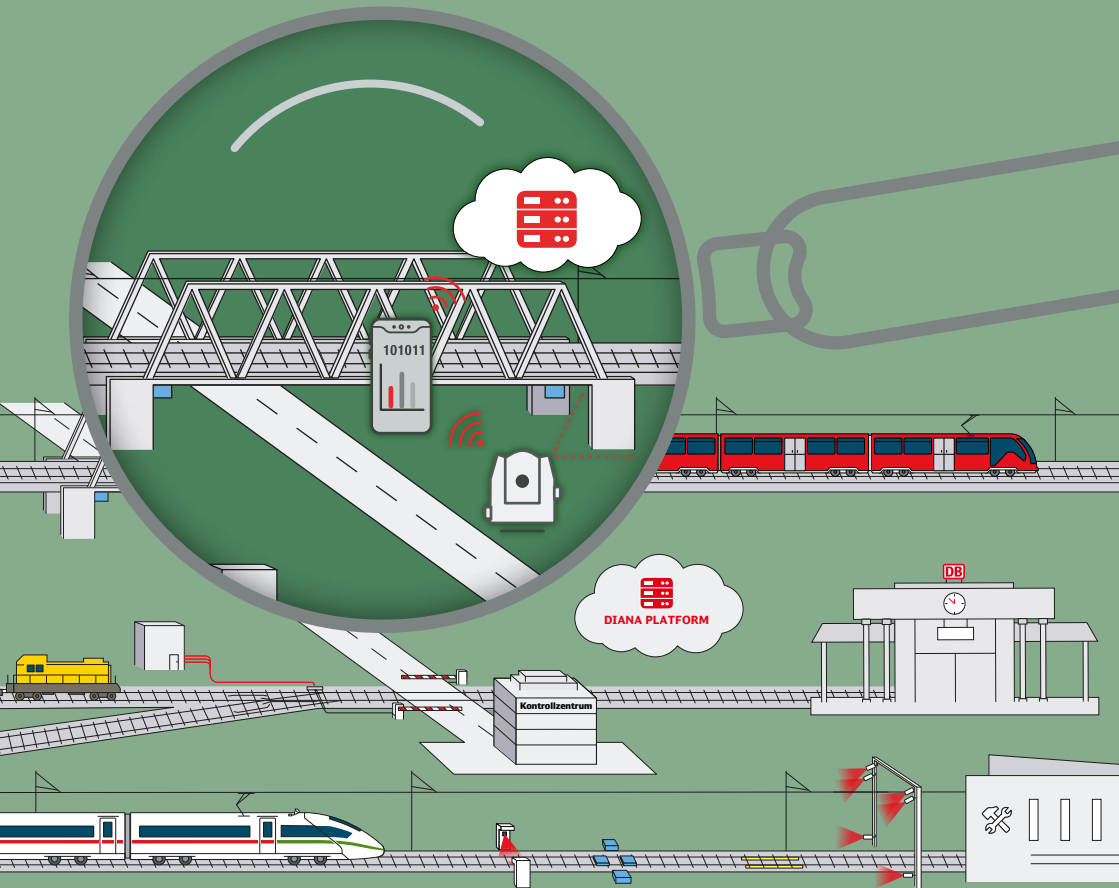




Geomonitoring

A DIANA® product



Geomonitoring for a permanent overview

DIANA Geomonitoring is our innovative construction supervision solution. Using geodetic sensors, it facilitates cost-efficient, reliable, continuous monitoring of structures during the engineering, construction and acceptance phases.

SIMPLE AND STRAIGHTFORWARD

- Geomonitoring facilitates permanent monitoring of 3D position, acceleration, forces and environmental conditions (temperature, humidity, pressure, wind, slope and distance).
- The system can be applied to many different structures, such as bailey bridges.
- Wireless or wired sensor solutions are connected via standard protocols (OPCUA, MQTT, etc.).
- DIANA Geomonitoring integrates the collected data online as well as locally via a platform-independent browser application. Take advantage of our supplier-independent DIANA platform!



