3DRESHAPER®
The 3D scanner software
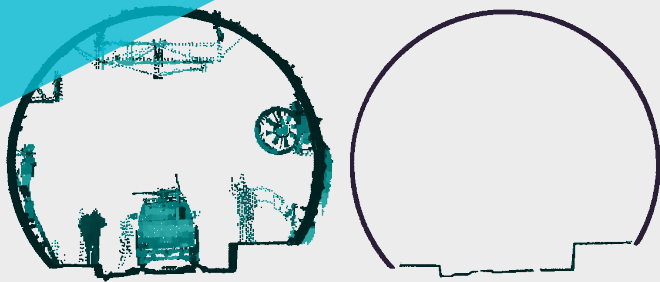
The 3D Software designed for Surveyors

**Cultural Heritage
Architecture**

**Geology
Mine & Quarry**

**Digital Terrain Modeling
Tunnels**

**Civil Engineering
Shipbuilding**

Point Cloud Processing

With 3DReshaper you can **import point clouds regardless of their origin and size**. Many formats are supported so that your project is compatible with your scanner and other software.
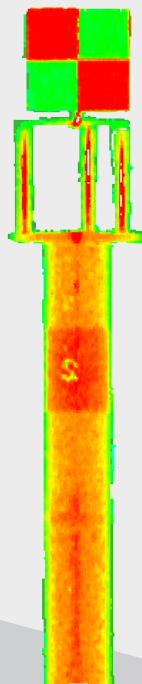
You have the choice between several filters in order to quickly and efficiently improve your point clouds:

- powerful **noise detection**
- smart **reduction**
- effective **regular sampling** & density homogenization
- automatic **segmentation**

You can also separate your point clouds or **eliminate unnecessary points** using geometrical features, meshes or contours.

Save time and resources by importing only a certain number of points from huge scan files without losing details and information.

Reconstruction & 3D Meshing

3DReshaper meshing process is one of the most powerful on the market as it has been designed completely in 3D.
Process large point clouds quickly and easily to obtain light-weight, accurate and aesthetic models.
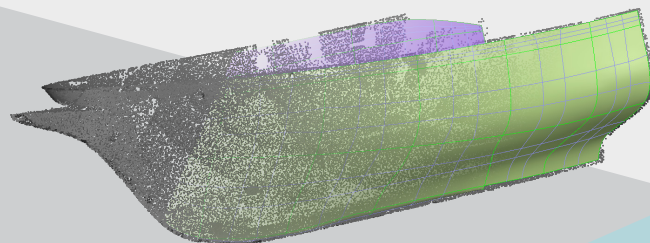
Moreover, there are many tools available to further improve meshes once created:

- a really **smart smoothing** to keep details and improve general aspect
- a customizable **holes filling**
- an efficient **decimation** with deviation control
- a useful **sharp edges reconstruction**
- an easy **extrusion** function
- etc.

In the world of Surveyors, modeling can be very complex due to a lot of extraneous data in the scans (vegetation, cars, signs, etc.). In 3DReshaper, there is a dedicated command to **automatically extract the ground** from a point cloud, so you can **create an accurate DTM in one click**.
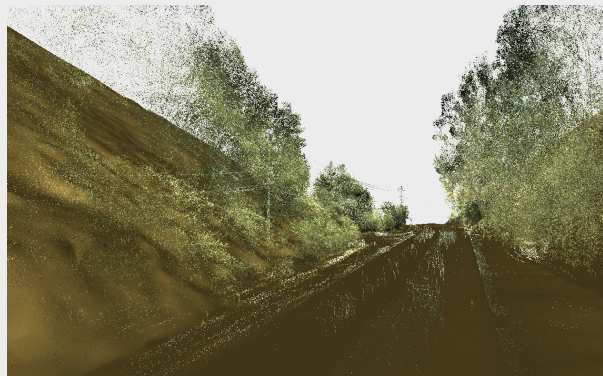
And when a mesh is not sufficient, you can compute real surfaces to work in another CAD software. 3DReshaper allows you to **create real NURBS surfaces** so you can export your model to IGES or STEP files.

