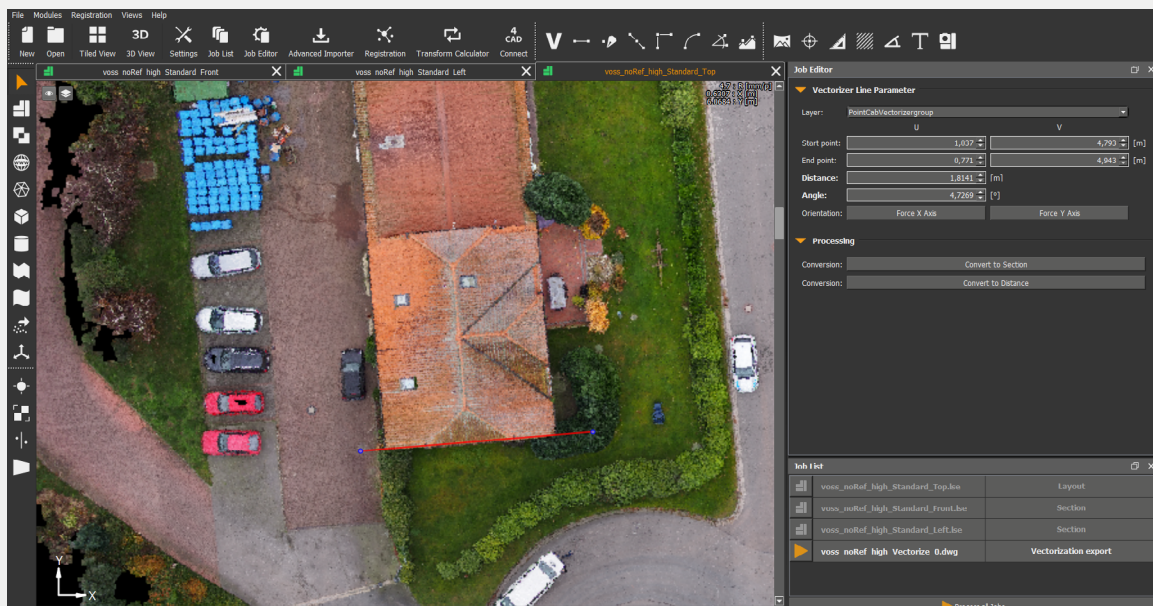
Create lines

Activate the **Create Lines** tool. Now simply click the start and end points for the new line. If you hold down the **ALT key** on your keyboard, PointCab automatically estimates the centre of the edge. This simplifies your work because you don't have to zoom in close onto the start and end points. As soon as PointCab finds the centre of the edge, the cursor turns into a red dashed cross.
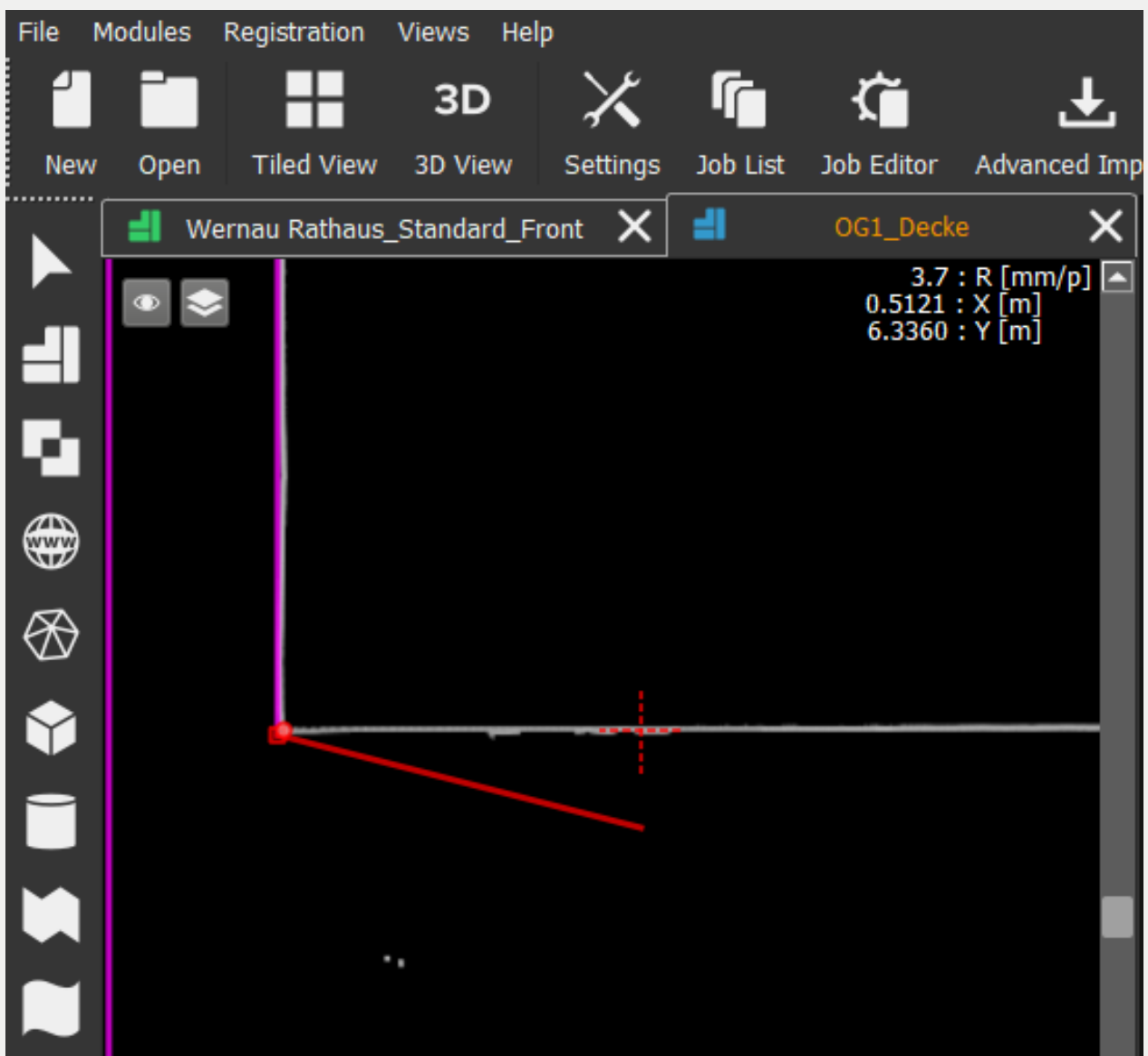
