

NEW RIEGL VMZ



RIEGL VZ-2000 features

Fully integrated, accurate, and compact mobile 3D Laser Scanning System for combined static and kinematic data acquisition. This system allows for lower mobilization costs with a high return on investment.



NEW Hybrid Mobile Laser Mapping System for 3D **Static** and **Kinematic** Data Acquisition

Typical Kinematic Applications

- Efficient Data and Image Acquisition
- GIS Mapping and Asset Management
- City Modeling
- Surveying in Open-Pit Mining
- Measurement of Bulk Material
- Road Surface Scans
- Shore Surveying and Marine Applications

Typical Terrestrial Applications

- Civil Engineering
- Topography
- Monitoring
- Facade Modeling
- Mining
- As-Built Surveying
- Architecture
- Archaeology



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Key Features

- IMU/GNSS unit, fully integrated to support **RIEGL VZ-400, VZ-1000** and **VZ-2000** scanners for mobile (kinematic) data acquisition
- Easy coupling and de-coupling of the VZ scanner from IMU/GNSS unit
- Quick switch from mobile to terrestrial applications, and vice versa, without losing stability of system calibration
- Flexible installation options - vertical and horizontal setup
- Frame based roof-mount compatible with standard roof bars
- Image data acquisition with a calibrated and GPS synchronized NIKON® DSLR camera
- Additionally panoramic camera systems such as POINT GREY Ladybug® are available
- Single power supply for VZ scanner and IMU GNSS unit from a standard car battery
- Easy system operation with single laptop running RiACQUIRE (additional camera may need an additional laptop)



vertical scanner setup with additional panoramic camera system



NIKON® DSLR camera for mobile and terrestrial applications



horizontal setup for, e.g. road surface scans



system operation with a single laptop

Seamless *RIEGL* workflow for MLS data acquisition, processing and adjustment is provided by *RIEGL's* proven software suite.

Scanning Modes

- 2D line scan mode of the VZ scanner at user-definable horizontal position of the scanning head for optimized scanning workflow for different applications
- 3D mode of the VZ scanner with continuous rotation of the scanning head for highly efficient mobile data acquisition
- 360° static scanning while vehicle is standing for acquisition of highly accurate stationary control scans
- Highest absolute accuracy based on 3D fine-scanned control points

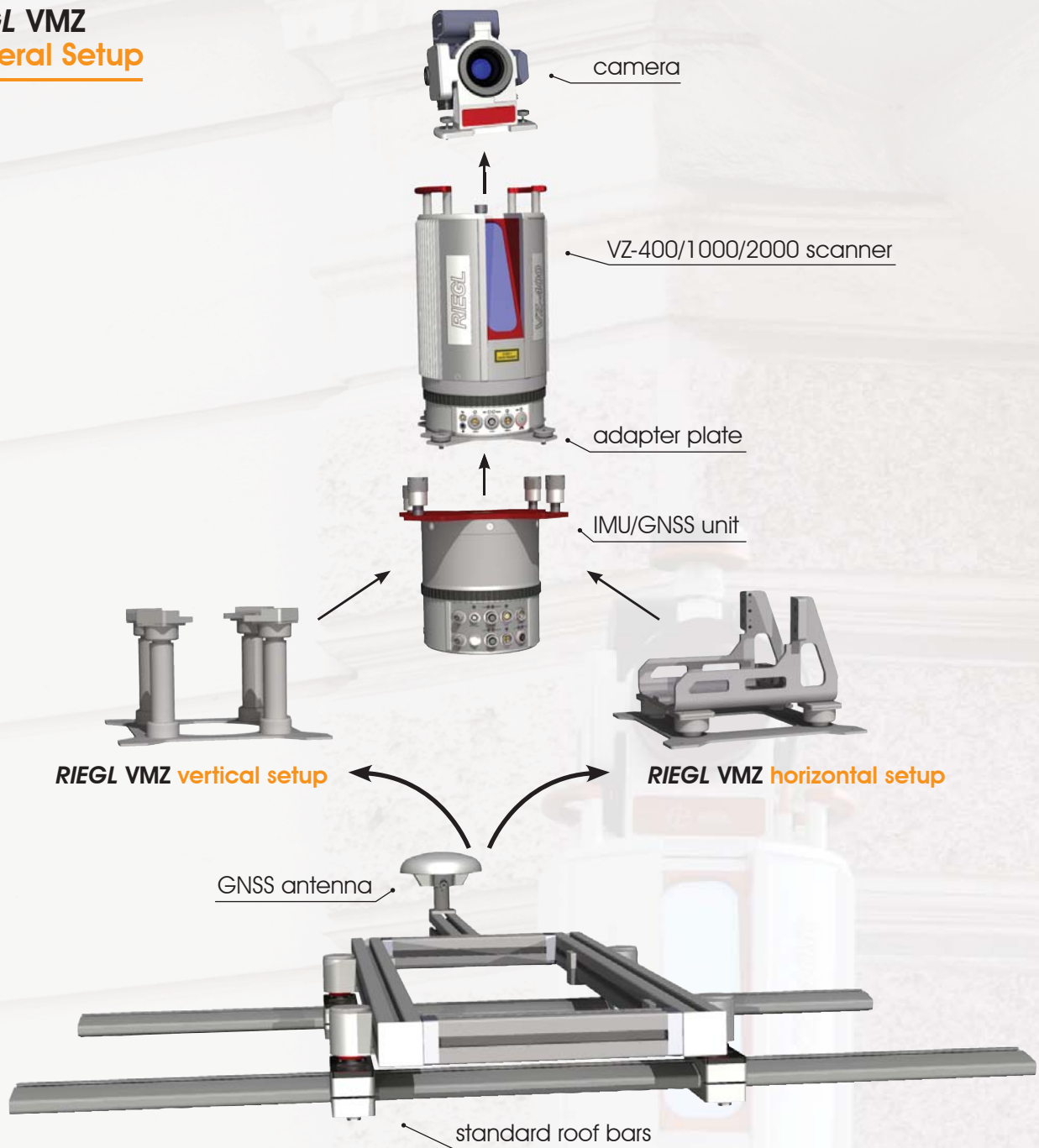
Workflow - How to mobilize your RIEGL 3D Terrestrial Laser Scanner

