TUNNEL OF BIBRA
ERFURT (DE)

**EMPLOYER**
DB Netz AG, DE-60486 Frankfurt a. M.

**DESIGNER**
DB ProjektBau GmbH, DE-04084 Leipzig

**CONSTRUCTION PERIOD**
2008 - 2012

**CONTRACT SUM**
CHF 240 Mio. (€ 208 Mio.)

**JOINT VENTURE COMPANY**
ARGE Bibratunnel

**JOINT VENTURE PARTNERS**
Marti Tunnel AG, CH-3302 Moosseedorf
Marti GmbH Österreich, AT-8045 Graz
Johann Bunte Bauunternehmung GmbH & Co.KG, DE-26871 Papenburg

**LEAD COMPANY AND TECHNICAL LEAD**
Marti Tunnel AG, CH-3302 Moosseedorf

**COMMERCIAL LEAD**
Johann Bunte Bauunternehmung GmbH & Co.KG, DE-26871 Papenburg
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SCOPE OF THE WORKS
VDE 8.2 NBS Erfurt-Leipzig / Halle
PFA 2.2 Bibratunnel

PROJECT DESCRIPTION
The Bibra tunnel is part of the transport construction projects, Deutsche Einheit Nr. 8, the expansion- new road Nuremberg-Erfurt-Leipzig / Halle-Berlin. The Bibra tunnel consists of two single-rail track tunnels planned for a maximum speed of 300 km/h.

The main tunnel elements are described below:
- 2 x 6'346 m (86 m²) twin tube rail tunnel
- Tunnel tube diameter: 9.6 m
- Distance between track axes: 25 m
- 13 cross connections (every 500 m)
- 2 ventilation shafts: 30 m each

Work Description:
Underground excavation, rock support and grouting work
- Excavation methods: Drill and blast with top heading and bench with max. pull length of 1.8 m
- Excavated length and volume: 2 x 6'346 m, approx. 1'100'000 m³
- Standard rock support: shotcrete and systematic rock bolts
- Additional rock support: lattice girders
- Shaft excavation: 2 x 30 m, D=2.5 m using the Alimak method

Surface- and groundwork
- Pre-cut excavations and slope protection
- Area of site installation & facilities: 8 ha
- Roadworks of 10 km
- Fresh water and drainage system
- Management of excavated material: 1.4 Mill. m³

Concrete work
- Reinforced tunnel concrete lining: 17'000 t of steel
- Portals: up to 115 m long Sonic-boom structures
- Concrete banquet
- Shaft inner lining with WUBK designed for a water column of over 20 m
- Total concrete and shotcrete volume: approx. 450'000 m³

GEOLOGY
The Bibra tunnel runs along its entire length in rock formations of medium variegated sandstone. The tunnel has an overburden of about 15 to 50 meters.