In the **Job Editor**, the coordinates of the start and end points can be entered if they are already known. After entering coordinates, the distance and angle between the X-axis and the line to be created are determined. You can align the line to be created according to the X-axis or the Y-axis. The plane of the CAD file can also be defined here.
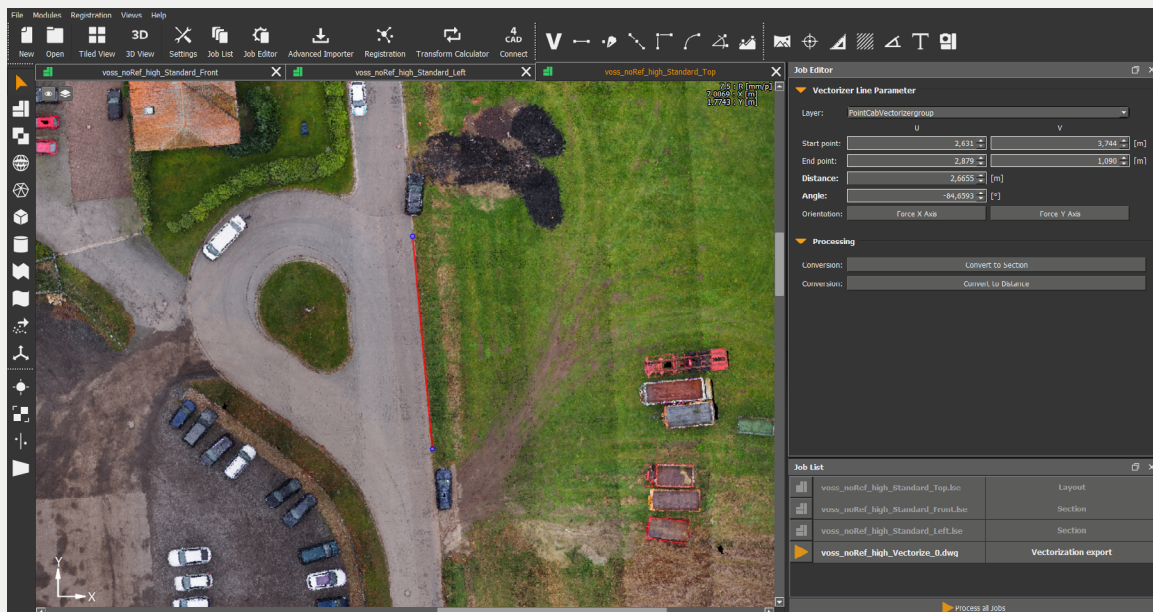
Here, you also have the option to convert the vector line into a section. This way the reference plane of a section (e.g. for façade plans) can be placed exactly as you need it:

