

# RESHAPER®

The 3D scanner software



## One Software, Infinite Application



Digital  
Terrain Modeling



Mine &  
Quarry



Cultural  
Heritage



Civil  
Engineering

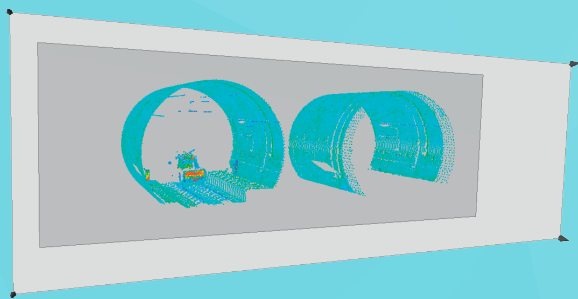


Tunnels



Architecture

## 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**

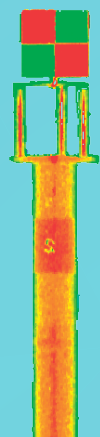
You can also separate your point clouds or **eliminate unnecessary points** using geometrical features, meshes or contours.

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

## 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



## Script & Automation

3DReshaper includes a complete 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.

## 3D Meshing



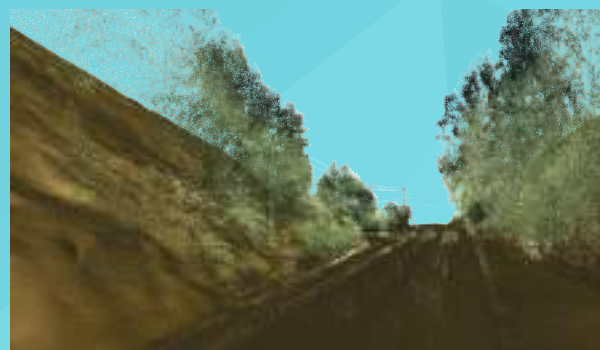
3DReshaper meshing process is one of the most powerful on the market as it has been designed completely in 3D.

**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**.



Easily mesh point clouds coming from Terrestrial Laser Scanners thanks to the **new Spherical Mesh command**.



## Camera & Textures

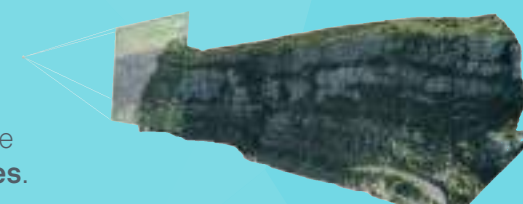
**Easily map every kind of pictures on a 3D mesh:**

- with camera internal parameters (focal length, sensor size, etc.) and external parameters (position, orientation) to automatically apply textures on the mesh.
- and/or with reference points clicked on the mesh and the picture

Improve and automatize your texture mapping workflow thanks to the **Camera Calibration**.

Create an **atlas** in order to optimize texture size.

Export 3D textured meshes or customizable **ortho-images**.

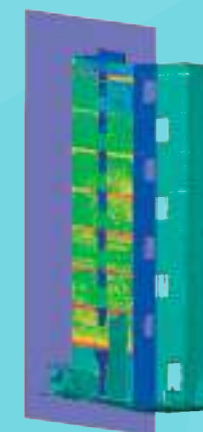


In the case of colored point clouds, you can also simply **apply the cloud color on the 3D mesh**.

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 verticality of a wall, etc.

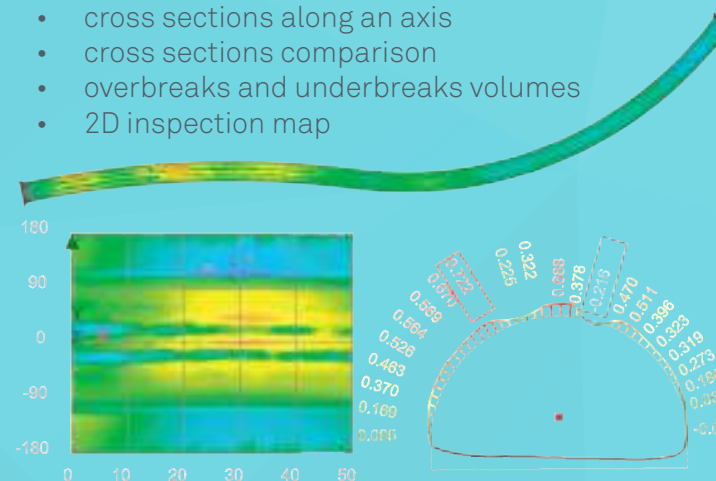


Proceed complete **surface analysis** (slope, levelness and flatness) and export dedicated reports in one click.

Quickly **get various measurements** (volumes, distances, angles, etc.) and 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**.

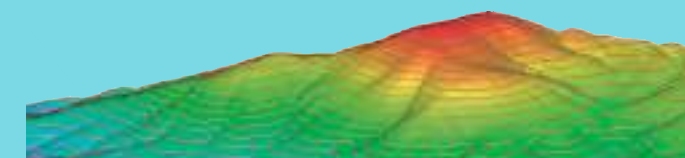
Run a **tunnel inspection** thanks to dedicated tools:

- 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.

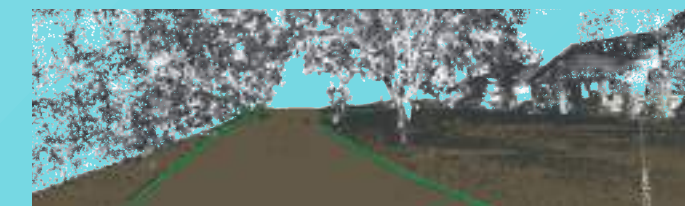
## Polylines



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).



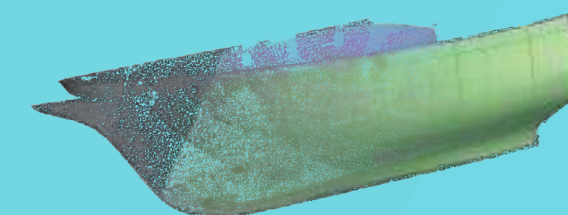
**Extract automatically all breaking lines** from a mesh to help you to draw roads or facades.



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

## CAD Reconstruction

Automatically create a CAD network on your mesh in order to **create real NURBS surfaces** in a few clicks and export your model to IGES or STEP files.



## About us

Technodigit, part of Hexagon Group (leading global provider of design, measurement and visualization technologies), is a French company located near Lyon.

3DReshaper is an easy-to-use and affordable software dedicated to point cloud processing. The standard version includes a wide range of features:

- Point Cloud Processing
- 3D Meshing
- Inspection & Features Extraction
- Alignment
- Sections & Polylines
- Scripting
- Etc.

3DReshaper can also be completed with some additional modules:

- CAD Surface Modeler
- Textures and Cameras
- Surveying Plugin

**Technodigit**,  
the **Reshaper** Technology  
part of **Hexagon**



Free demo versions and more information on:

[www.3dreshaper.com](http://www.3dreshaper.com)  
[contact@3dreshaper.com](mailto:contact@3dreshaper.com)

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## 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/software!](http://www.3dreshaper.com/software!)



## Free 3DReshaper Viewer

Deliver & share the results of your project with the 3DReshaper Viewer, available for free on [www.3dreshaper.com!](http://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
- **Building extractor:** to easily create simple building models directly on a point cloud
- **Breaking lines extractor:** to automatically detect all the breaking lines on a mesh
- **Surface analysis:** tools to control flatness, levelness and slope of a surface (a floor for example)
- **Contour lines:** to quickly create contour 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