



Digital Engineering Solutions

For your high-performance infrastructure

DB Engineering & Consulting

The Evolution of Engineering Services and Tools



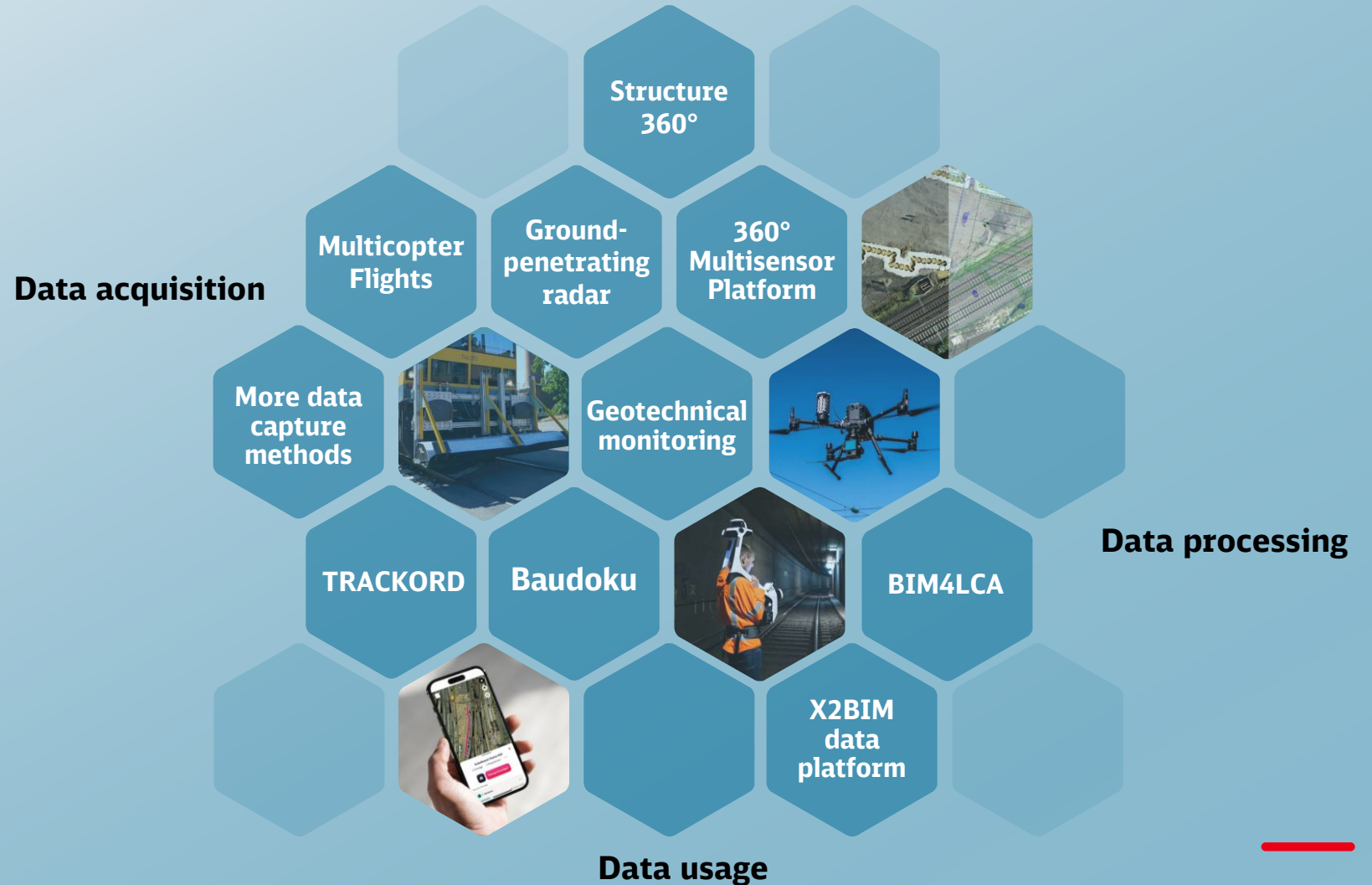
Our digital solutions



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.



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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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

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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

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Photo: helmvogley / stock.adobe.com