Connect Lines

Activate the **Connect Lines** tool. Two lines can now be connected by selecting the two lines one after the other. With the help of the Insert Vector Point tool, a new vector point can be created by clicking the place on the line where the vector point is to be created.

Intersect lines

Activate the **Intersect Lines** tool. To intersect two lines, simply click on the two lines one after the other. If necessary, you can activate the option „Preserve intersection". The two lines are directly connected to each other:
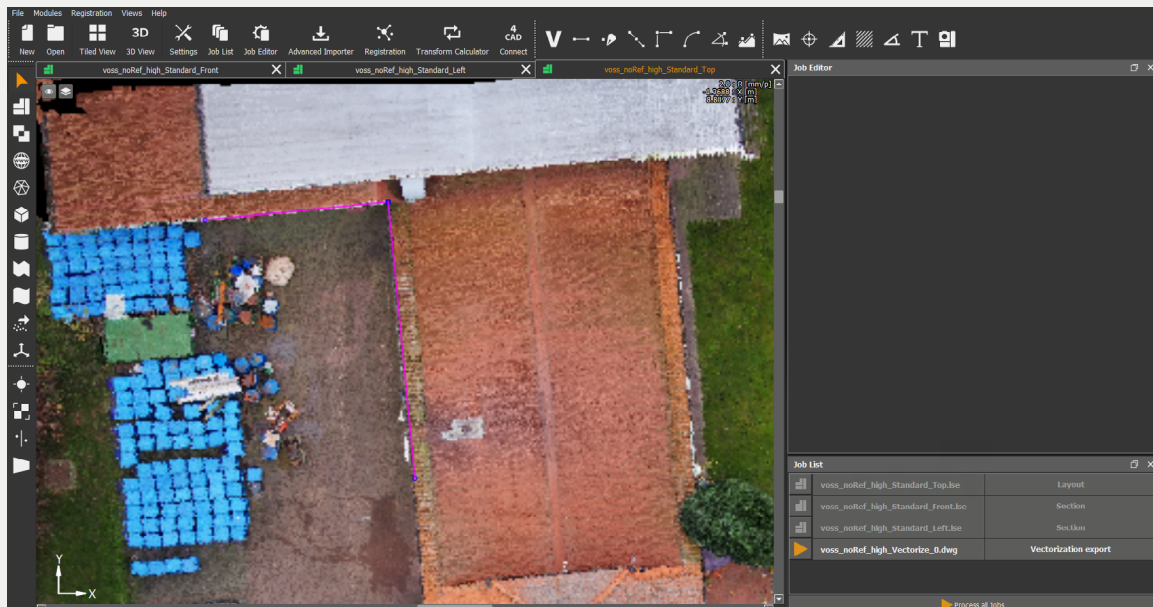

