



Digital Engineering Solutions

For your high-performance infrastructure

DB Engineering & Consulting

Our digital solutions

We develop digital engineering solutions that simply enhance infrastructure design, construction and operations.



With our digital engineering services, we create clear decisions, efficient processes and a future-proof infrastructure – from recording to operation.

From the initial as-built survey, to planning, construction and operation, we link precise data, intelligent models and automated workflows to create end-to-end digital processes.

Data acquisition



Data processing

Data usage

Multicopter Flights

360° imaging from the air



A solution by
DB E&C

- High-resolution aerial images for precise terrain and structure analyses
- 3D point clouds and orthoimages as a basis for BIM and design
- Fast and flexible data collection, even in difficult-to-access areas
- Automated image processing and quality control
- Integration in X2BIM platform for easy visualization and collaboration

Further information:



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Photo: DB E&C/Jan Brunkal

360° Multisensor Platform

Track-based surveying and topography mapping



A Cooperation of
DB E&C and DB Bahnbau Gruppe

- Modular system for detection by camera, scanning, radar and GNSS
- Data capture during scheduled operations at up to 80 km/h
- High-precision 3D documentation as a basis for design projects
- Used in design, construction and maintenance
- More than 1,500 km of rail network already surveyed
- Scalable for use on local, regional and long-distance lines

Further information:



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Photo: DB E&C/Ulrich Ostermayer

Ground-penetrating radar

Making the invisible visible



A solution by
DB E&C

- Ground-penetrating radar for non-destructive surveying up to a depth of 4 m
- Detection of pipes, foundations and cavities
- High-resolution data acquisition at up to 100 km/h
- Supports condition-based maintenance
- Can be integrated into BIM models

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Photo: Henry Fried

Geotechnical monitoring

We make structures talk



A solution by
DB E&C

- Continuous Geotechnical monitoring of material deformation and component movements
- Recording of environmental influences such as temperature, wind or snow load
- Flexible sensor technology - wired or wireless use
- Intuitive platform for data analysis and alerts
- End-to-end service, from consulting to maintenance

Further information:



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BIM4LCA

Model-based lifecycle assessment



A solution by
DB E&C

- Automated calculation of carbon footprint and life cycle assessments using BIM models
- Used in design phase to calculate emissions and costs spanning the entire life cycle
- Objective: To create life cycle emission and cost data for use in decision-making in infrastructure design projects

Further information:



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Photo: Vika art/stock.adobe.com

X2BIM data platform

Infrastructure seen from X perspectives



A Cooperation of
DB E&C and infraView

- System to capture multidimensional data of large infrastructures
- Bundles high-quality data from multicopter surveys, mobile mapping systems, terrestrial laser scanning and similar
- Thanks to AI-supported object recognition, 3D point clouds form the basis for digital terrain models (DTMs), BIM models and the digital infrastructure twin

Further information:



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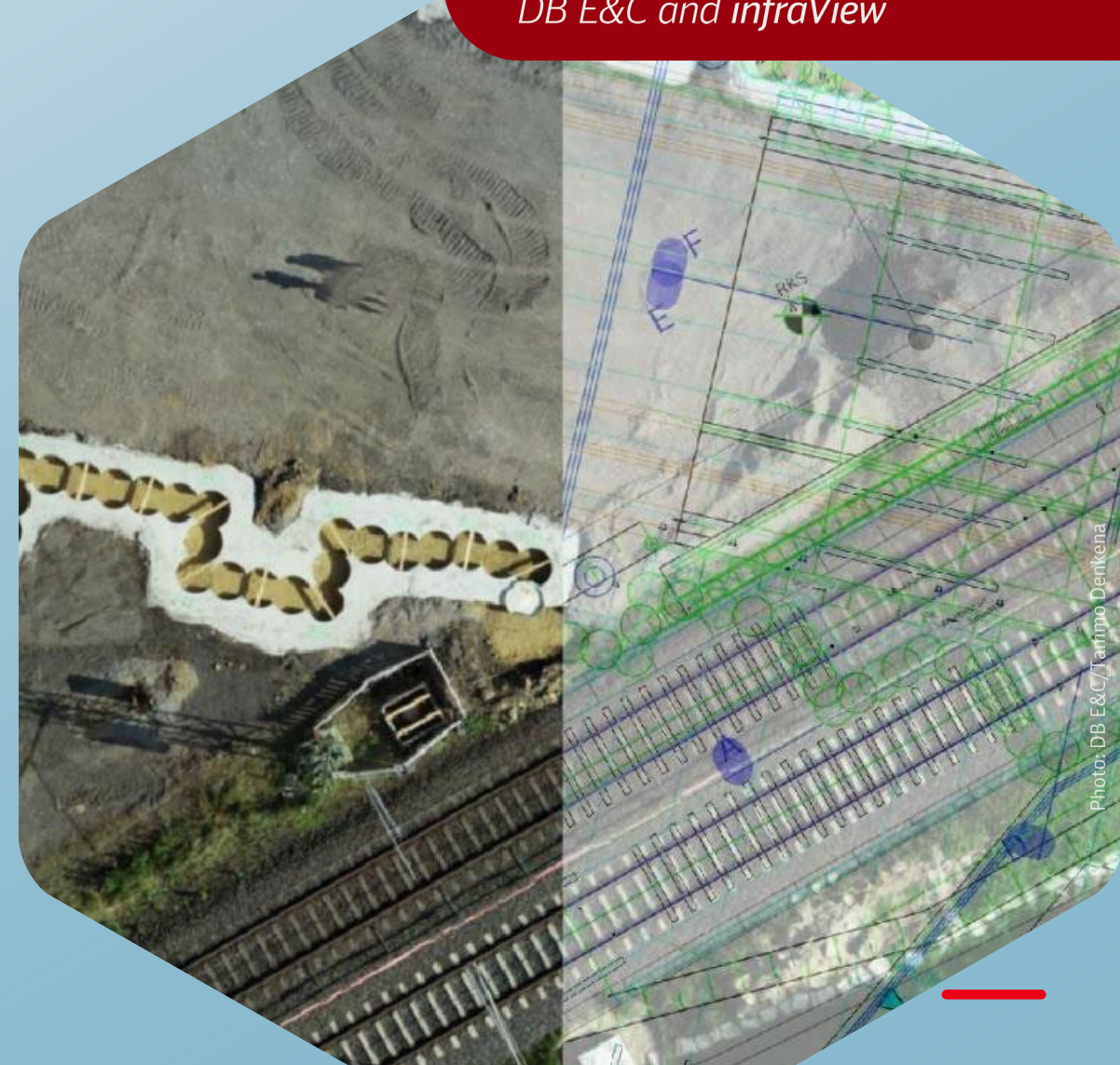


