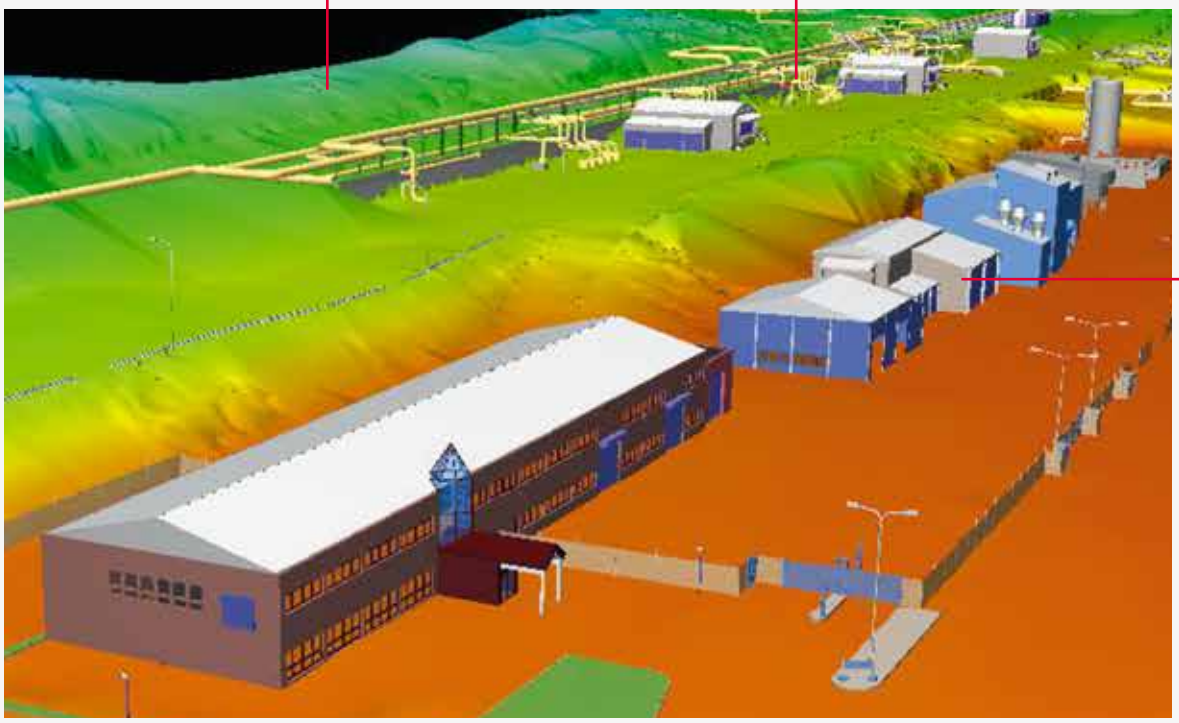
Leica Cyclone MODEL 9.1
Processing laser scans into deliverables



For civil, plant, architectural and other 2D & 3D projects

Unmatched versatility and performance help make Leica Cyclone MODEL the industry's most popular standalone software for analysing rich laser scan data and converting the data into deliverables.

Among its advantages, Cyclone MODEL boasts powerful visualisation and point cloud navigation plus the industry's most complete tool set. These tools cover a wide range of High-Definition Surveying (HDS) applications in engineering, construction, asset management, heritage, forensics, and other areas.

Cyclone MODEL provides unmatched office productivity, automating many time-consuming tasks and even letting multiple users work on the same data sets simultaneously – thanks to Cyclone's Object/Database foundation. Finally, Cyclone MODEL reflects the data quality and accuracy advantages that users worldwide expect from Leica Geosystems.

Features and Benefits

- New! Floor Flatness/Floor Levelness tool that automatically calculates a report according to ASTM1155 standard
- 3D navigation and "fly mode" with 3D mouse support
- Direct import of Leica Pegasus project data, including device trajectories for easy TruView creation along device tracks
- Direct import of DotProduct *.dp files
- Batch import of iSTAR and Spheron panoramic images
- Texture mapping with Auto-Align panos to scans, supporting iSTAR, Spheron, and Nodal Ninja workflows
- Texture mapping with HDR Tone Map editor
- Multiple, fast, convenient visualisation modes

Plant & building tools include:

- Best-fit modelling, catalogue fitting, clash detection
- Auto Pipe Finder and Pipe Run Finder - automatically find and fit cylinders

Civil & related tools include:

- Data collector emulation
- Create contours, breaklines, COGO points, cross sections
- TIN/mesh creation, volumes, areas, clearances

