

Germany



Name: Deutscher Ausschuss für unterirdisches Bauen e. V. (DAUB, German Tunnelling Committee)

Type of Structure: Registered non-profit and restricted association (limited to 30 individual members)

Number of Members: 30 members

ASSOCIATION ACTIVITIES DURING 2018 AND TO DATE

Activities

- DACH-meeting (German, Austrian, Swiss Tunnelling Committees) in Austria (technical seminar and site visit)
- Sealing of buildings by injections; Information on post-sealing of concrete structures, geotechnical sealing injections, 21-22 November 2018
- Munich Tunnel Symposium, 8 June 2018
- InnoTrans, Tunnel Forum, 18-21 September 2018, Leading int. trade fair for transport technology
- Several Meetings with workshops for Young Engineering Professionals "STUVA YEP"

Working Groups

- Financing of tunnels via PPP/BOT-projects

- Recommendations for contracts with low potential for conflicts
- Requirements for refuge chambers
- Life-cycle costs calculation
- Face Support Pressure Calculations for Shield Tunnelling in Soft Ground
- Design, production and installation of segmental rings
- External communication of DAUB
- Digitization and Building Information Modelling (BIM) in tunnelling
- Selection of tunnelling machines
- Planning and implementation of occupational health and safety concept on underground worksites

Publications (recently finished)

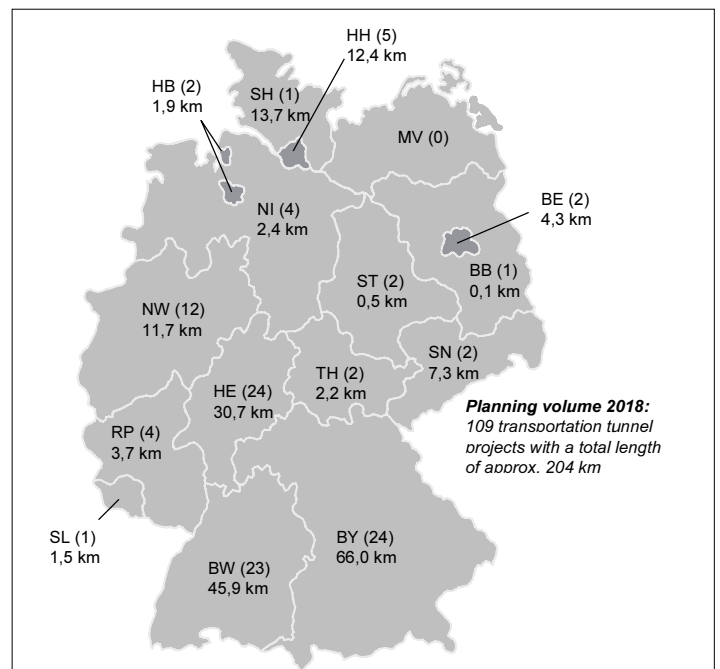
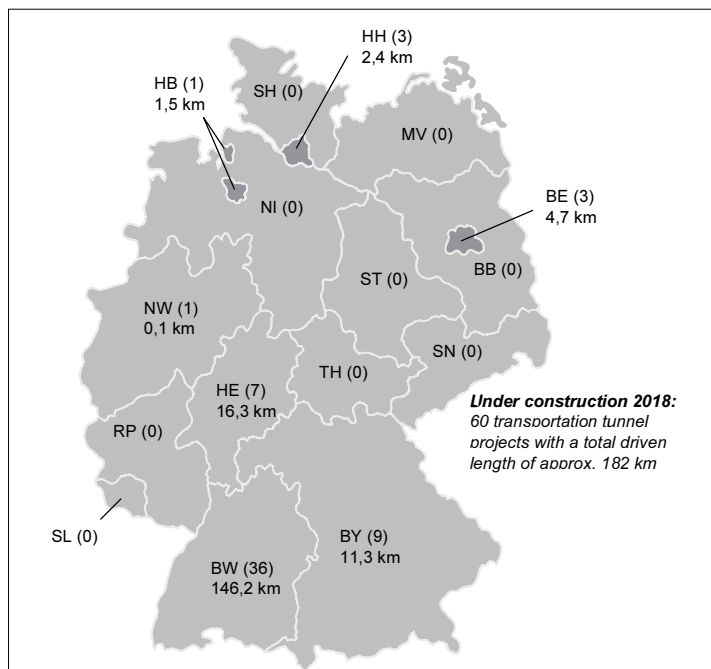
- Recommendations for the Life Cycle Costing of Road Tunnels
- Recommendations for the Use of Refuge Chambers on Underground Construction Sites
- Rehabilitation Strategies and Procedures for Traffic Tunnels

