

# NEW RIEGL VMX-1HA-RAIL



Use the latest advancements in RIEGL LiDAR Technology for your mobile applications:

**2 MHz effective measurement rate**  
**500 scan lines/sec**

The fully integrated High Speed Mobile Laser Scanning System RIEGL VMX-1HA 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



## NEW RIEGL VMX-1HA-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](http://www.riegl.com)



RIEGL LMS GmbH, Austria

RIEGL USA Inc.

RIEGL Japan Ltd.

RIEGL China Ltd.



**VMX-1HA-RAIL Key Features**

- easy to mount lifting frame for fast installation by crane
- 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-1HA-RAIL Mobile Laser Scanning System**

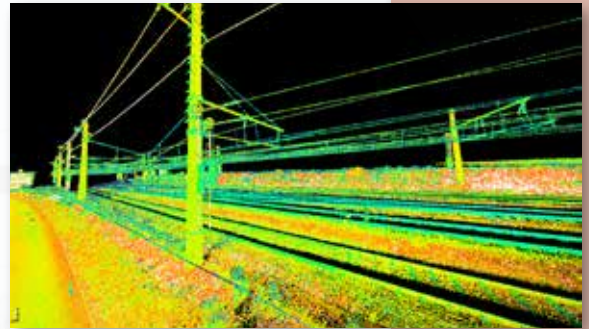
- enables the capture of the complete rail corridor, including overhead wiring, rail heads, and the complete periphery, even signs orthogonal to running direction
- high-end system performance supports rapid data acquisition of dense point clouds
- fully-calibrated measuring head for quick and flexible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

**Data interfaces to industry leading rail software products:**

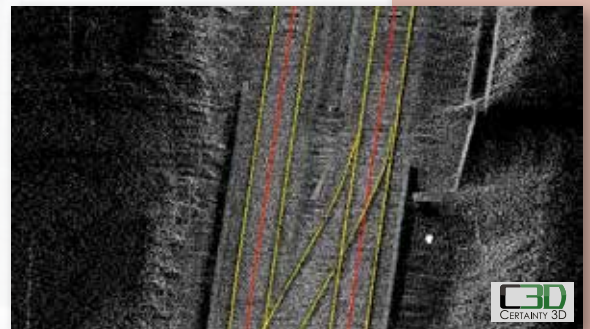
Functionality				
product	extraction of rail axis	extraction of profiles	clearance	track planning
TopoDOT*	✓	✓	✓	with Bentley Rail
CARD/1	✓	✓	✓	✓



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-1HA Technical Data**

Scanning Performance

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

IMU/GNSS Performance

<b>Position (absolute)</b>	typ. 20 - 50 mm
<b>Roll &amp; Pitch</b>	0.005°
<b>Heading</b>	0.015°

\*Class 1 Laser Product according to IEC60825-1:2007

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