Photo: DB E&C/Tammo Denkena

TRACKORD

Digital site inspection data visible and usable for everyone



A solution by
infraView

- Information and media can be added to existing points of interest (POIs) at any time and from anywhere
- New POIs, displayed as points, lines or areas on maps and plans, can be created on site via GPS, in the office or at a café
- Photos can be taken directly in TRACKORD
- The different perspectives of the users, for example in signaling technology, give the information a subject-specific dimension

Further information:



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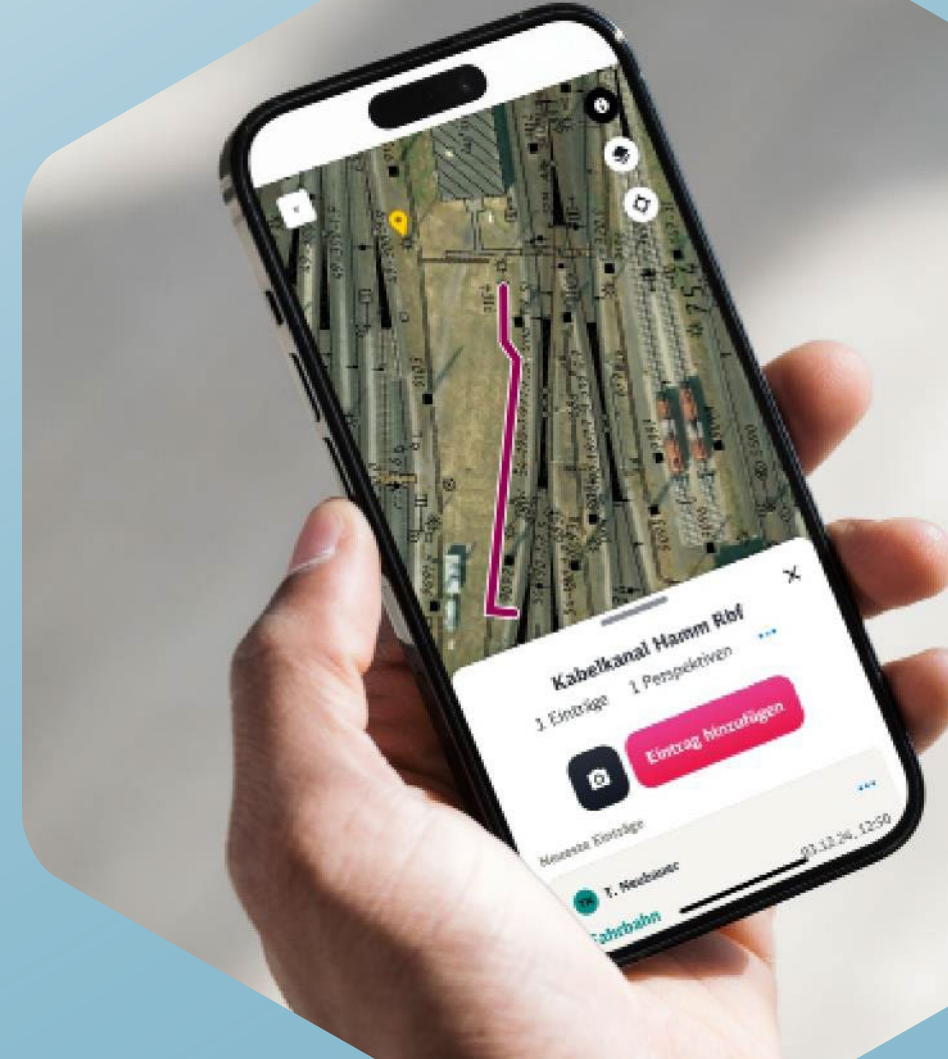


