



GEDO Scan

CLEARANCE ANALYSIS AND ASSET DATA COLLECTION

The Trimble GEDO Scan system is a modern, efficient tool to collect detailed information about track and surrounding features. With Trimble GEDO Scan you can quickly gather precise, high-resolution data for use in track clearance assessments and facilities management.

APPLICATIONS

Planning, BIM and execution of construction work

- ▶ Documentation of the actual conditions
- ▶ Basic data for planning and 3D modelling
- ▶ Clearance analysis with profiles or 3D wagon models for current or newly planned routes
- ▶ Overhead line planning
- ▶ Asset documentation after completion

Operation and maintenance

- ▶ Clearance analysis for oversized transports and cross-border rail traffic
- ▶ Restriction documentation for the infrastructure operator (i.e. WinLUE for LIRA and Clearroute)

Asset Management

- ▶ Object registration

TRIMBLE GEDO SYSTEMS

Trimble GEDO systems can be used for various applications to measure, record and analyze track position and quality, as well as for construction and maintenance work. Trimble GEDO instruments and software are designed specifically for various surveying tasks on railway lines, simplifying work procedures 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.

Trimble GEDO Scan

Software to control of measuring process with communication to the laser scanner and acquisition of sensor values from the trolley. In combination with a Trimble GEDO Rec system with total station or GNSS receiver, an absolutely referenced three-dimensional point cloud is generated, which can be used for as-built data acquisition or for checking clearance in tunnels or at any narrow environment. Without using a total station or GNSS receiver for absolute positioning, point clouds can be captured in relative mode for clearance analysis purposes.

Trimble GEDO Scan Office

Software for preprocessing and analysis of Trimble GEDO scan measurements. In absolute mode, three-dimensional point clouds are generated in the global coordinate system.

In the synchronized point cloud, track-specific measurements can be done and the absolute position of objects can be extracted.

Clearance analysis is possible with static clearance profiles or with the specification of a 3D wagon model based on the current or newly planned track position.

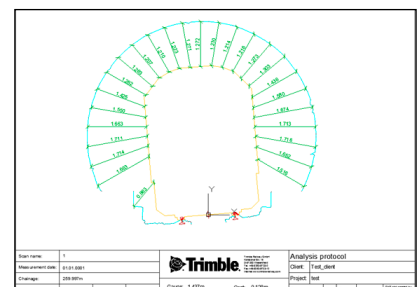
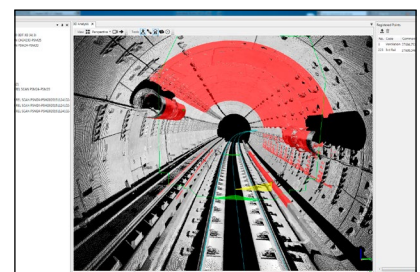
Cross sections along the track axis can be generated and exported with automatic annotation with dimensions as DXF plots.

The track detection tool allows the determination of the adjacent track position without having to measure it separately.

With the detection of platform edges as well as the automatic detection of overhead lines with calculation of the distances to the track, further software functions are available for analysis.

Key Benefits:

- ▶ Use of a universal track measurement device with modular expansion options
- ▶ Helical scan method for three-dimensional detection of objects along the track
- ▶ Rotated scan head for better object visibility
- ▶ Modular design for optimum adaptation to the measuring task
- ▶ Flexible combination with geodetic instruments for absolute referencing
- ▶ High productivity and flexibility leads to lower costs and reduced staff expenses
- ▶ Adjacent track detection for tracks visible in the scan
- ▶ Overhead line detection and distance measurement
- ▶ Chainage view for easy point cloud navigation



CLEARANCE ANALYSIS AND ASSET DATA COLLECTION

GENERAL

Applications Documentation of existing track
Main track, side track, tram, metro, industrial lines
Optional with Profiler for checking the track position at reference points
and distance measurement to objects close to the track

System accuracy
with total station ± 1 mm in Stop&Go Mode
± 3 mm in Kinematic Mode
with GNSS ± 2 cm to 4 cm

Performance
with total station 600 to 1,200 m/hour
with GNSS up to 3,000 m/hour
with Trimble GEDO IMU up to 5,000 m/hour

Measurement speed
Supported total stations Trimble S-Series
Trimble S9 is recommended
with GNSS 1 Hz RTK
Supported GNSS receivers Trimble R-Series
Trimble R12 is recommended