Publications of DAUB can be found in/on

- Journal "tunnel" (www.tunnel-online.info)
- German Handbook of Tunnelling ("Taschenbuch Tunnelbau", published annually)
- Recommendations are available for download from the website (www.daub-ita.de); the majority is bi-lingual (German/English)

Future Activities

- Regular meetings with Austrian and Swiss colleagues
- STUVA-Conference 2019, Separate Segments on "Tunnelling" and "Tunnel Operation", 26-28 November 2019, Frankfurt



Length-related classification according to federal states for transportation tunnel projects under construction, with the number of registered transportation tunnel projects given in brackets

Length-related classification according to federal states for future transportation tunnels, with the number of registered transportation tunnel projects given in brackets



Conventional drive for the Oberau road tunnel in Bavaria

CURRENT TUNNELLING ACTIVITIES

About 182km of traffic tunnels are under construction in Germany in 2018.

- This year, the main activities relating to inner-urban rail tunnelling - just like last year - are taking place in Stuttgart, where some 10.6km of urban and rapid transit tunnels are under construction (at the turn of the year 2017/2018). This is followed by Karlsruhe (4.7km), Frankfurt/Main (4.4km) and Berlin (3.2km). Further tunnelling projects amounting to less than 2km are underway in Nuremberg, Hamburg and Dortmund.
- The main-line rail tunnels largely relate to DB Netz AG tunnelling works in and around Stuttgart. Of the tunnelling projects currently being implemented (a total of 121km), almost 52km are accounted for by the major project "Stuttgart 21 rail hub" and some 59km by the new Wendlingen-Ulm rail route. Further main-line tunnels are being produced in conjunction with the upgraded/new Karlsruhe-Basle section. Currently, 33% of main-line tunnels are being constructed using NATM, whereas TBMs account for 61% of the driven volume.
- The drive-up length in road tunnel construction in 2018 was approx. 36km throughout Germany. More than 50% of the drive-on length was accounted for by the federal states of Baden-Württemberg and Bavaria. NATM predominates in the majority of cases as far as trenchless projects are concerned.

FUTURE TUNNELLING ACTIVITIES

About 204km of traffic tunnels are projected but not yet started in 2018.

- There has been a marginal increase in the number of underground, urban and rapid transit tunnels planned (58km). In this context, the planned volume for the city of Munich, comprising a good 30km, is still conspicuous among the projects being planned. Almost 10km of tunnels are being planned for the Hamburg Metro (partly at the pre-planning stage). Leipzig is engaged in the pre-planning of 7km and further tunnelling activities involving less than 3km are foreseen for the cities of Frankfurt/Main, Nuremberg, Berlin,

- Düsseldorf, Stuttgart and Dortmund.
- Regarding the planned volume of main-line rail tunnels (40km), it should be noted that practically half is accounted for by the tunnels approved for the new/upgraded Karlsruhe-Basle rail line (driven length: some 19km). Further tunnels are planned in conjunction with the new/upgraded Rhine/Main-Rhine/Neckar route (9km) and on the Nuremberg-Fürth rail line (7km).
- The planned volume of projected road tunnels (106km) has again decreased slightly, due primarily to a lack of awards. On account of the German state's revamped planning requirements, the scheduled volume has dipped considerably in recent years.

STATISTICS

Detailed statistics available at <https://www.stuva.de?statistik>

EDUCATION ON TUNNELLING IN THE COUNTRY

Many Universities and Universities of Applied Sciences offer numerous courses on tunnel related topics and provide extensive possibilities for interested persons (see e.g. MSc "Geotechnics and Tunneling", 4 Semester Mastercourse in German language at the Ruhr University Bochum, BSc Civil Engineering required).

