Operating & Processing Software

RiSCAN PRO

for *RIEGL* 3D Laser Scanners

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.

Key Features:

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

Typical applications include

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

RIEGL®
LASER MEASUREMENT SYSTEMS

64-Bit Architecture

RiSCAN PRO is a truly 64-Bit software that allows to utilize all available System RAM with the benefit of large scale parallel data processing and data visualization of billions of points simultaneously in one single 3D view.

Enhanced Graphics

The state of the art 3D point cloud visualization based on the *RIEGL* RDB 2 point cloud file format allows to visualize each and every scanned data point in 3D whereas point colors are derived in real time from any of the additionally acquired point attributes such as amplitude, reflectance, deviation, or true color.

Power Tools

A set of powerful and large scale data processing tools allows to configure complex tasks such as registration, data processing, data import and export with just a few mouse clicks on multiple scan data files at once.

Modern User Interface

The state of the art RiSCAN PRO user interface supports Ultra High Definition (UHD) displays natively with automatically scaled controls and high resolution re-sizeable icons that are also easily operable on touch tablet computers.

Georeferencing

The seamless integration of Geo-SysManager 2.0 realizes full geo-referencing support with simplified import of parameters via integrated access to the online EPSG database.

Advanced Filtering

Due to scan data based on the *RIEGL* RDB 2 point cloud file format, filtering can occur by many means such as by octree, isolated point or by point attribute while all the originally acquired point attribute data is retained.

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

Automatic 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

High resolution 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.

Main Features

PROCESS

Scan position registration

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

Data adjustment

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

Project georeferencing

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

Filtering

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

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:

- .3pf
- .asc Crystalix
- .csv ASCII
- .dm Datamine
- .dtm SURPAC
- .dxf Autocad
- .e57 (w/ Reg & Imgs)
- .las 1.1-1.4 LAS
- .laz 1.2 LAZ
- .obj
- .pdf, .tif, .jpg 2D Plot
- .pod PointTools
- .pol Polyworks
- .pts, .ptx
- .rqx RiALITY
- .stl Stereolithography
- .wrl

Import formats:

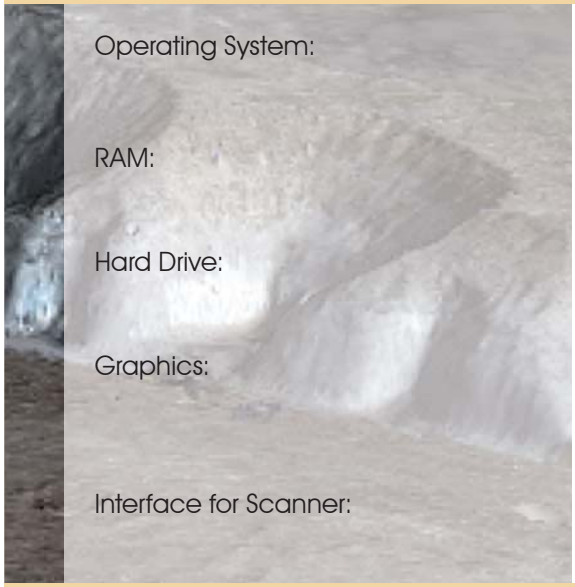
- .3pf
- .csv ASCII
- .dp DotProduct
- .dxf Autocad
- .las 1.1-1.4 LAS
- .laz 1.2 LAZ
- .mpc Mantis
- .obj
- .ply
- .pol Polyworks
- .pts, .ptx
- .rdbx, .rdb RIEGL Database
- .rxp VZ-Scanners
- .sdw *RIEGL* ALS
- .stl Stereolithography
- .tif, jpg, bmp, images
- .vtp Polydata

Licenses

RiSCAN PRO is to be licensed on three different levels:

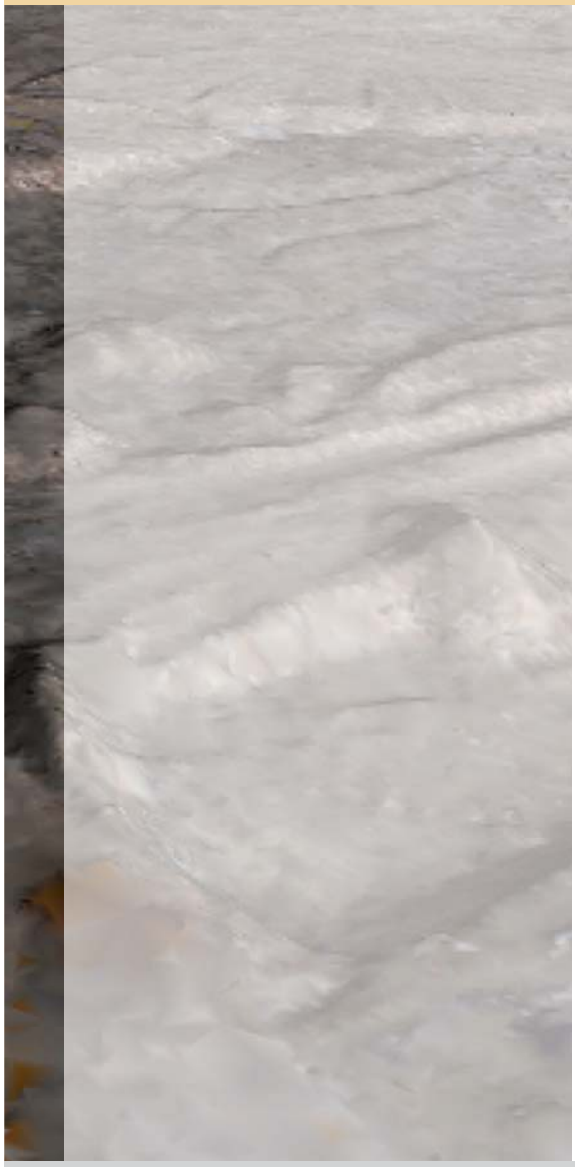
Viewer License:	Basic visualization and viewing functions
Acquisition License:	All necessary functions for data acquisition, global registration, visualization and pointcloud processing
Processing License:	Pointcloud processing functions as well as advanced meshing, texturing, evaluation and exploring functions.

System Requirements



Operating System:	Windows 10 Pro 64-bit, Windows 8.1 or 8 Pro 64-bit, Windows 7 Professional 64-bit
RAM:	Minimum: 8GB Recommended: 32GB
Hard Drive:	Minimum: 150GB drive with 100GB free space Recommended: 500GB solid state drive with 300GB free space
Graphics:	Dedicated NVIDIA GeForce graphics card with at least 1 GB GPU memory
Interface for Scanner:	TCP/IP connectivity via 1 Gbit Ethernet port or WiFi (2.4 or 5. GHz with 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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