

User Guide: basic 3D models visualisation and manipulation with 3D-Tool Free Viewer

1. Opening and visualizing the 3D model (mesh)

Download 3D-Tool from website: www.3d-tool.com.

Open the 3D-Tool Free Viewer application, click on the "File" menu (top left).

- Select "Open": From the dropdown menu that appears, click on the "Open" option. This will open a standard file selection window.
- Browse to your file (.stl)
- Click "Open". 3D-Tool Free Viewer will then load and display your 3D model in the main viewing area.

2. Navigate the 3D Model

Once your model is loaded, you can move around and inspect it using your mouse:

- Rotate: Hold down the left mouse button and move your mouse to rotate the view of the 3D model. This allows you to see the model from all sides;
- Move: Hold down the right mouse button and move your mouse to move the object;
- Zoom: Scroll the middle mouse wheel forward to zoom in, scroll backward to zoom out;
- Right click on the mesh to customise colour, transparency and shading;

You can also explore other features in the software, such as measurement and cross-section tools, to further analyse your model. All features are accessible from the command bar at the top of the screen. From the subsection "Options" in the main toolbar, further customisation of the background (colour, 3d) and support are also available.

3. Creating a cross-section

Use the "Cross Section" tool located in the "3D-Mode" toolbar to cut the 3d mesh:

- Once the cross-section tool is activated, the software will provide options for defining the plane that will cut through the 3D model;
- Define the cross-section plane using one of the predefined coordinate system planes (XY, YZ, ZX);
- On the right you can visualise one side at the time (1 and 2) or only the cross section;
- Adjust the angle of the cutting planes (X, Y) dragging the blue cursor;
- More advanced customisation is possible clicking on the "wheel" icon on the right-hand side of the cross-cutting panel.

4. Export an image

Click on the "File" menu (top left) and select "Create Picture":

- select the desired format (.jpeg, .png, .bmp);
- adjust template for visualisation (customisation possible);
- select desired resolution;
- then "create pic" and save.

User Guide: basic 3D models visualisation with MeshLab

1. Installing MeshLab

Download and install MeshLab on your computer (www.meshlab.net). Follow the installation instructions for your operating system.

2. Launching MeshLab

Open the MeshLab application. You should see the main MeshLab interface, which might appear empty initially.

3. Importing Your 3D Mesh File

To visualize your 3D model (.stl), you first need to import the mesh file into MeshLab:

- "File" menu in the top menu bar of the MeshLab window;
- Select "Import Mesh" - This will open a file selection dialog window;
- Browse for your file navigating to the location on your computer where your 3D mesh file is saved;
- Click on "Open"

4. Navigating the 3D View

Once your model (.stl file) is loaded, you can navigate and inspect it from different angles using your mouse:

- Rotate: hold down the left mouse button and drag the mouse to rotate the mesh;
- Move: hold down the middle mouse button (or the mouse wheel) and drag the mouse to move the model within the viewing area;
- Zoom: Scroll the middle mouse wheel forward to zoom in and backward to zoom out;

5. Adjusting the Display Mode (Optional)

MeshLab offers different ways to render your 3D model. You can change the display mode using the icons usually located in the top toolbar of the MeshLab window. Hover your mouse over the icons to see a tooltip describing their function. You can also often find more detailed rendering options under the "Render" menu in the top menu bar.

6. Export an image

Click on the "File" menu (top left) and select "Save Snapshot":

- select the output folder and final file name;
- select desired background option and explore the more customisation available in the panel;
- then click on "Save".