

GEDO IMS

HIGHLY PRODUCTIVE SLAB TRACK SURVEY

The system is used for highly productive final inspection of slab track, direct fixated and embedded track after construction. The almost fully automatic geodetic resection in combination with the most modern inertial measurement technology optimizes the measurement process with highest accuracy.

Based on the measurement results, the acceptance reports and correction lists required for final inspection and quality control can be generated.

The highly accurate and extremely productive system is particularly suitable for longer sections of conventional and high-speed lines.

TRIMBLE GEDO SYSTEMS

Trimble GEDO systems can be used for various applications to measure, record and analyze the track position and quality, as well as for construction and maintenance work. Trimble GEDO instruments and software are designed specifically for the diverse surveying tasks on railway lines, simplifying work procedure in the field and in the office. Using standard data formats, information can be exchanged with leading track design software products and track maintenance equipment.

SYSTEM CONFIGURATION

The Trimble GEDO IMS system combines the Trimble GEDO CE 2.0 track measurement trolley with the Trimble GEDO IMU and a Trimble S-Series total station. The IMU is a sensor based on inertial measurement technology that guarantees the highest internal measurement accuracy. In combination with the Trimble total station, this enables three-dimensional track recording in an absolute coordinate system.

Trimble S-series total station

With a Trimble S-Series total station mounted on the trolley, the trajectory determined by the Trimble GEDO IMS system is referenced with the highest accuracy utilizing reference points close to the track via a nearly fully automatic geodetic resection. The resulting track position can be used to generate acceptance reports and correction lists for the respective sleepers.

Trimble GEDO IMS

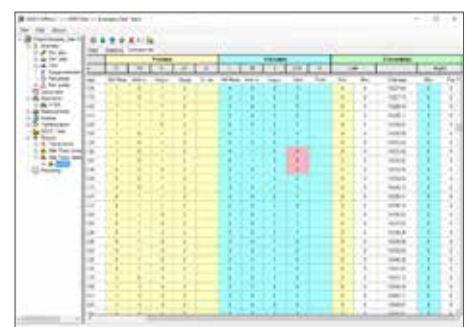
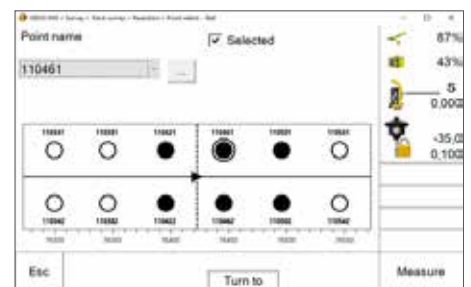
Field software to control track measurement in combination with Trimble GEDO CE 2.0 track measurement trolley and Trimble GEDO IMU. The absolute track position and relative track geometry are recorded together with track gauge, cant and twist. Control points and track main points along the track alignment are displayed during the measurement.

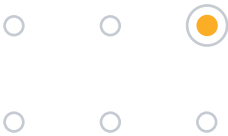
Trimble GEDO Office module Quality

Software for generating reports to verify relative and absolute track geometry through a travel chord to ensure conformity with track safety and quality parameters.

Key Benefits

- ▶ Simple and self-contained trolley captures track position, gauge and cant in a single operation
- ▶ Flexible combination with additional sensors fitting to the application for best performance
- ▶ Geodetic resection using a total station for highest accuracy and simultaneous verification of reference points
- ▶ Short initialization time allows rapid on-site use
- ▶ Easy handling and intuitive user interface
- ▶ Continuous high-resolution data collection for flexible analysis
- ▶ Standardized logging of correction values of lateral guidance and height correction plates in graphical and list form





GEDO IMS

HIGHLY PRODUCTIVE SLAB TRACK SURVEY

GENERAL	
APPLICATIONS	
	High-precision measurement for final inspection after construction of slab track for high-speed lines, trams, underground railways, industrial tracks and turn-outs
PERFORMANCE	
Relative accuracy	0,3 mm for standard chord length (20 m)
Absolute accuracy	+/- 1 mm horizontal and vertical achievable depending on external reference, line length and track conditions
Initialisation time	5 minutes
Measurement frequency	200 Hz
Measurement speed	up to 4.000 m/h (without time for total station setup)
SYSTEM REQUIREMENTS	
Supported instruments	Trimble S-series total stations S7, S9 (recommended)
Controllers	Trimble TSC7, T7 and T100 controllers (Windows® OS)
CONFORMITY	
EN 13977	Portable trolleys for rail applications
EN 13848-4	Measurement of relative track geometry

TRIMBLE GEDO CE 2.0 WITH TRIMBLE GEDO IMU	
Description	Track-mounted trolley with IMU (Extensions are possible)
Gauges	1.000 mm, 1.067 mm, 1.435 mm, 1.520 mm, 1.524 mm, 1.600 mm, 1.668 mm, 1.676 mm (other gauges on request)
Weight	24,5 kg
GAUGE MEASUREMENT	
Range	-20 mm to +60 mm
Accuracy	±0,3 mm
CANT MEASUREMENT	
Range	±9° or ±235 mm at 1.435 mm gauge
Accuracy	±0,5 mm (static)
BATTERY	
Type	Trimble S-Series Li-Ion, rechargeable
Life	6 - 8 h (hot-swappable)
COMMUNICATION	
Connection to control unit	Bluetooth®
IMU	WLAN



Specifications are subject to change without notice.

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ENG_SYS_GEDO_IMS_SLAB (07/25)