

# REFURBISHMENT CORNBERG TUNNEL



## Refurbishment Cornberg Tunnel Bebra - Sontra, Germany

Replacement of the existing Cornberg tunnel using mining methods with 1 double-track tunnel tube. Backfilling of the old tunnel. Securing of the listed old portals. Free track and connection to the existing line.

### Project scope

- Mining tunnel, L = approx. 700 m
- Trough structures
- Railway overpasses / bridges / culverts
- Noise barrier
- Cuts / embankments / retaining structures
- Backfilling of existing tunnel
- Securing the listed old portals

### Challenges

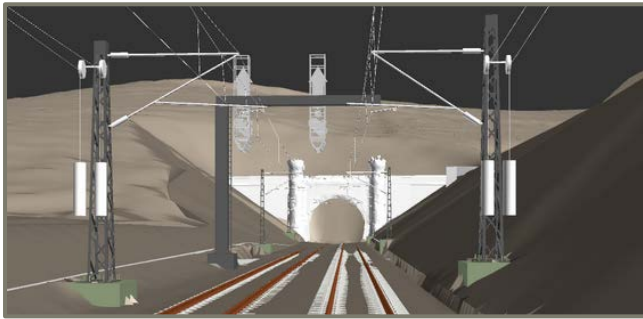
- Building under operation
- Area at risk of sinkhole
- BIM planning

### Amberg Services

- Overall project management
- Overall BIM coordination
- Project planning of civil engineering structures
- Structural engineering
- Project planning for traffic facilities
- Planning of technical equipment and trackside equipment
- Environmental planning



■ West portal of the existing tunnel



■ West portal of the existing tunnel - model



■ Culvert and railway overpass

## AMBERG FACTS

### Contract sum Amberg

- Total Amberg: approx. €3 million

### Project phases & period

- Project studies / preliminary planning 2019 - 2020
- Draft planning 2019 - 2021
- Approval planning 2020 - 2021
- Tender planning still open
- Participation in the awarding of contracts still open
- Execution planning still open

### Order details

#### Tunnel as new replacement construction

- mining tunnelling
- 681 m long
- earthquake-endangered area

#### Existing tunnel

- Masonry tunnel
- in operation during tunnel driving
- subsequent filling
- Preservation of the listed tunnel portals

#### Other buildings

- Railway overpasses / bridges / culverts
- Cuts / embankments / retaining structures
- Noise barrier

#### BIM planning

- Overall BIM coordination and BIM management
- 3D modelling (inventory)
- Creation and coordination of the technical models
- Collision check of the compartment models
- Planning coordination based on the 3D models
- Derive 2D plans
- Linking data model with dates (4D) and costs (5D)
- Visualisations
- Common Data Environment (CDE)
- Release processes
- Quality assurance

## CUSTOMER FACTS

### Total costs

- Total: approx. €100 million

### Overview overall project

- Replacement of the railway tunnel
- Free route
- Connection to existing line
- Backfilling of existing tunnel

### Geology

- Bröckelschiefer
- Strongly softened Upper Letten
- Plate dolomite broken down into small pieces until decomposed
- Strongly deconsolidated Lower Letten
- Predominantly mudstone, partly swellable
- Consideration of sinkholes
- below GW mirror

### Reference person

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