



POINT CLOUD AND MESH PROCESSING SOFTWARE



Point Cloud Classification

A point cloud visualization of a building facade, with different parts of the structure highlighted in various colors (red, green, blue, yellow) to represent classification.

Feature Extraction

A point cloud visualization of a building facade, with a red line tracing a path along the structure, representing feature extraction.

Point Cloud to Mesh

A point cloud visualization of a building facade, with a red line tracing a path along the structure, representing the conversion of a point cloud to a mesh.

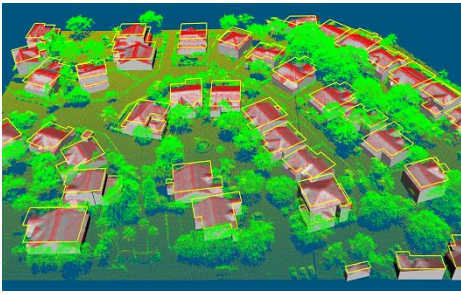
Polygon Modeling

A 3D mesh model of a building facade, with a red line tracing a path along the structure, representing polygon modeling.

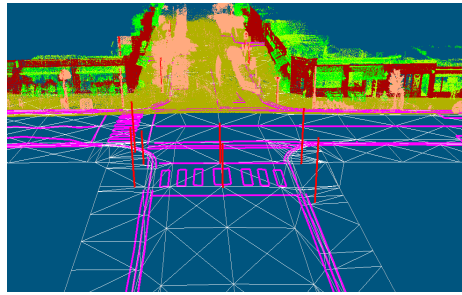
Measurement

A 3D mesh model of a building facade, with a red line tracing a path along the structure, representing measurement.

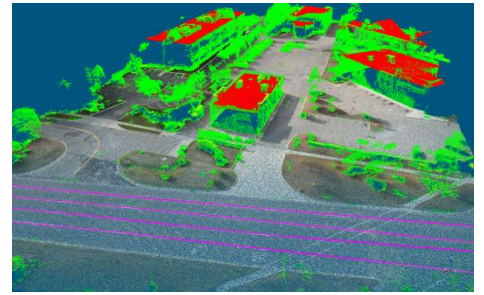
Land Surveying:



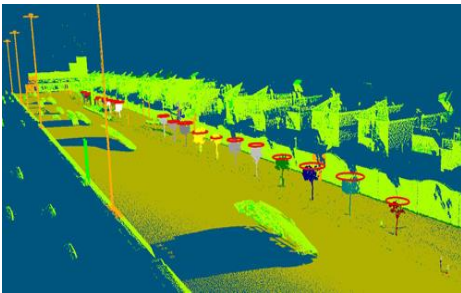
LiDAR Data



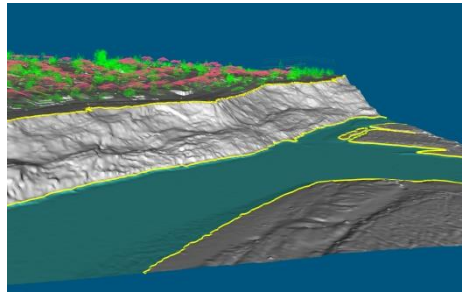
Terrestrial laser scanning data



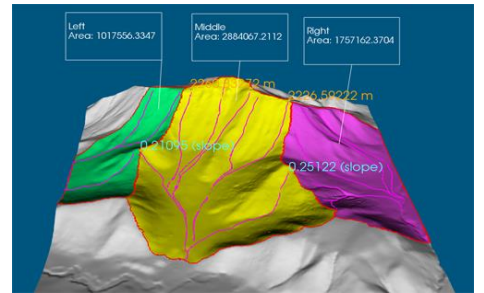
UAV Images



Pole/Tree Crown Extraction

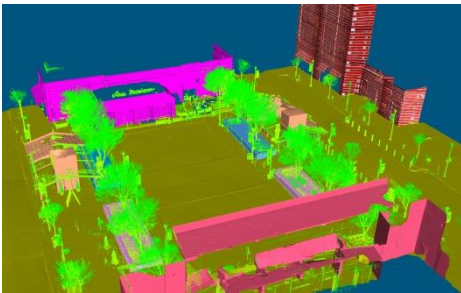


River Shoreline Extraction

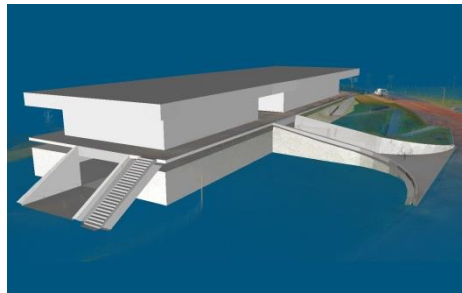


Water Catchment Analysis

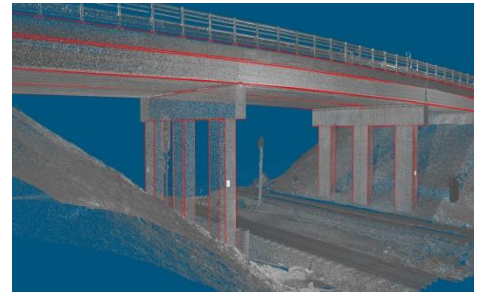
Construction:



