POINT CLOUD AND MESH PROCESSING SOFTWARE

Point Cloud Classification

Feature Extraction

Point Cloud to Mesh

Registration

Measurement
**FEATURE HIGHLIGHTS**

**Point Cloud Classification:**

VRMesh automatically classifies point clouds generated from airborne/mobile/terrestrial LiDAR and UAV images. It allows you to create an accurate TIN surface with no limitations on complex topography.

![LiDAR Data](image1)  ![Terrestrial laser scanning data](image2)  ![UAV Images](image3)

**Feature Extraction:**

VRMesh automatically extracts building footprints, powerlines, railways, poles, and tree crowns in point clouds. It also allows you to quickly pick a line along a chosen ridge, ditch, railway, powerline, road markings, etc.

![Extract Powerlines/Poles/Railways](image4)  ![Extract Tree Crowns](image5)  ![Pick Ridge](image6)

**Construction:**

VRMesh provides best-in-class tools for architecture and construction. It allows you to detect lines automatically and fit curbs/edges/profiles to point clouds easily. It can detect floors/walls and extract all pipes with just one click.

![Detect Lines](image7)  ![Fit Profiles](image8)  ![Extract Pipes](image9)
FEATURE HIGHLIGHTS

Point Cloud to Mesh & Mesh Editing:
VRMesh provides powerful point cloud meshing and various mesh repair/editing tools. It enables you to convert large point clouds to meshes quickly and accurately. It also allows you to optimize your designs in many ways.

Registration:
VRMesh allows you to load a CAD model in IFC format and align it to point clouds. It also provides you with global registration and LiDAR strip adjustment.

Measurement:
VRMesh provides various analysis tools for helping you perform accurate inspections between digital reference models and measure deviation, slop, volume, area, distance, etc.
Welcome! VRMesh is an advanced point cloud and mesh processing software tool. Our innovative technologies are aimed to provide powerful and easy solutions for engineering industries. The entire family of VRMesh consists of three packages targeted to different customers.

**VRMesh Family:**

- **VRMesh Studio:** A comprehensive solution covering automatic point cloud classification, feature extraction, and accurate point cloud meshing. It provides a streamlined workflow for the AEC industry. It includes all features in VRMesh.

- **VRMesh Survey:** An advanced solution for point cloud classification and feature extraction. It automatically classifies vegetation, building roofs, and ground points with no limitations on complex topography. It can also automatically detect building footprints, powerlines, poles, tree crowns, railways and curbs in point clouds.

- **VRMesh Reverse:** A unique solution for point cloud meshing that helps you convert large point clouds into meshes with high accuracy. It delivers efficient point cloud cleanup, best-in-class triangulation and various mesh repair/editing tools. It also provides you with automatic registration, volume calculation, inspections and measurements.

**Feature Comparison:**

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<th>Survey</th>
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<tr>
<td>Point Cloud Classification</td>
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<td>NURBS</td>
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<td>Construction Tools</td>
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**File Formats:**

- Import: e57, las, laz, zlas, ptx, pts, txt, asc, stl, obj, dxf, shp, ply, 3ds, fis, zfs, rdbx, wrl, vtk, csv, rcp, step, igs, ifc
- Export: las, laz, zlas, pts, txt, asc, stl, obj, igs, dxf, fbx, shp, grid, wrl, ply, vtk, csv, x3d, pdf, rcp

**Data Handling:**

- No limit to the size of point clouds
- Support batch processing of multiple files