What we offer

CONSULTING

- Technical consultancy on use of sensors for accurate monitoring, conformity with guidelines, design and tendering
- Comprehensive project management throughout the entire project life cycle
- Audits and verification of design and tender documentation

DESIGN

- Drafting, verification of Geomonitoring measurement concepts and tender documentation

OPERATIONS

- Installation, operation and maintenance of sensors with dismantling of sensor technology
- SMS and e-mail alerts when limit values are exceeded
- 24/7 access on mobile devices, desktops or tablets
- Conformity with RIL 883.8000 guideline
- Special analyses

OUR SENSORS

- Tachymeter
- Laser distance meters
- Electronic water levels
- Inclinometers
- Potentiometers
- Sensors for pathways and distance

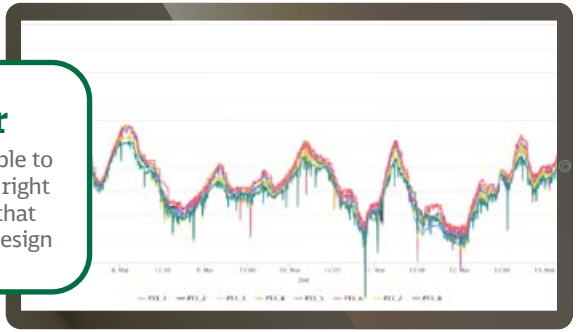
Optional

- Narrow-band transmission NB-IoT, LPWAN (LoRa)
 - High-frequency measuring instruments
 - Battery-powered solutions
- ... and much more, depending on customer needs



As a
designer

I would like to be able to monitor structures right from the start so that I can make sound design decisions.



As a
construction supervisor

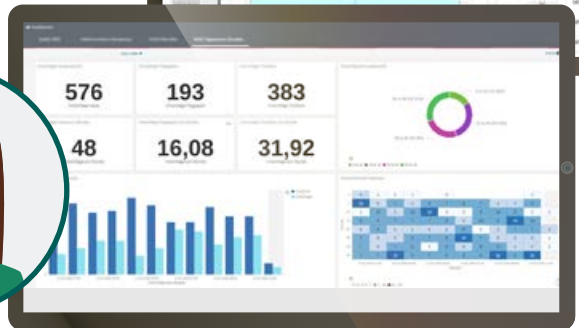
I need on-site live data throughout construction to manage decision-making processes.



One tool –
many users

As a
construction manager

I would like to obtain monitoring data for claims management after construction.



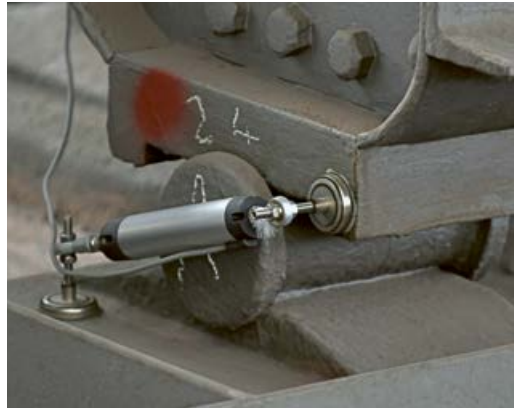
Geomonitoring in action

BERLIN OSTBAHNHOF STATION

Permanent monitoring of the support structure and wind and snow loads

Highlights of the system

- 94 potentiometers for monitoring the support structure (accuracy < 0.01 mm)
- 5 weather stations for observing wind speed and direction
- Snow scale for real-time determination of snow load



FRANKFURT CENTRAL STATION

Permanent monitoring of the portal arch and mail tunnel

Highlights of the system

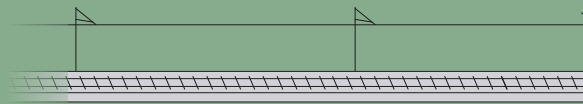
- 4 total stations with 110 prisms on the portal arch and rib vault (accuracy < 0.4 mm)
- 100 electronic water level sensors over 1 km for measuring heave and settlement (accuracy < 0.2 mm)
- 20 crack meters for monitoring gap wsizes (accuracy < 0.01 mm)
- 8 laser distance meters for monitoring the tunnel span
- Potentiometers for monitoring the support structure (repeatability ± 0.3 mm)

Would you like to learn more about other DIANA products?
Visit www.deutschebahn.com/diana or contact us
at db-diana@deutschebahn.com



Your strong partners for Geomonitoring

DB Engineering & Consulting
infraView
Position-Control

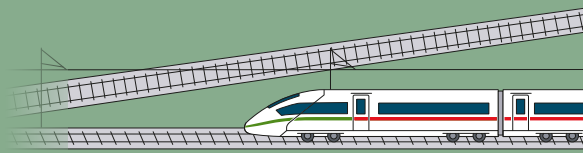


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Subject to change
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