

RIEGL VZ-2000i



Based on a future-oriented, innovative new processing architecture, internet connectivity, and RIEGL's latest waveform processing LiDAR technology the RIEGL VZ-2000i Long Range 3D Laser Scanning System combines proven user friendliness in the field with fast and high accurate data acquisition.

The processing architecture enables execution of different background tasks (such as point cloud registration, geo-referencing, orientation via integrated Inertial Measurement Unit, etc.) on-board in parallel to the simultaneous acquisition of scan data and image data. RIEGL's unique Waveform-LiDAR technology enables such high speed, long range, high accuracy measurements even in poor visibility and demanding multi-target situations and delivers reliable data even in harsh environments like open-pit mining.



RIEGL VZ[®]-2000i

Long Range, Very High Speed 3D Terrestrial Laser Scanning System

Typical Applications

- Topography and Mining
- Natural Hazard Surveying
- Construction Site Monitoring
- Archeology & Cultural Heritage
- Documentation
- City Modeling
- Tunnel Surveying
- Civil Engineering
- Research

RIEGL VZ-2000i Main Features

- range up to 2,500 m, accuracy 5 mm
- high quality point cloud colorization based on Nikon® SLR camera image data taken simultaneously during scanning
- orientation sensor for pose estimation
- advanced flexibility through support for external peripherals and accessories, e.g. integrated GNSS unit for high accurate RTK solution, SIM Card slot for 3G/4G LTE, WLAN, LAN, USB
- cloud connectivity via LAN, Wi-Fi, and 3G/4G LTE
- easy to operate even in harsh environments (protection class IP64)
- fully compatible with the RIEGL VMZ Hybrid Mobile Laser Mapping System
- RiSCAN PRO standard processing software (included), RiMINING software package offering an optimized workflow for open-pit mining (optional)

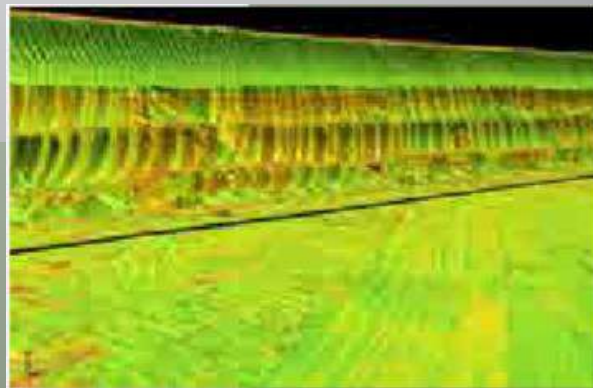
Automatic On-Board Registration

With two processors on-board, the RIEGL VZ-2000i is able to perform different processes in real-time such as automatic on-board registration in parallel to the scan data acquisition.

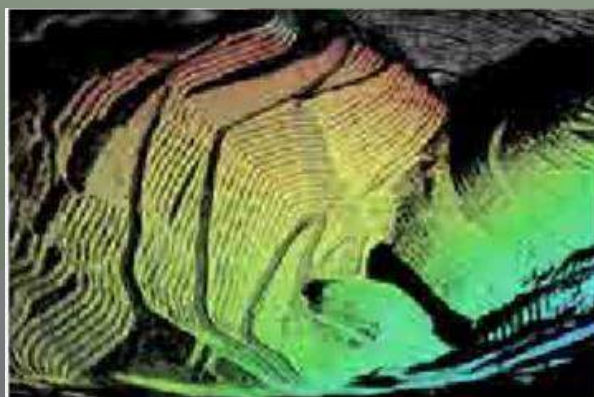
Processor 1	Processor 2
<ul style="list-style-type: none"> • scan data acquisition • simultaneous acquisition of photographs during scanning • pose estimation (using GNSS/IMU/environment sensors) 	<ul style="list-style-type: none"> • conversion of scan data into RIEGL data base • on-board multiple time around resolution • registration of scan data as a background process



RIEGL VZ-2000i in the field



RIEGL VZ-2000i monitoring in open-pit mining



RIEGL VZ-2000i scan data, range-colored

RIEGL VZ-2000i Technical Data

Laser Pulse Repetition Rate PRR (peak)	50 kHz	100 kHz	300 kHz	600 kHz	1,200 kHz
Max. Effective Measurement Rate (meas./sec)	21,000	42,000	125,000	250,000	500,000
Max. Measurement Range ($\sigma \geq 90\%$)	2,500 m	1,850 m	1,100 m	800 m	600 m
Max. Measurement Range ($\sigma \geq 20\%$)	1,300 m	950 m	540 m	380 m	290 m
Minimum Range	2 m	1.5 m	1.5 m	1.0 m	1.0 m
Accuracy / Precision	5 mm / 3 mm				
Field of View (FOV)	100° vertical / 360° horizontal				
Eye Safety Class	Laser Class 1 (eyesafe)				
Main Dimensions (width x height) / Weight	206 mm x 308 mm / 9.8 kg				