Photo: Tobias Neubauer

- Entries regarding staff attendance, devices, services, defects, handovers, particularities and requests can be made without an internet connection thanks to the offline functionality
- Integrated defect management means defects can be handled and tracked efficiently
- Instructions and training videos make it easy for users to familiarize themselves with the system

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Photo: adobe firefly

More data capture methods

We will find a solution for any challenge!

- When the commonly used methods are not quite enough, we use special devices such as mobile mapping systems and 360° cameras
- Mobile mapping systems collect infrastructure data during an on-site inspection
- We use 360° cameras in spaces that are difficult to access, such as shafts, underpasses and culverts
- Visualization of objects and locations by means of panoramic images and point clouds

Further information:



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A solution by
DB E&C



Photos: DB E&C/Maurice Bornholdt

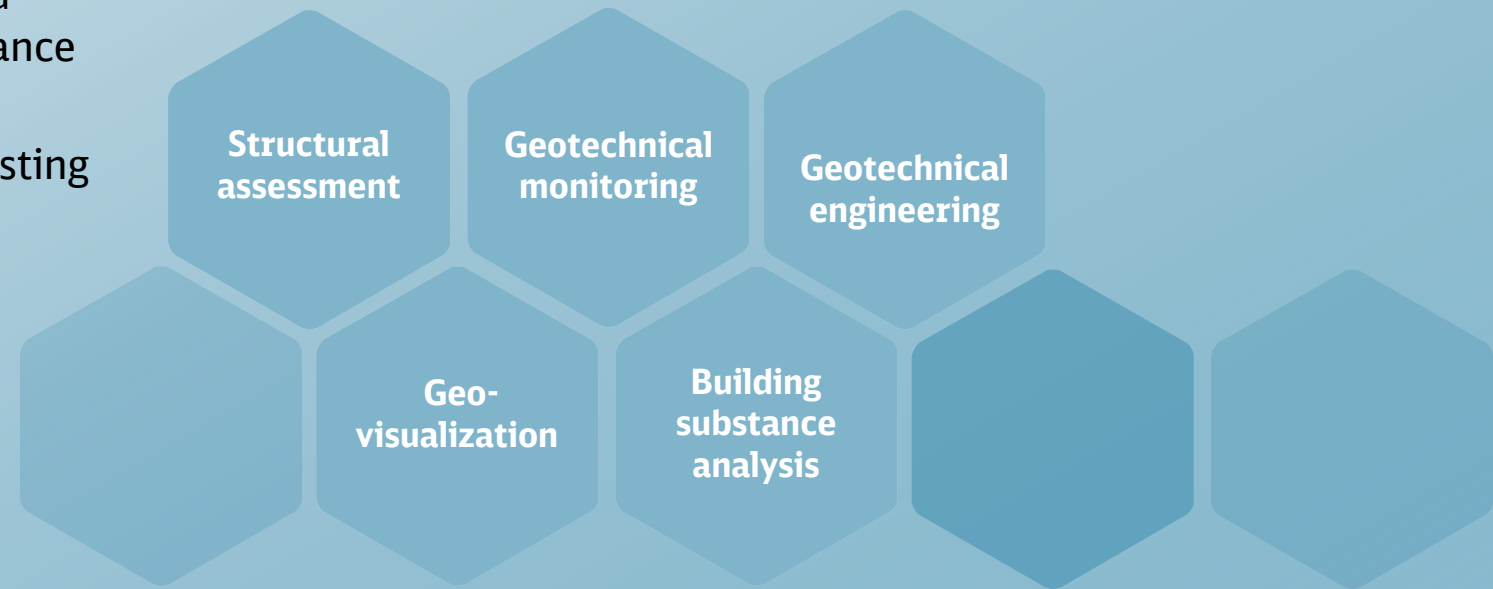
Structure 360°

Security for your infrastructure



A solution by
DB E&C

- With our innovative Structure 360° service, we offer infrastructure customers an unparalleled all-round solution, comprising comprehensive in-house expertise, seamless real-time data integration and maximum transparency for future-proof maintenance planning.
- This is how we create trust and secure the long-lasting value of your infrastructure.



Digital Engineering Solutions

For your high-performance infrastructure



We look forward to your questions

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