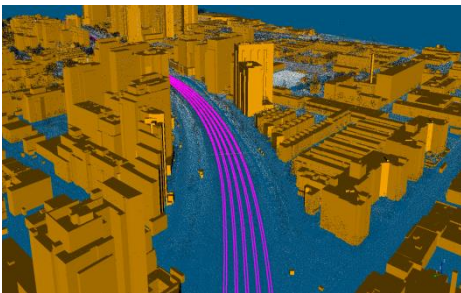
Digital Twin Creation



Polygon Modeling



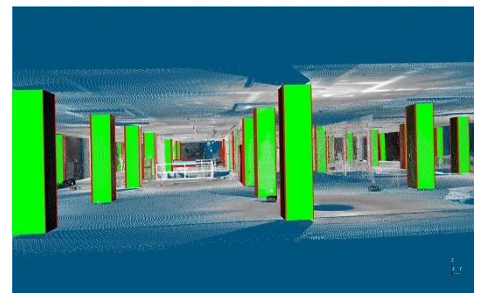
Line Extraction



Railway Extraction

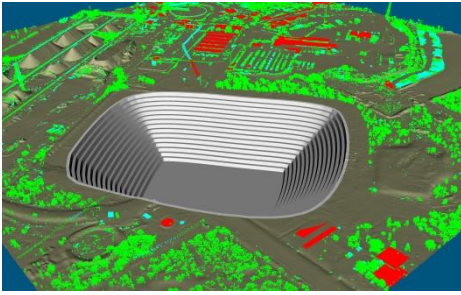


Object Separation

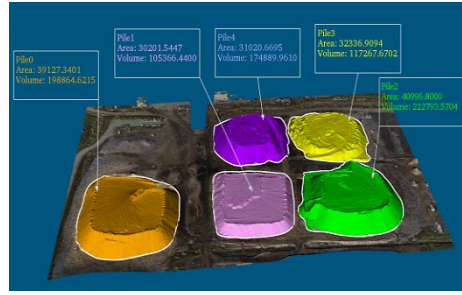


Pipe Extraction

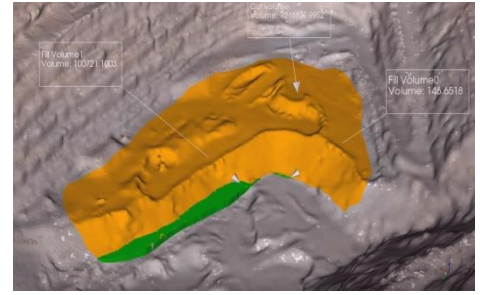
Mining/Tunnel



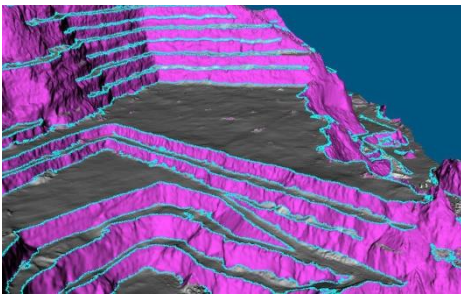
Open-pit Design



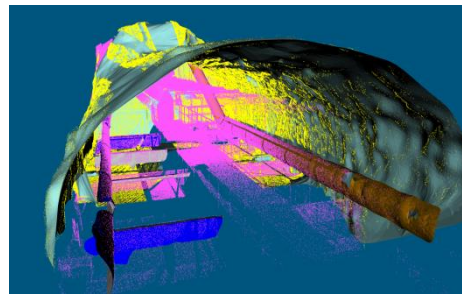
Volume Calculation



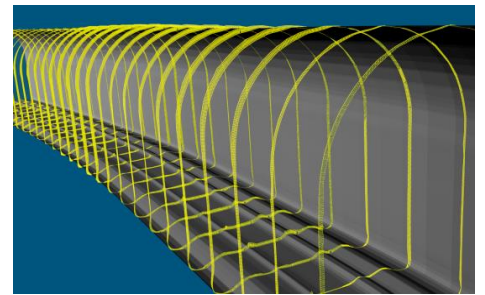
Cut and Fill Volume



Breakline Extraction

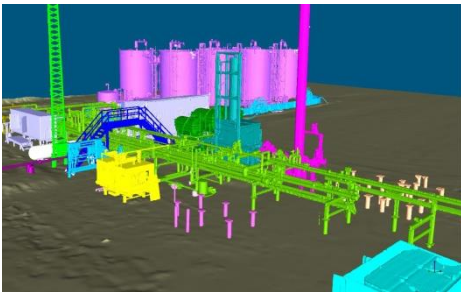


Underground Tunnel Clean-up

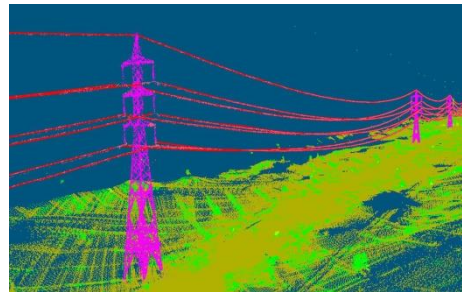


Deviation Measurement

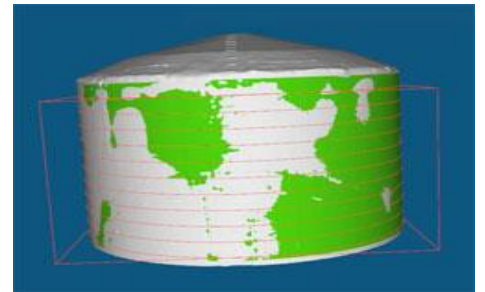
Energy/Utilities



Visualization of Oil Well



Powerline Extraction

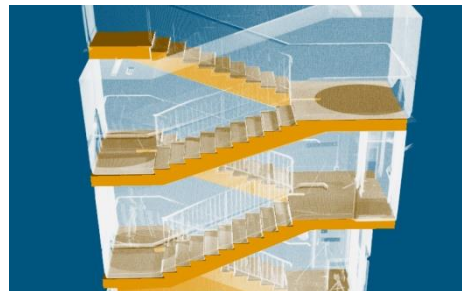


Tank Inspection

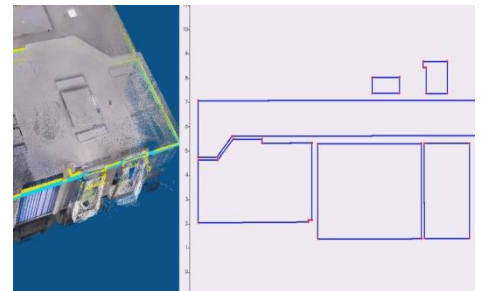
Architecture



Heritage in 3D



Stair Modeling



Section Line Extraction

VRMesh stands out as an advanced software tool designed for the processing of point clouds and meshes. Our innovative technologies are tailored to deliver powerful and user-friendly solutions specifically crafted for the Architecture, Engineering, and Construction (AEC) industry.

VRMesh Family:

- **VRMesh Studio:** It encompasses all features within VRMesh, spanning point cloud classification, feature extraction, point cloud meshing, and polygon modeling. It is a valuable solution for a wide range of industries.
- **VRMesh Reverse:** It facilitates the seamless and accurate conversion of large point clouds into meshes, while providing a comprehensive toolset for tasks such as point cloud cleanup, mesh repair, and mesh editing.
- **VRMesh Survey:** It classifies point clouds generated from LiDAR and UAV images, and enables automatic extraction of building footprints, powerlines, poles, tree crowns, railways, curbs, and breaklines.

Feature Comparison:

| VRMesh Features | Survey | Reverse | Studio |
|----------------------------|--------|---------|--------|
| Point Cloud Classification | ★ | | ★ |
| Feature Extraction | ★ | | ★ |
| Construction Module | ★ | | ★ |
| Point Cloud to Mesh | | ★ | ★ |
| Mesh Repair & Editing | | ★ | ★ |
| Digital Clay | | ★ | ★ |
| Marks | | ★ | ★ |
| Polygon Modeling | | | ★ |
| Inspection & Measurement | ★ | ★ | ★ |

File Formats:

- Import: e57, las, laz, ptx, pts, asc, stl, obj, dxf, shp, ply, zfs, rdbx, wrl, vtk, csv, rcp, step, iges, ifc, landxml
- Export: las, laz, pts, asc, iges, stl, obj, dxf, fbx, shp, grid, wrl, ply, vtk, csv, x3d, pdf, rcp, landxml, nwc, gltf

Data Handling:

- Has no limit to the size of point clouds.
- Supports batch processing of multiple files.