Leica SiTrack:One
Continuous rail capture

PART OF HEXAGON

- when it has to be **right**

Leica Geosystems

Leica SiTrack:One – Position independent solution for continuous rail capture

Monitoring and maintenance of the railway tracks and the associated infrastructure is increasingly important. In challenging and evolving rail environments, it is crucial to reduce the time surveying personnel spends on the tracks at high risk and to minimise train outages whilst collecting synchronised engineering, survey-grade 3D point clouds for accurate as-built drawings.

The Leica SiTrack:One enables you to perform fast and continuous data capture, getting you off the tracks quicker. Easily and accurately capture your complete rail environment with two sophisticated laser Distance Measurement Instruments (DMI) and an Inertial Measurement Unit (IMU) that automatically positions even without access to GNSS.

With no start-and-stop needed and the calibration done on site, the SiTrack:One enables personnel to collect the data quicker and cut down the time spent in the field by more than 30 per cent.

A family of rail solutions

SiTrack:One is the only position-independent system generating 3D point clouds of any rail environment providing advantages by reducing time in field and increasing safety:

- Make better informed decisions capturing track details at 0.3 mm resolution accuracy with the exclusive high definition track profiler
- Automatic 360° sensor calibration for an automatic fit in only 5 minutes
- Continuous scanning and automatic control point recognition minimise the time surveying personnel are on the tracks at high risk and stopping trains
- The easy-to-use SiTrack:One enables any personnel to be quickly trained and deploying the solution in the field

Subway maintenance

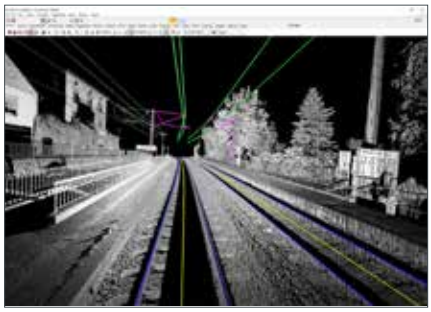
With multiple gauge options, the SiTrack:One provides a complete solution for any rail maintenance needs. With a one-of-a-kind mounting design, it captures the entire rail environment. Identify risks early with the optional and exclusive high-definition rail profiler, capturing track details to 0.3 mm resolution accuracy even at complete loss of GNSS.

Refurbishment solution

Rail bridge sleeper replacements can be measured quickly generating a numbered as-built replacement plan for each individual sleeper. Make better informed decisions on track wear with the exclusive track profiler and keep the trains running by reducing the time that your team needs to spend on the track by 50 percent.

SiRail Suite complete rail capture software

The SiRail Suite software package offers a complete and fully automated workflow to ensure highly accurate data processing, analysis and management, featuring three software modules, namely SiRailScan, SiRailManager and ATrack Suite. The modules run in a homogenous system or as stand-alone software, which allows you to customise packages enabling you to exactly perform the rail track and environmental analysis you need.

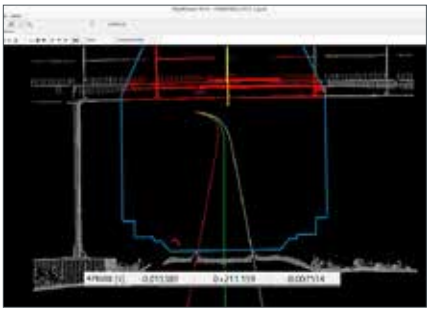


SiRailScan

SiRailScan improves the monitoring and control of the railway network for deformation analysis and volume calculations. It features automated batch processing for rail geometry adjustment with accuracy and reliability values. It detects collision with structure gauge profiles and analyses tunnel deformation by volume calculation.

SiRailManager

SiRailManager is the point cloud and database management system for complete national railway track data sets. The software mantains existing track data and controls any changes, checks the integrity of the railway navigation database, and offers a homogeneous system of geographic position, projection and railway chainage (track, station and direction).



ATrack Suite

ATrack Suite was created for track reverse engineering and algorithm optimisation, railway design and planning, as-built track geometry recovery, and comparison between designed and as-built track alignment. This module automatically calculates the track geometry alignment, height parameters, track recognition, track elements and main track points.

Fast as-built rail geometry capture

Save time by continuously capturing the complete rail environment at walking speed. This easy-to-use system enables any personnel to be quickly trained and be deploying the solution in the field. The system's on-site calibration process guarantees permanent alignment of the relative position between the sensors and its onboard Inertial Momentum Unit.

High accuracy, position independent

Get accurate positioning even in GNSS-denied areas, such as underground tunnels, with two sophisticated laser Distance Measurements Instruments (DMI) and Inertial Measurement Unit (IMU). SiTrack:One ensures complete coverage of the entire rail infrastructure surface without the need to receive GNSS signals for position information.

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems creates complete solutions for professionals across the planet. Known for premium products and innovative solution development, professionals in a diverse mix of industries, such as surveying and engineering, safety and security, building and construction, and power and plant, trust Leica Geosystems to capture, analyse and present smart geospatial data. With the highest-quality instruments, sophisticated software, and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

Leica Geosystems is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications.

Swiss Technology
by Leica Geosystems

847359en – 06.16

SiTrack:One
Continuous 3D rail capture

Leica ScanStation P30/P40
Because every detail matters

SiRail Suite
Software package for the railway industry

Leica Geosystems AG
www.leica-geosystems.com

- when it has to be **right**

Leica Geosystems