Subway access Tunnel Oberhafen Hamburg

Automatic track monitoring in collaboration with our partner company Hanack & Partner mbB

- Hamburg, Germany
- Deutsche Bahn AG
- 2021 - 2022

To develop the northern and southern Oberhafen district in Hamburg, a tunnel was built under the DB railway tracks to the HafenCity-Universität underground station.

This tunnel allows faster and easier access to the underground railway. The tunnel, which is 88 metres long and 7 metres wide, runs under 5 DB AG tracks (including the so-called Pfeilerbahn).

For this reason, the track position and the inserted temporary bridges on three of the five tracks had to be monitored using geodetic and geotechnical sensors during the construction period. In addition, the displacement in position and the change in height at the catenary masts and the overpass were determined and an alarm was triggered.

Services

- Preparing the measuring system and installation on site in collaboration with the monitoring partner
- Integration of third-party sensor data on the customer portal
- Operation of the system over the 2-year monitoring period
- Automatic measurements at hourly intervals
- Alarm when limit values are exceeded

Technologies

- Precision total station with approx. 84 track measurement points and 9 further observation points on retaining walls and catenary masts
- Online calculation of cumulative settlement and tilt values as a sensor chain based on external measurement data (inclination sensors in the track area)
- TEDAMOS Web, password-protected customer portal with 24/7 access