

RIEGL VMX-RAIL



2 MHz effective measurement rate
500 scan lines/sec
up to 9 cameras integrable

The fully integrated High Speed Mobile Laser Scanning System **RIEGL VMX** is available in an optimized package for railway applications, including

- accurate surveying in challenging environments
- reliable capturing of railway infrastructure, topography and vegetation
- operation at platform speed up to 130 km/h
- dual scanner system for reduction of scan shadows
- flexible camera options to complement scan data with high resolution imaging
- hybrid system for road and rail applications
- interfaces to Third-Party Rail-Processing Software Packages



RIEGL VMX-RAIL

Mobile Mapping System for Rail Track Surveying

Typical Applications

- Rapid Safe Data Capture with Minimal Disruption to Network Schedules
- Rail Infrastructure Asset Management
- As-Built Surveying
- Track and Infrastructure Monitoring
- Clash Detection Simulation and Clearance Analysis
- Railway Planning and Engineering



www.riegl.com



RIEGL LMS GmbH, Austria

RIEGL USA Inc.

RIEGL Japan Ltd.

RIEGL China Ltd.

VMX-RAIL Key Features

- additional mechanical interface for quick installation on various rail cars
- main cable extensions for safe remote operation
- optical distance measurement indicator optimized for railways
- specially designed 19 inch rack based control module for fixed installation in a rail car
- additional 230 V AC uninterruptible main power supply for quick and reliable operation

State-of-the-Art Rail Track Surveying

RIEGL VMX-RAIL Mobile Laser Scanning System

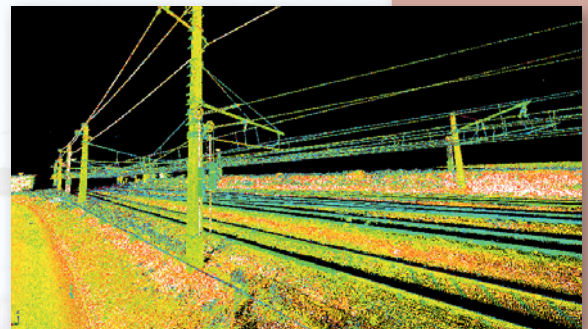
- enables the capture of the complete rail corridor, including overhead wiring, rail heads, and the complete periphery, even signs orthogonal to running direction
- high-end system performance supports rapid data acquisition of dense point clouds
- fully-calibrated measuring head for quick and flexible system setup
- optional integrated camera system and open interfaces to various external sensors

Data interfaces to industry leading rail software products:

Functionality				
product	extraction of rail axis	extraction of profiles	clearance	track planning
TopoDOT*	✓	✓	✓	with Bentley Rail
CARD//i	✓	✓	✓	✓



RIEGL VMX-1HA with (2x) 5 MP and (2x) 9 MP cameras



RIEGL VMX-1HA scan data



rail specific post processing with various third party software packages possible (shown example data: TopoDOT)

RIEGL VMX-2HA Technical Data

Scanning Performance

Eye Safety Class	Laser Class 1*
Max. Range @ Target Reflectivity 80% / 10%	420 m / 150 m
Minimum Range	1.2 m
Accuracy / Precision	5 mm / 3 mm
Effective Measurement Rate	up to 2,000,000 meas./sec
Field of View	360°

IMU/GNSS Performance

Position (absolute)	typ. 20 - 50 mm
Roll & Pitch	0.005°
Heading	0.015°

*Class 1 Laser Product according to IEC60825-1:2014

- eye safe operation at Laser Class 1
- max. measurement range
- pulse repetition rate PRR (peak)
- multiple target capability
- optional digital camera
- online waveform processing



RIEGL VMX-2HA
Data Sheet



RIEGL VUX-1HA
Data Sheet



RIACQUIRE
Data Sheet



RIPROCESS
Data Sheet



RIWORLD
Data Sheet



RIPRECISION
Data Sheet