Registration Tools

Use 3DReshaper to align your models thanks to several dedicated tools such as:

- an **automatic extraction of surveying target centers** (spherical, circular, etc.)
- a **powerful best-fit** command (to align with or without constraints)
- an easy-to-use process to **build a coordinate system coherent** with your data
- various tools to align your measured data on a theoretical object

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Camera & Textures

Map pictures on a 3D mesh according to camera parameters or reference points:

- use camera internal parameters (focal length, sensor size, etc.) and external parameters (position, orientation) to automatically apply textures on the mesh
- use reference points if you do not have any camera information

In the case of colored point clouds, you can also simply **apply the cloud color on the 3D mesh**.
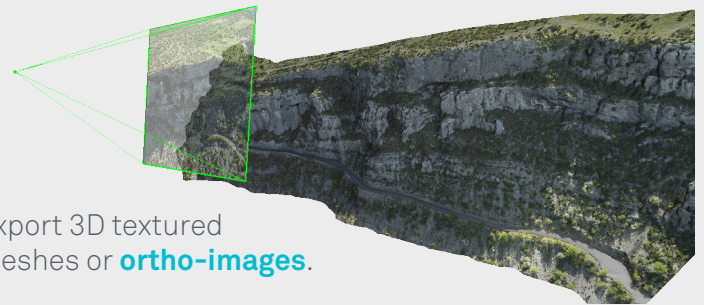
Export 3D textured meshes or **ortho-images**.

Calibrate your camera directly inside 3DReshaper and use results to improve and automatize your texture mapping workflow.

Do **virtual visit** from a camera path and camera targets and export your ready-to-use video.

Monitoring, Control & Volumes

Extract geometrical shapes (planes, cylinders, contours, etc.) directly from a point cloud or a mesh: useful to extract windows on a facade, control the cylindricity of a tank, the flatness of a floor, the verticality of a wall, etc.
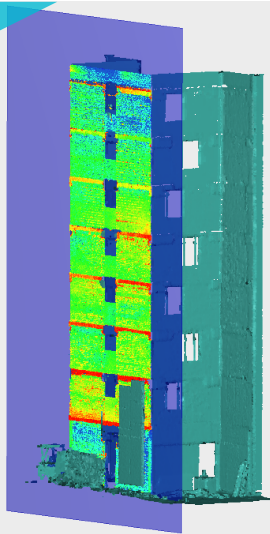
Quickly **get various measurements** (volumes, distances, angles, etc.) from any objects.

Compute **3D or 2D comparison** between two objects (clouds, meshes, CAD, polylines, etc.) with an adjustable colored map and then create **complete and customizable reports**.
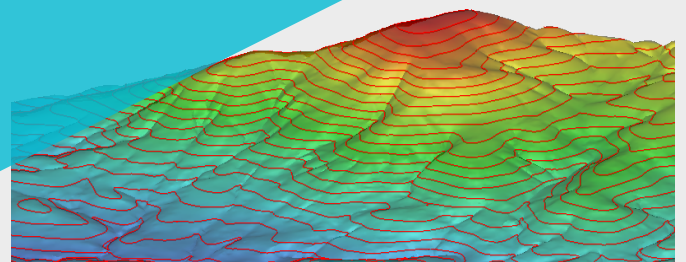
Run a **tunnel inspection** thanks to dedicated tools:

- neutral axis computation
- cross sections along an axis
- cross sections comparison
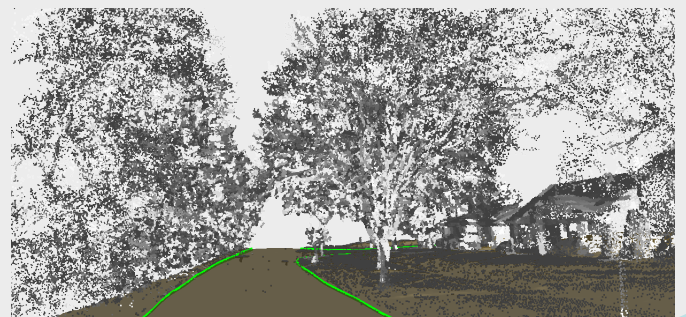- overbreaks and underbreaks volumes
- 2D inspection map
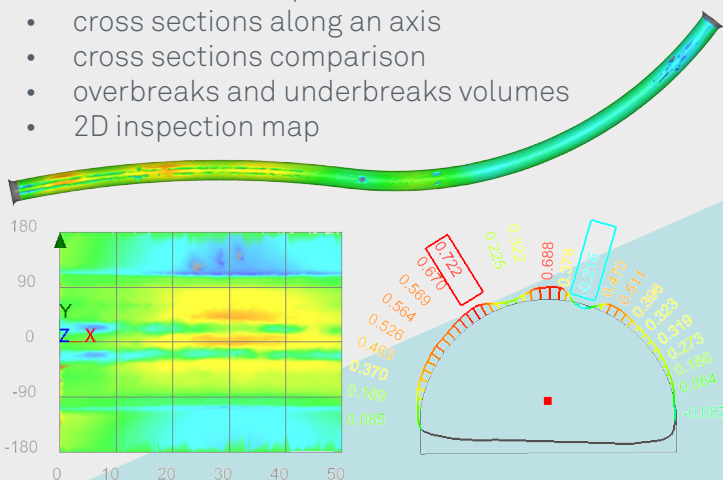
Also compute typical survey measurement such as **embankment**, **excavation**, **volumes under a liquid level**, etc.

