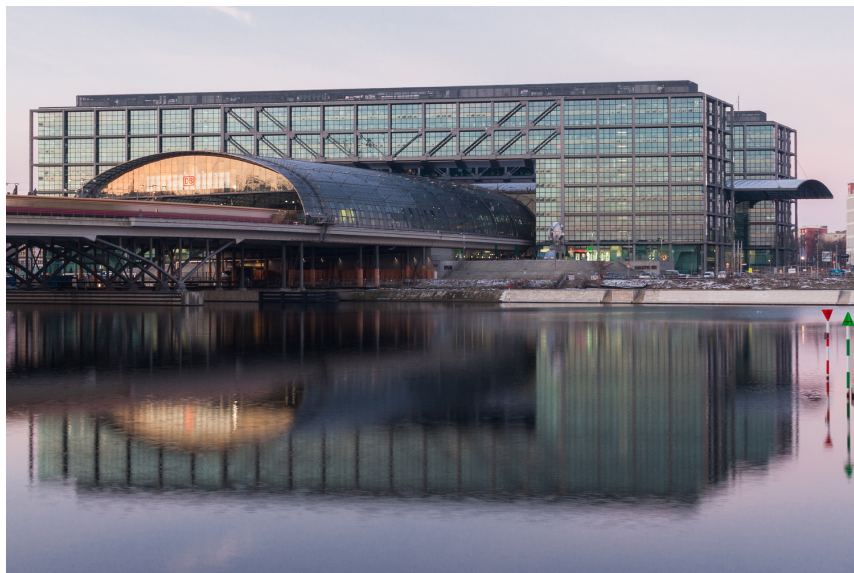


New construction S21 Berlin Central Station

Automatic bridge, building and tunnel monitoring with geodetic and geotechnical sensors



- 📍 Berlin, Germany
- 👤 Deutsche Bahn AG
- 🕒 2015 - 2026

Leistungen

- ◆ Installation of a complex geodetic and geotechnical measuring system
- ◆ Automatic measurements at 1 hour intervals
- ◆ Automatic calculation of settlements, longitudinal and transverse displacements and profile visualisations
- ◆ Alarm signalling when limit values are exceeded

Technologien

- ◆ 8 Leica TM50 precision total stations with 200 measuring points
- ◆ 74 liquid level sensors
- ◆ 3 meteo sensors
- ◆ 2 building temperature sensors
- ◆ TEDAMOS Web, password-protected customer portal with 24/7 access

As part of the construction work for the new S-Bahn line 21, permanent geodetic and geotechnical monitoring measurements are being carried out in the entire area of Berlin Central Station. The monitoring contributes to recognising hazards to railway operations in good time and initiating the necessary measures. 120 bridge piers are monitored before, during and after completion of the construction work and their changes are surveyed and documented.

The necessary measuring systems (hose scales for the areas of the shopping arcades, 4 total stations for the Humboldt harbour bridge, 1 total station for the large main hall and 3 total stations for the S5 underground railway) were designed, installed in 4 phases in spring 2015, February 2016, February 2018 and September 2020 and have been in operation ever since.