From VZ to VMZ

flexible setup and easy mounting, e.g., in vertical position



RIEGL VMZ
General Setup



RIEGL VMZ
Vertical Setup

RIEGL VMZ
Horizontal Setup



Typical Applications



GIS-Applications and Asset-Management



Measurement of Bulk Material, Surveying in Open-Pit Mining

RIEGL VMZ Technical Data

Scanner Performance ¹⁾

	VZ-400	VZ-1000	VZ-2000
Eye Safety Class ²⁾	Laser Class 1	Laser Class 1	Laser Class 1
Max. Range @ Target Reflectivity 90% / 20% ^{3) 4)}	600 m / 280 m	1400 m / 700 m	2050 m / 1050 m
Minimum Range	1.5 m	2.5 m	2.5 m
Accuracy ^{5) 7)} / Precision ^{6) 7)}	5 mm / 3 mm	8 mm / 5 mm	8 mm / 5 mm
Effective Measurement Rate	up to 122,000 meas./sec	up to 122,000 meas./sec	up to 396,000 meas./sec
Scan Angle Range - Vertical (Line) Scan	total 100° (+60° / -40°)	total 100° (+60° / -40°)	total 100° (+60° / -40°)
Scan Angle Range - Horizontal (Frame) Scan	max. 360°	max. 360°	max. 360°
Max. Lines per Second (lps)	120 lps	120 lps	240 lps
Max. Frame Angle per Second	60 deg/sec	60 deg/sec	150 deg/sec

IMU/GNSS Performance ⁸⁾

Position Accuracy (absolute)	typ. 20 - 50 mm
Roll & Pitch / Heading Accuracy	0.015° / 0.05°

1) The listed scanner performance provides an overview of VZ-400 / VZ-1000 / VZ-2000. Further details are provided in the data sheets of VZ-400 / VZ-1000 / VZ-2000.
 2) Class 1 laser product according to IEC60825-1:2007
 3) Typical values for average conditions. Maximum range is specified for flat targets with size in excess of the laser beam diameter, perpendicular angle of incidence, and for atmospheric visibility of 23 km. In bright sunlight, the max. range is shorter than under an overcast sky.

4) In long range mode (lowest pulse repetition rate).
 5) Accuracy is the degree of conformity of a measured quantity to its actual (true) value.
 6) Precision, also called reproducibility or repeatability, is the degree to which further measurements show the same result.
 7) One sigma @ 100 m range under RIEGL test conditions.
 8) One sigma values, no GNSS outage, with DMI option, post-processed using base station data.

Further Information



RIEGL VZ-400 Data Sheet



RIEGL VZ-1000 Data Sheet



RIEGL VZ-2000 Data Sheet



RISCAN PRO Data Sheet



RIACQUIRE Data Sheet



RIPROCESS Data Sheet



RIWORLD Data Sheet



RIPRECISION Brochure



Watch our videos!
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