



GEDO IMS+GNSS

FOR TRACK SURVEY, CONSTRUCTION & MAINTENANCE

The Trimble GEDO IMS+GNSS system enables track survey and subsequent track design based on absolute coordinates with valid alignment elements. During the survey run, reference points can be defined for the following construction or maintenance work. The required correction values are used for the reconstruction planning or passed on directly to the tamping machines.

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.

Track survey

with Trimble GEDO IMS+GNSS

The Trimble GEDO IMS+GNSS system combines the Trimble GEDO CE 2.0 track measurement trolley with the Trimble GEDO IMU and a Trimble GNSS receiver.

The Trimble GEDO IMU is a high-precision sensor based on inertial measurement technology. This guarantees a high inner accuracy of the measurement. In combination with Trimble GNSS, this enables three-dimensional track survey in an absolute coordinate system.

Reference point measurement with Trimble GEDO Profiler

Laser measuring unit for measuring permanently or temporarily marked reference points along the track. The Trimble GEDO Profiler enables the verification of the track position at the reference points during and after construction as well as the measurement of distances to buildings and platforms.

Track optimization

with Trimble GEDO NovaTrack

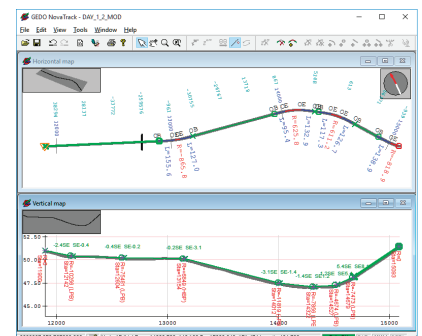
Software for calculating a new track position based on the information measured with the GEDO IMS+GNSS system. Using regression algorithms, an approximated track design is calculated that can be optimized with an interactive graphic editor. The result is a smoothed horizontal, vertical and cant alignment. This can be used immediately for the maintenance work.

Construction work supported by Trimble GEDO IMS

All subsequent construction and maintenance work is carried out based on the new reference points and the new alignment. The GEDO IMS system is used in conjunction with the Trimble GEDO Profiler for the measurement during construction and pre-measurement for the tamping work. Optionally, the Trimble GEDO Vorsys system can be used instead, as it is particularly flexible in a construction environment.

Key Benefits:

- ▶ Integrated solution for track survey, track optimization, data generation for the tamping machine and quality control
- ▶ Measurement without reference points and alignment data possible
- ▶ Continuous recording of the three-dimensional track position, track gauge and cant in one work step
- ▶ Determination of reference points during survey run
- ▶ Use of a universal track measuring trolley with modular enhancement options
- ▶ Quick initialization time enables fast on-site deployment
- ▶ Simple handling and clear user interface
- ▶ High productivity and flexibility reduce costs and personnel expenses
- ▶ System extension with a laser scanner for asset data collection and BIM applications possible



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GENERAL

Application	Track survey of existing railway lines Track optimization and design Pre-measurement for tamping
Relative accuracy	<+/- 1 mm for standard chord
Initialization time	5 minutes
Measurement frequency	200 Hz
Measurement speed	up to 5,000 m/h

TRIMBLE GEDO CE 2.0 TRACK MEASURING WITH TRIMBLE GEDO IMU	
Description	Track measuring trolley with IMU
Gauge	1000 mm, 1067 mm, 1435 mm, 1520 mm, 1600 mm, 1668 mm, 1676 mm (other gauges on request)
Weight	24.7 kg
Gauge measurement	
Range	-20 mm to +60 mm
Accuracy	±0.3 mm
Cant measurement	
Range	±9° or ±235 mm at 1435 mm gauge
Accuracy	±0.5 mm (static)
Battery	
Type	Trimble S-Series Li-Ion, rechargeable
Life	6 to 8 hours

TRIMBLE PROFILER GEDO CE 2.0	
Weight	3.5 kg
Measurement range	0.3 m to 30 m
Typical accuracy for distance measurement	±1.5 mm

TRIMBLE R10 GNSS-SYSTEM	
Interfaces	USB, Bluetooth®, WiFi
Environmental protection	IP67; MIL-STD-810F
Weight	1.12 kg
Battery	
Life	5 hours

TRIMBLE TSC7 CONTROLLER	
Operating system	Windows® Microsoft 10 Pro
Operation	Touchscreen, Keyboard
Interfaces	USB, RS232, Bluetooth®, WLAN (802.11 a/b/g/n)
Environmental protection	IP68; MIL-STD-810G
Temperature range	-20 °C to +60 °C
Weight	1.6 kg
Battery	
Life	up to 7 hours



Specifications subject to change without notice.





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