Create curve

The **Create Curve** tool helps you to vectorise curves. Under Settings > Vectorizer you can select the curve type you need for your vectorisation.
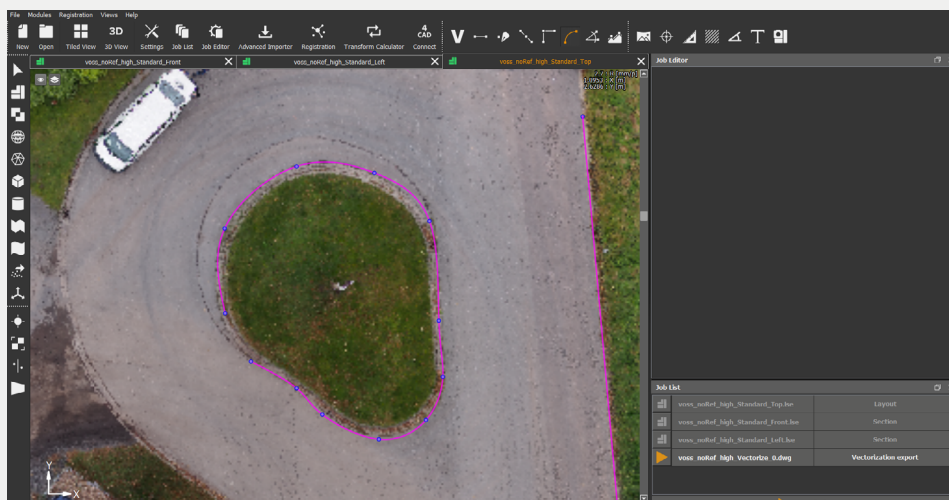
Set angle between two lines

Activate the **Set Angle Between Two Lines** tool. Simply select the point whose angle you want to edit.

In the **job editor** you can now enter an angle manually or, for example, set a right angle directly using the 90° option.
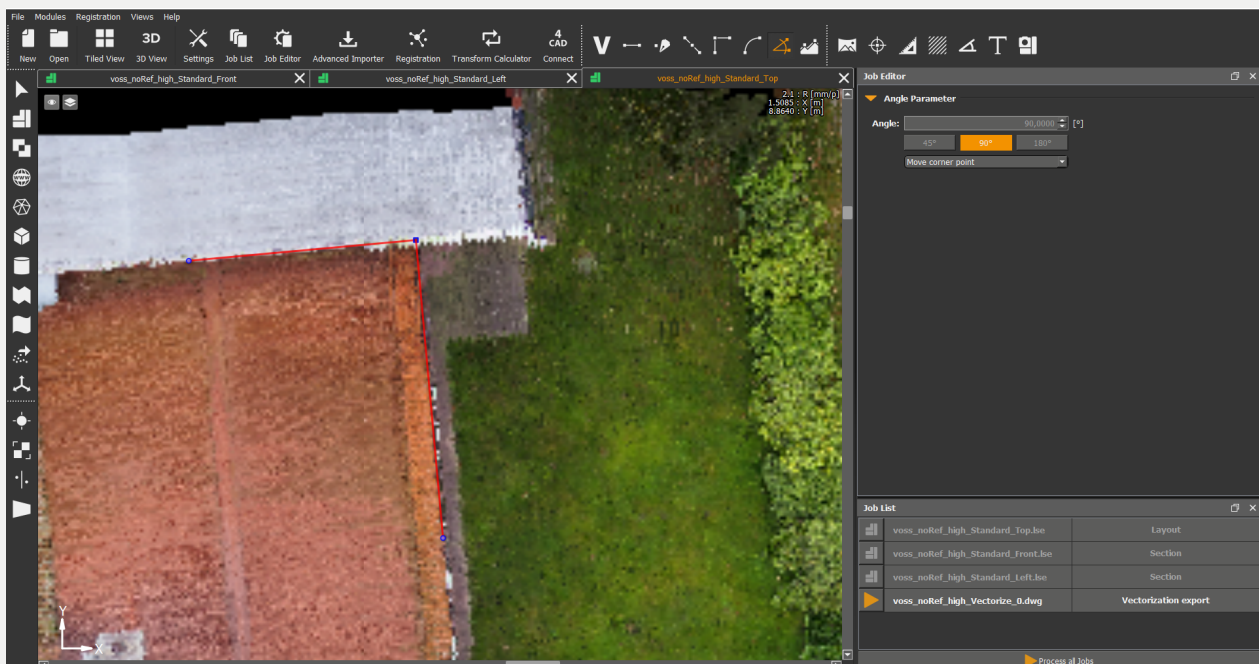
Adjusting points manually or via coordinate input

