Topoplan module

nanoCAD's **Topoplan** module extends the nanoCAD platform with tools for digital terrain modeling and documentation. It is designed to make the work of surveyors more efficient.

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New in Topoplan Module

- ✓ Adding a Group of Points
- ✓ Combining Surfaces
- ✓ Recalculation of Coordinates
- ✓ Creating Geopoints by Interpolation
- ✓ Mesh Simplification
- ✓ Deleting and Array of Surface Points
- ✓ Adding Structural Lines

- ✓ Updating the ETRANSMIT command
- ✓ Improving IFC Import
- ✓ Point Cloud Project Manager
- ✓ Managing Point Cloud Revisions
- ✓ Point Clouds Hiding and Displaying Commands
- ✓ Checking Connections in the Database
- ✓ Shapes in Point Clouds

Features

Advanced Surface Creation

The Topoplan Module creates surfaces by several methods:

- ✓ Create TINs by points
- ✓ Explode clouds into points
- ✓ Import elevation grids
- ✓ Convert models to 3D faces, sub meshes, and poly face meshes
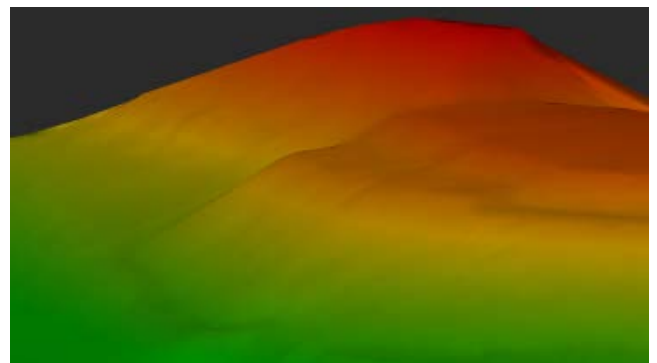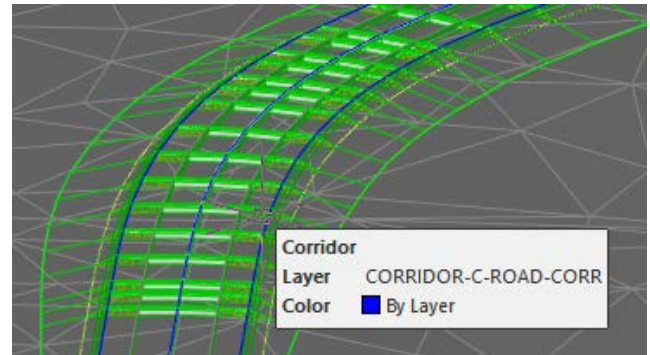

Support for Civil 3D Objects

The Topoplan Module now supports the display of objects made in Civil 3D. They are no longer displayed as proxy graphics. The Properties panel edits their properties and the style of displaying them.

Textures Applied to Meshes and Calculations Performed

The Topoplan Module applies textures on surfaces:

- ✓ **Flat Texture Overlay** applies textures to surfaces from point clouds
- ✓ **Raster texture mapping** applies raster images as textures on surfaces
- ✓ **Mesh coloring by height** colors surfaces according to their elevation
- ✓ **Calculating volumes between models** calculates volumes of surfaces - total, difference, and balanced for excavation works

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Email: sales@nanocad.in, Website: www.nanocad.in

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Multiple Data Sources for Creating Digital Terrain Models

This Module creates digital terrain models from multiple data sources:

- ✓ Importing points from text files
- ✓ DEM imports
- ✓ Unloading points from previously imported point clouds

Import-Export Options

The Topoplan Module offers these import and export options:

- ✓ **Import geopoints** imports text files in XYZ and TXT formats
- ✓ **Import from LandXML** imports surfaces in LandXML format, creating mesh objects
- ✓ **Export to LandXML** exports surfaces (mesh objects) to the LandXML format for use in other applications
- ✓ **Import from GIS imports** polyline and point objects from *.SHP and *.MIF files
- ✓ **Export to GIS exports** polyline and point objects to *.SHP and *.MIF files

Surface and Contour Construction

The Topoplan Module has comprehensive tools for working with surfaces and constructing contours:

- ✓ Flipping and deleting edges
- ✓ Adding, moving, changing, and deleting vertexes
- ✓ Adding structure lines
- ✓ Removing faces with edges of a certain length through mesh boundaries

Relief of the Earth's Surface

The Topoplan Module offers these tools for working with relief elements:

- ✓ Constructing contours
- ✓ Contour line removal
- ✓ Bergstriches (hatching), contour lines, and labels
- ✓ Building profile lines

Email: sales@nanocad.in, Website: www.nanocad.in