Geotechnical track monitoring

Tunnel Rastatt, Germany (2016 – today)

Amberg TrackControl at Deutsche Bahn

Object

The new railway tunnel in Rastatt underpass the existing high-speed railway in a shallow angle over a length of about 500 m. To ensure the safety of ongoing operations, the DB required, in addition to the geodetic monitoring, a second redundant system with high reliability and no dependency on weather condition.

Project Description

The system Amberg TrackControl was installed in different periods from 2016-2018 and adapted to the needs of Deutsche Bahn.
Since the beginning of 2018, 900 TrackControl sensors have been in operation and provide reliable results every minute for superelevation, twist, vertical versine and vertical settlement.


Tracks in the section of Tunnel Rastatt

Instruments

Superelevation	Amberg TrackControl, 210 Sensors, interval 4.80 m
Longitudinal slope	Amberg TrackControl, 640 Sensors, interval 1.20 m
Mast tilt	Amberg SlopeControl, 12 Sensors, biaxial
Concrete foundation	Amberg SlopeControl, 38 Sensors, uniaxial
Central unit and Communication	Amberg GeoMonitoring-System

Evaluation

- Temperature adjustment directly in the sensors
- Database and processing in Amberg GEOvis
- Automatic data transfer to the data portal of the client

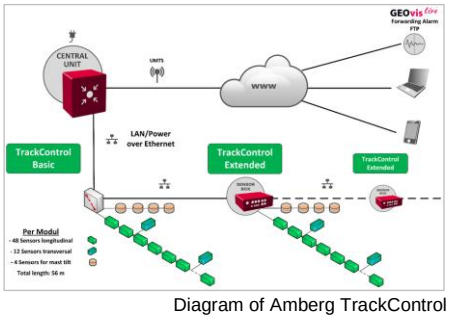

Diagram of Amberg TrackControl

Customer value

- Ensuring operational safety
- No dependency on weather conditions - no influence on the results due to snow, fog and rain
- One minute measuring interval – 24 hours
- Statement of Deutsche Bahn:
  The monitoring and alarm system works reliably

Client Deutsche Bahn AG

Partner company ISK / TABERG, Sachverständigenbüro, Freiburg

Contact
Amberg Technologies AG
Trockenloostrasse 21
CH-8105 Regensdorf
Telefon +41 44 870 92 22
geoengineering@amberg.ch
www.amberg.ch/at

AMBERG TECHNOLOGIES