

RiSCAN PRO

for RIEGL 3D Laser Scanners

Key Features:

- scanner control
- data acquisition
- scan registration
- georeferencing
- advanced filtering
- data import/export
- 3D visualization
- 4D animations
- simple meshing
- volume calculation

RiSCAN PRO is RIEGL's solution for processing VZ-Line Terrestrial Laser Scanner data. With advanced features for point cloud optimization, such as batch registration, 3D bundle adjustment, intelligent filtering tools, data merging and high-performance 3D visualization capabilities, RiSCAN PRO provides a fully integrated solution for producing accurate and refined TLS point cloud data.

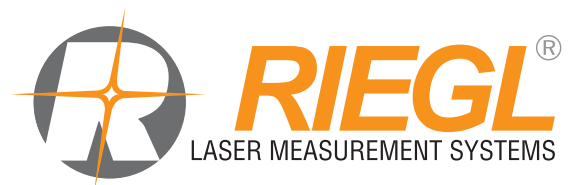
With tools designed to optimize the acquisition workflow in the field, RiSCAN PRO provides the ability to perform real-time QA/QC of data coverage and scan registration in the field. Data is streamed in real-time from the scanner to the software, where all processing features required to produce a perfect Point cloud are provided.

RiSCAN PRO integrates sensor fusion and the transformation capabilities necessary to turn the data from multiple sensors into a seamless, colorized point cloud with a number of valuable attributes. These data can then be exported in a number widely supported point cloud formats for further analysis and information extraction in software solutions tailored to each application.



Typical applications include

- Topography & Mining
- Civil Engineering
- Archaeology & Cultural Heritage
- City Modeling
- Agriculture & Forestry
- Measurement of Bulk Materials
- Mapping of Construction Sites and Construction-Site Monitoring
- As-Built Surveying
- Architecture & Facade Measurements



64-Bit Architecture

For 64-bit operating systems RiSCAN PRO 2.0 increases the usable RAM to practically unlimited for additional processing power. It visualizes more points in 3D, and polydata files with more than 250 million points are supported.

Enhanced Graphics

With the integration of the new RDB 2.0 point format, visualization is dramatically improved. Using Level of Detail (LOD) capabilities and dedicated graphics card capabilities. Scans are loaded in real-time. The result is low rendering latency and near-instant toggling of view types.

Power Tools

Registration of any number of scans only takes a few mouseclicks. Filtering, coloring and many other tasks are accomplished with minimal user interaction. The new pose gizmo makes manual manipulation of scans intuitive.

New Interface

RiSCAN PRO 2.0 supports Ultra High Definition (UHD) displays and provides a simplified interface with re-sizeable icons. Additionally, icons used for 3D visualization and processing are now located within the 3D window.

Georeferencing

The seamless integration of GeoSysManager 2.0 realizes full georeferencing support with simplified import of parameters via integrated access to the online EPSG database.

Advanced Filtering

Point clouds can now be filtered by all attributes and the resulting carbon copies retain all the original data. Combined with the new RDB 2.0 Database, advanced filtering is easy.

Main Functions

ACQUIRE

VZ-Line scanner control

fully customizable parameters

- field of view
- scan resolution
- pulse rate
- image overlap

Configuration of external cameras

Scan and image data acquisition in real-time

Real-time data transfer

Real-time 2D preview

Real-time data conversion

Instant target selection

Target acquisition

VIEW

NEW!

Large dataset support

NEW!

LoD (Level of Detail) support 2D, 3D, and panorama views

View by attribute:

- amplitude
- reflectance
- deviation
- range
- true color
- echo

Additional view types

- height
- distance to surface

3D & 4D animations

3D ortho plots



The design of RiSCAN PRO's project structure enables smooth data transfer to numerous third party post-processing packages. The XML-based project file structure is published and well-documented thus enabling open access to all project information in an easy way. By using the optional RiSCANLib or RiVLib library all scan data can be accessed also in a convenient way. For detailed information see RiSCAN PRO's online help manual.

PROCESS

Data adjustment

- MSA bundle adjustment
- image adjustment
- camera mounting
- camera model
- point cloud colorization

Project georeferencing

- GeoSysManager 2
- EPSG online DB
- custom CRS
- engineering CRS

Filtering

- terrain
- rain
- ghosting
- octree
- by plane
- by surface

Scan position registration

- direct georeference
- backsight
- traverse
- freestation
- 3 point solution
- 2 point resection
- 1 point reference

ANALYZE

Meshing

- smooth
- decimate
- texture

Volume calculation

- mesh to point cloud
- mesh to mesh
- mesh to surface
- mesh to plane
- point cloud to plane
- cut & fill

Surface comparison

- mesh to point cloud
- mesh to mesh

Polyline creation

Breakline tool

Contour lines

Sections

Sphere fitting

Plane fitting

EXCHANGE

Export formats:

- .csv ASCII
- .las 1.1-1.3 LAS
- .e57 (w/ Reg & Imgs)
- .pod PointTools
- .dxf Autocad
- .dm Datamine
- .obj
- .pts
- .rax RiALITY
- .tif,jpg,bmp 2D Plot

Import formats:

- .rxp VZ-Scanners
- .rdb RIEGL Database
- .sdw RIEGL ALS
- .3dd Z-Scanners
- .csv ASCII
- .las 1.1-1.3 LAS
- .dxf Autocad
- .vtp Polydata
- .obj
- .stl Stereolithography
- .tif, jpg, images

Licenses

RiSCAN PRO is to be licensed on three different levels:

Viewer License: Basic visualization and viewing functions

Acquisition License: All necessary functions for data acquisition, global registration, visualization and pointcloud processing

Processing License: Pointcloud processing functions as well as advanced meshing, texturing, evaluation and exploring functions.



System Requirements

Operating System:

Windows XP Professional, Windows 7 Professional 32 or 64-bit,
Windows 8 or 8.1 32 or 64-bit, Windows 10 32 or 64-bit

RAM:

Minimum: 2GB
Recommended: 16GB

Hard Drive:

Minimum: 150GB drive with 100GB free space
Recommended: 500GB solid state drive with 300GB free space

Graphics:

Minimum: OpenGL accelerated graphics support
Recommended: nVIDIA GeForce Series discrete graphics card

Interface for Scanner:

TCP/IP connectivity via 1000Gbit Ethernet port or WiFi
(2.4 or 5. GHz w/ WPA)

Download Information

To download RiSCAN PRO, please navigate to <http://www.riegl.com/>
and click on „DOWNLOADS“.

(Download after email registration only.)



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