



A Cooperation of
DB E&C and DB Bahnbau Gruppe

360° Multisensor Platform

Track-bound surveying and as-built capture



360° Multisensor Platform

We overcome your challenges!



I need a system that gives me a quick, simple method of recording missing data about my infrastructure.



We create a **detailed image of the ground surface and subsurface**.
Surveying runs at speeds of up to 80 km/h are efficient and can be done **during scheduled operations**.



I need data for different use cases, but don't want to have to place a series of different orders.



We can collect data synchronously with different sensor systems in a single measurement run (150–200 km/d).



I need data that I can use across various disciplines.



The data we supply in the form of point clouds, panoramic images and ground penetrating radar scans is presented in a user-friendly, web-based online viewer and can be used across disciplines.



What we offer:

- The 360° Multisensor Platform acquires surface and subsurface infrastructure data with the help of a rail vehicle during scheduled operations.
- A mobile mapping system with 2 laser scanners, several cameras, GNSS, and a ground-penetrating radar is used to capture the infrastructure from different perspectives.

360° Multisensor Platform

How is the data collected and what is the result?



Data collection by means of:

- Rail vehicle
- Mobile mapping system (GNSS, laser scanner and panoramic camera)
- Ground penetrating radar method (optional)

The result:



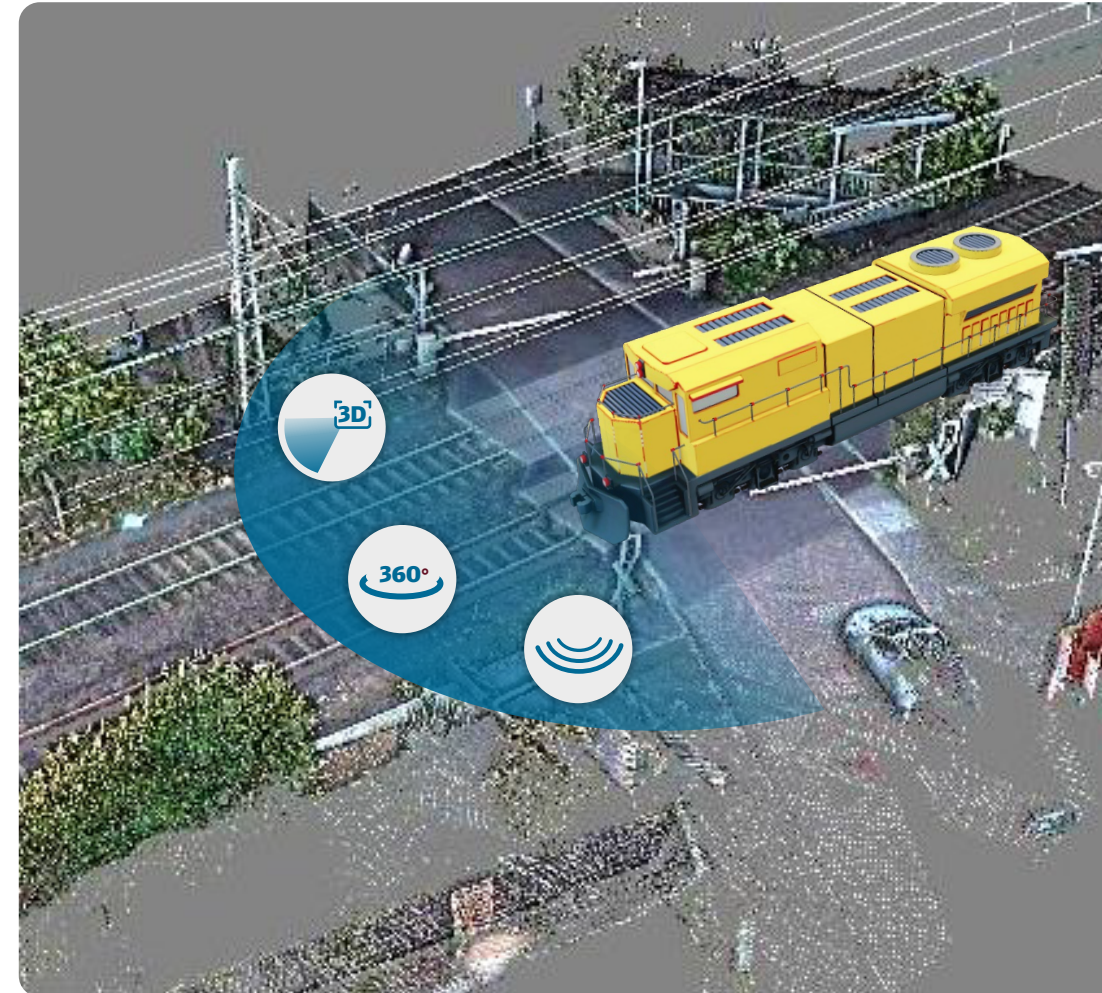
- Highly accurate 3D surface capture using point clouds



- High-resolution panoramic images from 360° image capture of the surroundings



- Ground penetrating radar scan of subsurface from view below the tracks



What is the data used for?



Point clouds

- Spatial image – digital capture of surfaces with reference to location or route
- Modeling basis – efficient creation of 3D models and as-built plans
- Basic data model
 - Always up-to-date – thanks to potential data updates and expansions
 - Cross-discipline applicability – all as-built documentation integrated into a basic data model
 - BIM-ready: Modeling basis – Efficient creation of 3D models and BIM
- Recording the actual geometry of the tracks as a basis for route design

Panoramic images

- Virtual on-foot line inspection
- Troubleshooting tool for identifying problem areas in advance – efficient and needs-oriented line inspection
- Design support – more detailed knowledge of locality
- Point cloud supplementation – simplified 3D modeling
- Update of DB-VIS

Ground penetrating radar scans

- Layer thickness measurements and cable detection – surveying the roadbed and subgrade below the tracks (maintenance of way)
- Detection of irregularities – simplified 3D modeling
- Optimized geotechnical investigation – identification of, and concentration on, critical areas

360° Multisensor Platform

One system – a whole host of advantages

Flexibility

Use in scheduled operations, no line closures required

Data recency

Continuous expansion and updating of data

Efficiency

High speed data acquisition
(up to 80 km/h)

Collaboration

Cross-discipline use of data, models and as-built data

Eco-friendliness

Minimal time and materials required despite large data coverage areas and data

Automation

Supported by a high degree of standardization

Economy

Synchronous data capture with different sensor systems in a single measurement run
(150–200 km/d)

Standardization

Pre-design information with a consistent level of quality

Your contact for all things concerning the 360° Multisensor Platform



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Further
information on
the website