TRIMBLE GEDO SCAN SYSTEM

Relative accuracy < 5 mm at 7 m
Absolute accuracy (depending on track survey) typ. < 20 mm at 7 m
Weight (Trimble GEDO trolley, Trimble GEDO GX50 Scanner) 24.8 kg / 26.8 kg
Weight (Trimble GEDO trolley, Trimble TX6/TX8 Scanner) 29.3 kg

TRIMBLE GEDO CE 2.0 TRACK MEASUREMENT TROLLEY

Description Track-mounted trolley
Gauges 1000 mm, 1067 mm, 1435 mm, 1520 mm,
1524 mm, 1600 mm, 1668 mm, 1676 mm
other gauges on request
Weight 16.8 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 8 to 10 hours

TRIMBLE TSC7 CONTROLLER

Operating system Windows® Microsoft 10 Pro
Operation Touchscreen, Keyboard
Interfaces USB, RS232, Bluetooth®, WLAN (802.11a/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

TRIMBLE GEDO GX50 LASERSCANNER

Maximum range 0.6 m up to 80 m
Accuracy / Precision 2 mm / 2.5 mm @ 30 m
Measurement rate 500 kHz / 1 MHz
Scanning speed 120 Hz / 240 Hz
Visibility range 345° / 360°

Battery
Life ~ 4.5 h for Single Head / ~ 3 h for Dual Head

TRIMBLE TX8 LASERSCANNER

Scanning range 0.6 m to 120 m on most surfaces
0.6 m to 340 m with optional upgrade
Scanning speed Up to 1,000,000 points per second
Accuracy < 2 mm from 2 m to 120 m on 18–90% reflectivity in Standard mode
< 1 mm from 2 m to 80 m on 18–90% reflectivity in High Precision mode

Battery
Life ~ 2 hours

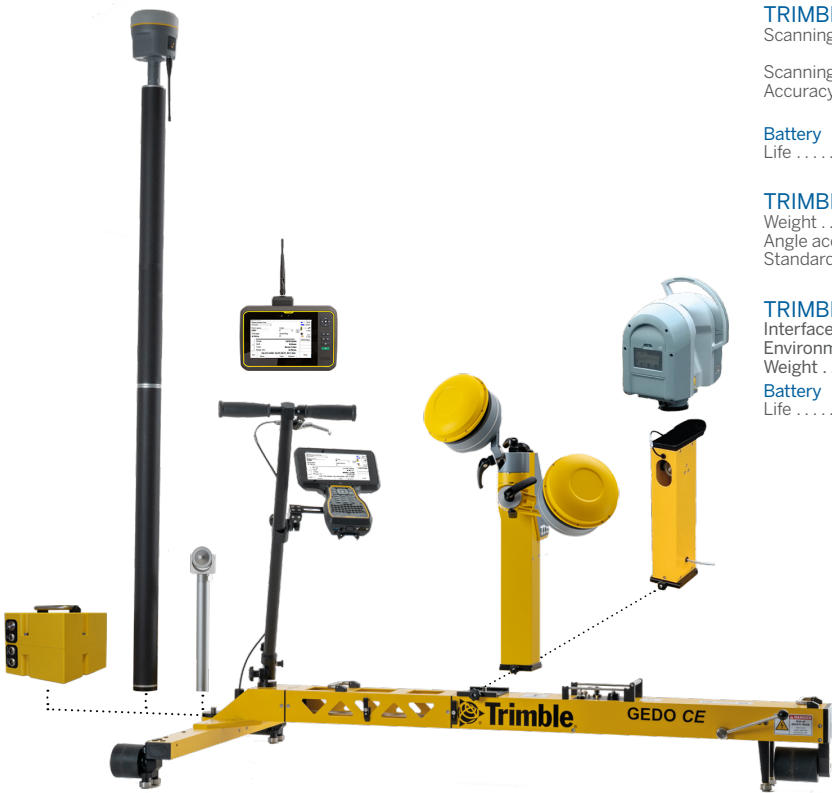
TRIMBLE S9 TOTAL STATION

Weight 5.5 kg
Angle accuracy 0.5" or 1"
Standard accuracy distance measurement 0.8 mm + 1 ppm or 1 mm + 2 ppm

TRIMBLE R12 GNSS SYSTEM

Interfaces USB, Bluetooth®, Wi-Fi
Environmental protection IP67, MIL-STD-810F, FIG.514 5C-1
Weight 1.12 kg

Battery
Life up to 6.5 hours



Specifications subject to change without notice.



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