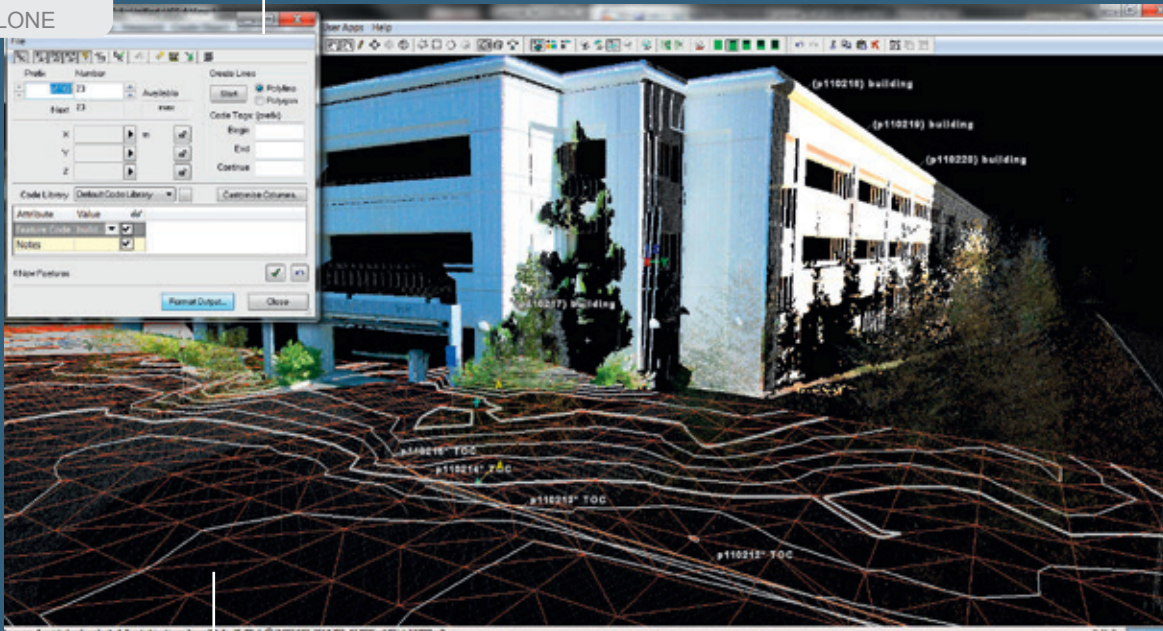


# Leica Cyclone SURVEY 8.1

## Processing laser scans into civil/survey deliverables



The Virtual Surveyor tool emulates traditional TPS\GPS data collection methods



Automatic TIN mesh at any grid spacing

Automatic contour lines at any desired interval

### For 2D & 3D civil/survey projects

Leica Cyclone SURVEY combines high performance with a rich set of survey-specific tools for analyzing laser scan data and converting the data into deliverables.

Cyclone SURVEY (a lower cost, survey-specific version of Leica Cyclone MODEL) boasts powerful visualization & point cloud navigation plus a complete tool set for High-Definition Surveying™ (HDS™) applications in engineering, construction and asset management.

Cyclone SURVEY provides unmatched office productivity by automating many time-consuming tasks and even letting multiple users work on the same data sets simultaneously – thanks to

Leica Cyclone's Object/Database foundation. Finally, Cyclone SURVEY reflects the data quality & accuracy-consciousness advantages that users worldwide expect from Leica Geosystems.

### Features and Benefits

- Multiple, fast, convenient visualization modes
- "Virtual Surveyor" data collector emulation
- Contours
- Cross-sections, profiles
- TIN/Mesh creation, including grid option
- Volumes & areas
- Clearances
- Texture mapping and rectified orthophotos
- Full set of import/export utilities

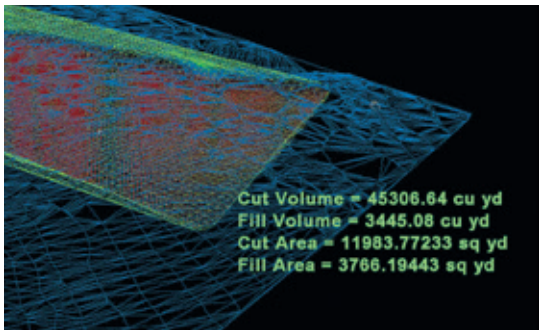
- when it has to be **right**

**Leica**  
Geosystems

# Leica Cyclone SURVEY 8.1



One of the many powerful measurement and annotation tools is an automated tool for analyzing and documenting clearances at overcrossings.