BIM4LCA

Model-based lifecycle assessment

- 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

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A solution by
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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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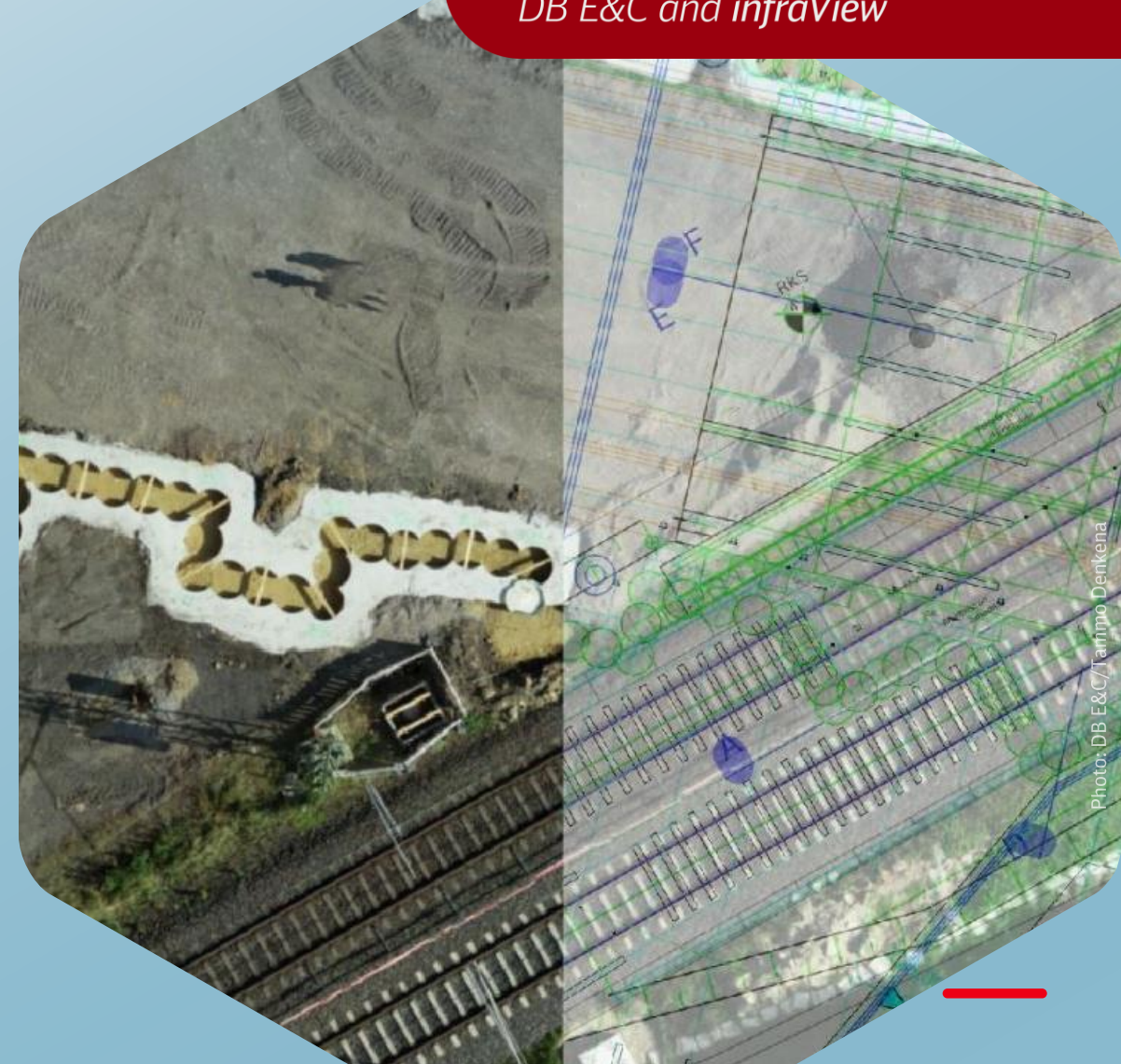