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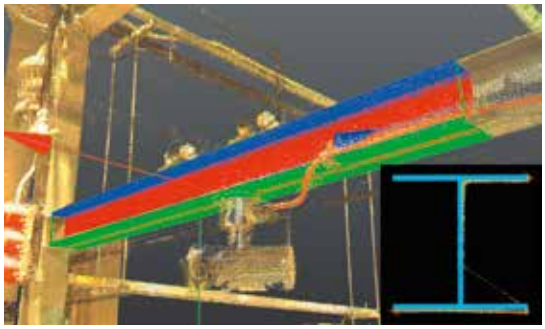
The automated Pipe Run feature lets users select points on connected, straight pipe sections, and the system automatically models a best fit pipe run with elbows in seconds.



Industry first robust steel fitter that automatically places catalogue steel shapes quickly and accurately.

Efficient point cloud manipulation & navigation
Leica Cyclone has many features that let users work efficiently with rich laser scan data sets. Cyclone's Level of Detail (LOD) graphics display and visualisation 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 MODEL's friendly key plan and TruSpace panoramic viewing modes provide intuitive navigation and viewing options.

High-performance modelling for a wide range of applications
Accurately model a selected geometry type, such as pipes, planes, and topographic surfaces. Least-squares fitting and quality-of-fit statistics ensure reliable results, while Cyclone's advanced memory management provides high performance.

Wealth of plant & structure-specific tools
A new Model Catalogue allows user to save complex models and save them to a catalogue. Users can then insert these models and or share them with others. New Automatic pipe finder finds all cylinders in a point cloud or group of points clouds.Continuous pipe runs, including elbows, can be modelled automatically. Leica Cyclone MODEL's Piping Mode even lets plant designers add intelligent piping data, including specification, line ID, insulation thickness and SKEYs. Validation of proposed design models – including clash detection – can be done within Leica Cyclone or via export to popular plant design applications.

Rich tool set for civil, architectural 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 with 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 MODEL is part of a full software family for managing laser scan data. Check the web address below for additional information.

Leica Cyclone MODEL Specifications*	
Survey	Includes all functionality of Cyclone SURVEY
Large point cloud mgt	3D limit boxes, slices, interactive visualisation of massive data sets Cyclone Object Database Technology: fast efficient point cloud mgt.
Visualisation	Full 3D fly, pan, zoom, rotate; including 3D mouse support. Control colour mapping using intensity, true-colour, gray scale, colour by elevation, one-sided (front or back), silhouette (enhanced edges). Map external photos to point cloud. Key plan and panoramic viewing.
3D Modelling	Model Catalog, Auto Pipe Finder and Move commands. Least-squares fitting of 3D geometry. Statistical QA reports. Fit cloud to standard object tables items, AISC steel, ASME pipe, user defined tables.
Piping tools	Embed attribute info Line-ID, Spec, SKEY. Fit flange and tie point, automated pipe run with elbows.
Animation	Create fly-through animations of 3D point clouds and models
Scripting	Scripting capabilities in the ModelSpace
COE	Seamless two-way modelled object data integration with AutoCAD, Revit, and MicroStation
Import	Project data from Leica HDS and Pegasus scanners Image and model data: COE, BMP, TIFF, JPEG, PNG, NCTRI, SPH Control data and standard point data formats
Export	Standard point data formats Image and model data: COE, BMP, TIFF, JPEG, PNG Store in JetStream ProjectVault**

Hardware and System Requirements
Minimum Specifications
Processor: 2 GHz Dual Core processor or better
RAM: 2 GB (4 GB for Windows 7)
Hard disk: 40 GB
Display: SVGA or OpenGL accelerated graphics card (with latest drivers)
Supported operating systems: Windows 7 (32 or 64 bit), Windows 8 & 8.1 (64 bit), Windows 10 (64 bit)
File system: NTFS
Recommended Specifications
Processor: 3.0 GHz Quad Core w/ Hyper-threading or higher
RAM: 32 GB's or more 64 bit OS
Hard disk: 500 GB SSD Drive
Large project disk option: RAID 5, 6, or 10 w/ SATA or SAS drives
Display: Nvidia GeForce GTX 680, Quadro K4000 or ATI Radeon 7850 or better, with 2 GB's memory or more.
Operating system: Microsoft Windows 7 – 64bit
File system: NTFS

* Reference the Leica Cyclone 9.1 Technical Specifications document for a complete listing of product specifications.
** Enabled if Generator is licensed and configured correctly on JetStream ProjectVault

Leica Geosystems AG

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- when it has to be **right**

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