GEDO IMS-GNSS

LINE UPGRADING AND TRACK RECONSTRUCTION

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 staked out for the following construction or maintenance work. The data obtained in this way is used to plan the conversion and correction values are passed on to the track maintenance machinery.

TRIMBLE GEDO SYSTEMS

Trimble GEDO systems can be used for various applications in measuring, recording and analyzing track position and track quality, as well as for construction and maintenance activities. The instruments and software of the Trimble GEDO systems are specifically designed for the various surveying tasks on railway lines and simplify the work in the field and in the office. Using standard data formats, information can be exchanged with leading software products for track planning and track maintenance machinery.

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 IMU is a sensor based on inertial measurement technology that guarantees the highest internal measurement accuracy. 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

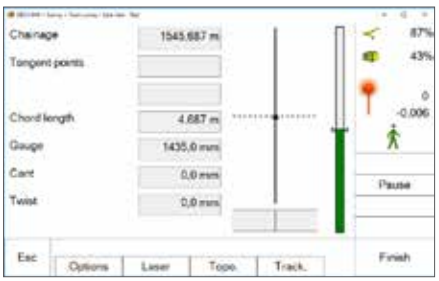
Software for calculating a new track position based on the information measured with the GEDO IMS-GNSS system. Using regression algorithms, an approximated track design is calculated that can be optimized with an interactive graphic editor. The result is a smoothed horizontal, vertical and cant alignment.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

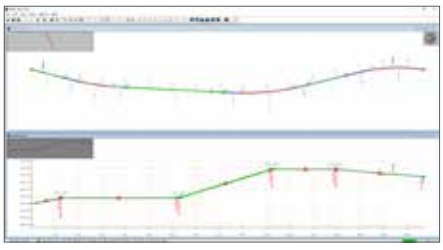
Construction work supported by Trimble GEDO IMS

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. Any other GEDO system can also be used, depending on the construction site requirements and conditions.

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 step
- Determination of reference points during survey run
- Use of a universal track measuring trolley with modular expansion options
- Quick initialization time enables fast on-site deployment
- Easy handling and intuitive user interface
- High productivity and flexibility lowers costs and reduces personnel expenses
- System extension with a laser scanner for asset data collection and BIM applications possible





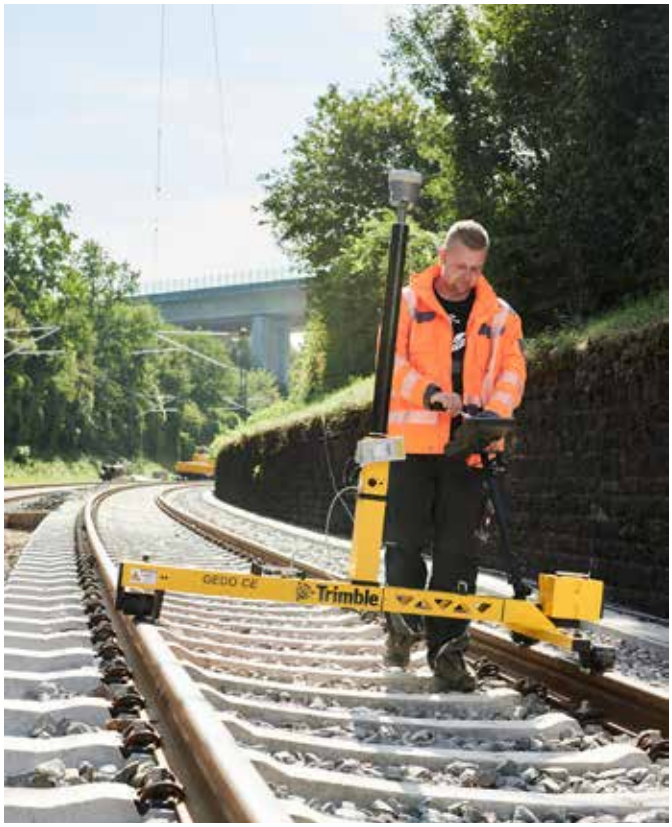
Trimble®

Find out more:
gedo.trimble.com

GEDO IMS-GNSS

LINE UPGRADING AND TRACK RECONSTRUCTION

GENERAL	
APPLICATIONS	
	Track survey of existing railway lines Track optimization and design Pre-measurement for tamping
PERFORMANCE	
Relative accuracy	0,3 mm for standard chord length (20 m)
Initialisation time	5 minutes
Measurement frequency	200 Hz
Measurement speed	up to 5.000 m/h
SYSTEM REQUIREMENTS	
Supported instruments	Trimble GNSS systems (i.e. R10, R12, R12i) Trimble S-series total stations (i.e. S7, S9) as profiler Trimble GEDO Profiler
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	24,7 kg
GAUGE MEASUREMENT	
Range	–20 mm to +60 mm
Accuracy	±0,3 mm
CANT MEASUREMENT	
Range	±9° or ±235 mm at 1.435 mm track 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
TRIMBLE GEDO PROFILER	
Weight	3,5 kg
Range	0,3 m to 30 m
Accuracy (typical)	±1,5 mm
TRIMBLE R12i GNSS-SYSTEM	
Interfaces	USB, Bluetooth, WiFi
Weight	1,12 kg
Battery life	5 h

Specifications are subject to change without notice.

NORTH AMERICA
Trimble Inc.
10368 Westmoor Dr
Westminster CO 80021
USA

EUROPE
Trimble Railway GmbH
Korbacherstraße 15
97353 Wiesentheid
GERMANY
gedo.trimble.com

ASIA-PACIFIC
Trimble Navigation
Singapore PTE Limited
3 HarbourFront Place
#13-02 HarbourFront Tower Two
Singapore 099254
SINGAPORE