Photo: DB E&C/Tarimo Denkema

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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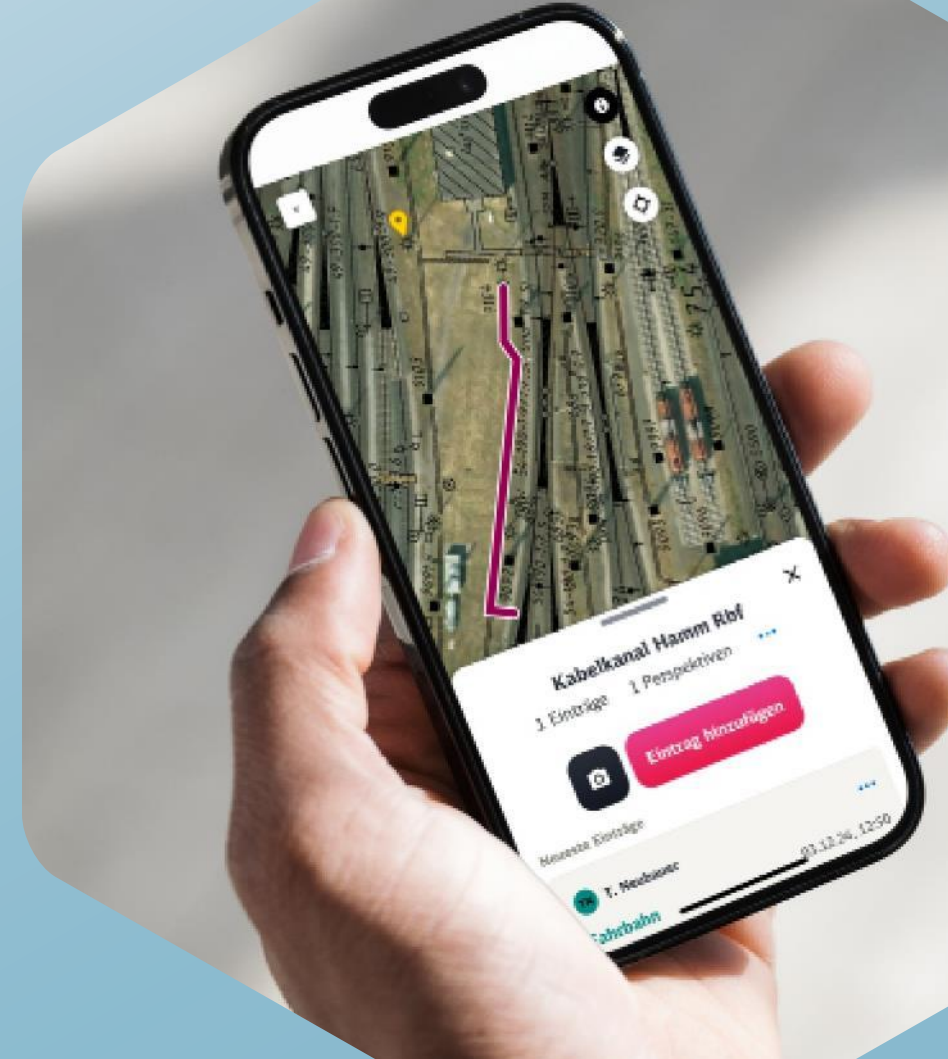


Photo: Tobias Neubauer

Baudoku

The digital construction logbook



A solution by
infraView

- 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: Michael Neuhaus, DB E&C/Maurice Bornholdt

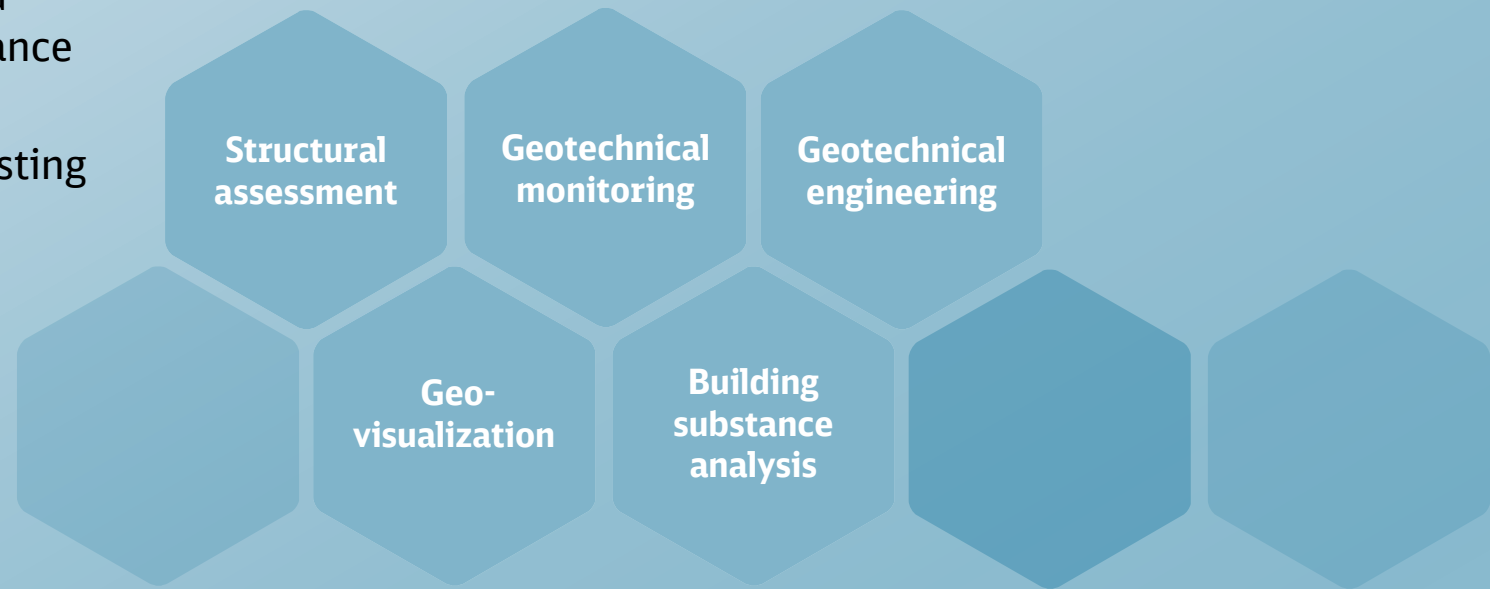
Structure 360°

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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