Ground surface TINs and other meshes are easily created and offer great value. Here is an automated report analyzing cut and fill quantities using "before-and-after" scan data of a ground surface.

## Efficient Point Cloud Manipulation & Navigation

Leica Cyclone SURVEY has many features that let users work efficiently with rich laser scan data sets. Cyclone's Level of Detail (LOD) graphics display and visualization modes allow users to "see through" walls, apply shaded rendering, or enhance edges for improved comprehension of dense point clouds. Texture mapping tools allow users to accurately "drape" photos of the scanned scene onto point clouds for an even more realistic viewing experience. Cyclone SURVEY's friendly key plan and TruSpace panoramic viewing modes provide intuitive navigation and viewing options.

## High-Performance Geometric Processing

Accurately produce a selected geometry type, such as planes and topographic surfaces. Least-squares fitting and quality-of-fit statistics ensure reliable results, while Cyclone's advanced memory management provides high performance.

## Rich Tool Set for Civil/Survey and Other Applications

For excavation and grading, Surface Deviation tools provide accurate quantity calculations. Volume and area for cut and fill are precisely calculated. Output options include volumes, contours, and/or tables including elevation differences at a user-specified grid sample. A Clearance tool even finds and reports absolute minimum vertical and horizontal clearances for overpasses, bridges, interchanges, and overhead sign structures. A Virtual Surveyor tool emulates a data collector for creating topographic maps.

## Leica Geosystems HDS Software Family

Cyclone SURVEY is part of a full software family for managing laser scan data. Check the web address below for additional information.

Leica Cyclone SURVEY 8.1 Specifications*		Hardware and System Requirements
<b>Large point cloud mgt</b>	3D limit boxes, slices, interactive visualization of massive data sets Cyclone Object Database Technology: fast efficient point cloud mgt.	<b>Minimum Specifications</b>
<b>Visualization</b>	Full 3D fly, pan, zoom, rotate. Control color mapping using intensity, true-color, gray scale, color by elevation, one-sided (front or back), silhouette (enhanced edges). Map external photo to point cloud. Key plan and panoramic viewing.	<b>Processor:</b> 2 GHz Dual Core processor or better <b>RAM:</b> 2 GB (4 GB for Windows Vista or Windows 7) <b>Hard Disk:</b> 40 GB <b>Display:</b> SVGA or OpenGL accelerated graphics card (with latest drivers)
<b>3D Modeling</b>	Least-squares fitting of 3D geometry. User defined error tolerance. Statistical QA reports	<b>Supported operating systems:</b> Windows XP (SP2 or higher) (32 or 64)***, Microsoft Vista** ***, Windows 7 (32 or 64), or Windows 8 & 8.1 (64bit only)
<b>Animation</b>	Create fly-through animations in 3D point clouds and models	<b>File System:</b> NTFS
<b>COE</b>	Seamless two-way data integration with AutoCAD and MicroStation	<b>Recommended Specifications</b>
<b>Import</b>	Data from CAD via COE (Cyclone Object Exchange) Control data from ASCII formats & X-Function DBX	<b>Processor:</b> 3.0 GHz Quad Core w/ Hyper-threading or higher <b>RAM:</b> 32 GB's or more 64 bit OS <b>Hard disk:</b> 500 GB SSD Drive
<b>Export</b>	Point data in standard formats: XYZ, PTS, PTX, DXF, X-Function DBX, Land XML, etc. Point data in special formats: ZFS, TOPO pci & cwf Image and model data: COE, BMP, JPEG, TIFF	<b>Large project disk option:</b> RAID 5, 6, or 10 w/ SATA or SAS drives <b>Display:</b> Nvidia GeForce 680 or ATI 7850 or better, with 2 GB's memory or more <b>Operating system:</b> Microsoft Windows 7 – 64bit <b>File system:</b> NTFS

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\* Reference the Leica Cyclone 8.1 Technical Specifications document for a complete listing of product specifications.  
\*\* Some systems may not support Windows Vista's Desktop Windows Manager (DWM) with Leica Cyclone and must be operated in Windows Classic Look.  
\*\*\* Can only borrow or be a floating license client.