If you have coordinates for points, you can also enter them manually. To do this, simply select the point to be changed. After selecting the point, you can either move it with the mouse cursor or enter the coordinates in the **job editor**:
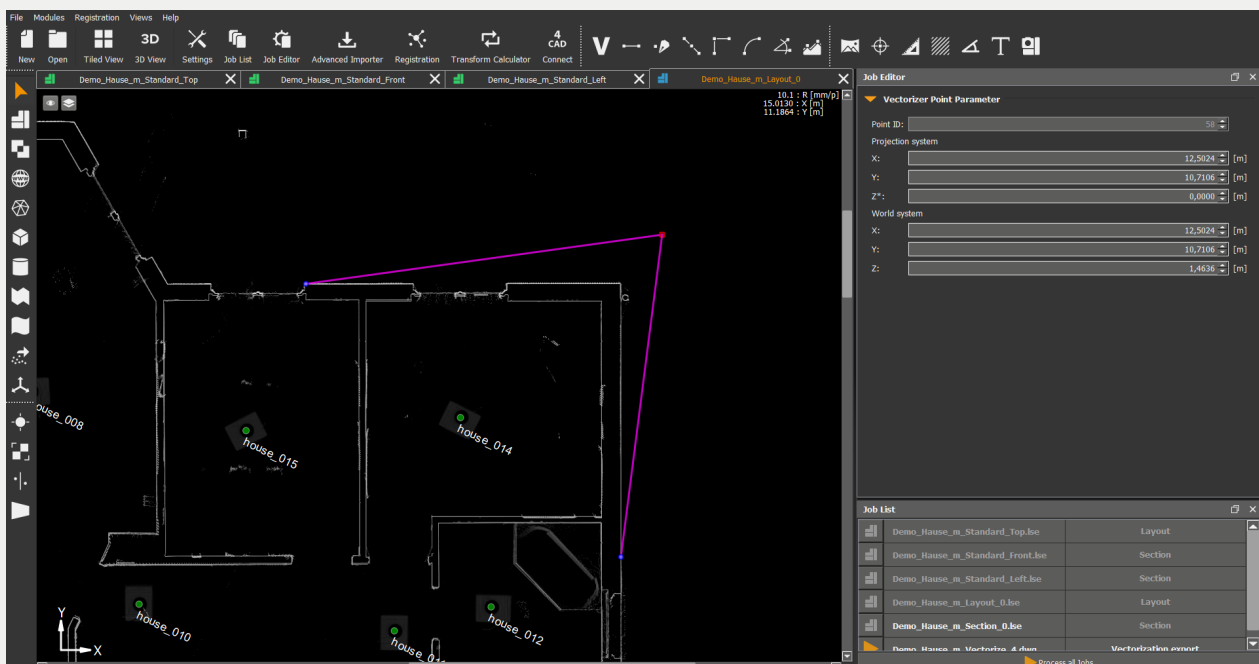
With the Delete key you can now delete the line elements of the selected area. With the key combination **Ctrl & Z** you can undo the delete function individually. By pressing the key combination Ctrl & Z several times, the starting point can be restored.