Polylines

Compute sections very easily in order to get **contour lines** on your DTM (you can also compute sections in any direction, around an axis or along a curve).

Extract automatically all breaking lines from a mesh to help you to draw roads or facades.

3DReshaper contains also **a lot of tools to edit and improve polylines**: they can be reduced, extended, smoothed, chained, stretched, etc.

Script & Automation

3DReshaper includes a JavaScript environment to **write your own functions** in order to automate repetitive tasks.

These custom commands can be run in silent mode if neither user input nor display is required, or with a dialog box containing parameters to set.

Free demo version

Visit our website to download a free trial version of 3DReshaper. This demo version allows you to evaluate all functionalities during one month. We wait for you on **www.3dreshaper.com**!
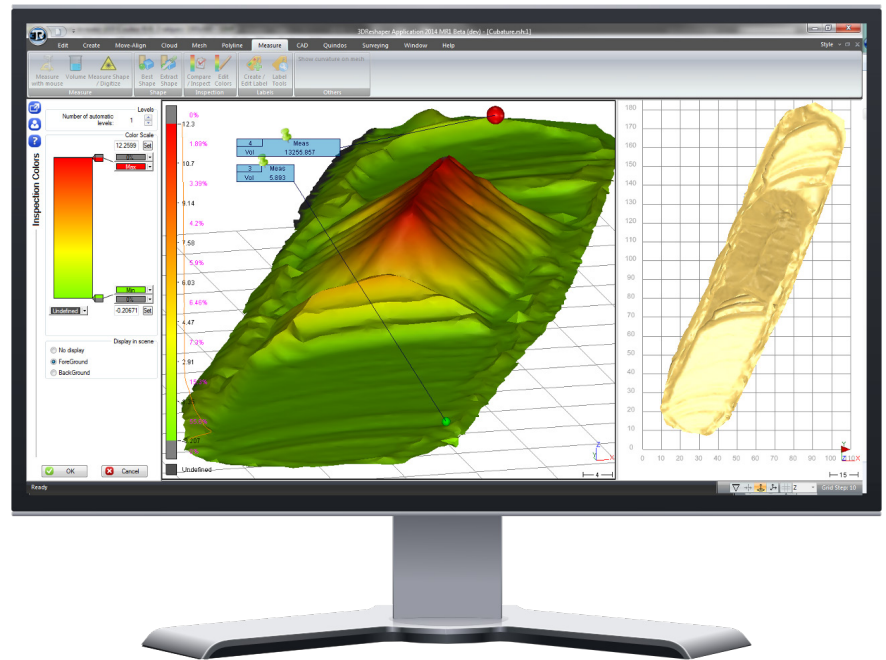
Free 3DReshaper Viewer

Deliver & share the results of your project with the 3DReshaper Viewer, available for free on www.3dreshaper.com!

Process very large datasets from a variety of formats

3DReshaper can be easily integrated into any workflow as it can handle many types of files. The main formats you can import/export are DXF, DWG, STL, OBJ, IGES, STEP, VRML, LandXML, PTS, FLS, PTX, E57, LAS, etc.

Dedicated Surveying Plugin

The optional Surveying plug-in contains some very useful features:

- **Ground extractor:** to find points on the ground in a noisy cloud
- **Breaking lines extractor:** to automatically detect all the breaking lines on a mesh
- **Tunnel analysis:** to do a complete report of tunnel cross-sections
- **Virtual visit:** to export a ready-to-use video in order to illustrate your project