

NORWAY



both tunnels and rock blasting above ground. The same goes for new E6 between Hamar and Vestnes. The new E6 both south and north of Trondheim includes both rehabilitation of old tunnels and excavation of new ones. The Norwegian Public Road Administration continues the construction of Rogfast. This project will include the longest and deepest subsea tunnel to date. The large contract including 18.5km of subsea tunnel from the north was signed in December 2022, and the large contract including 18.5km of subsea tunnel from the south was signed in January 2023. The contract for the middle part of the tunnel is planned to be signed in 2024. The new water supply scheme to Oslo continues. The water will go through a

Name of Association: Norwegian Tunnelling Society
Type of Structure: Non-profit, open society with members from the whole value chain, both corporate and personal member.
Number of Members: 1000 personal members, 100 corporate members (incl. research institutes, academia, and public clients)

ASSOCIATION ACTIVITIES DURING 2023 AND TO DATE

The Norwegian Tunnelling Society has a set of yearly events such as conferences, courses and evening meetings. Among these, the largest being Fjellsprengningsdagen, which gathers more than 800 rock blasting and TBM enthusiasts to share knowledge and the latest news.

The society publishes handbooks and technical reports in Norwegian and one English publication every year. The title of the English publication in 2023 was "Norwegian Rock Bolting". Together with other industry partners we also make films. The film in 2023 was about informing neighbours and guards during blasting. The films are in Norwegian and available through YouTube.

CURRENT TUNNELLING ACTIVITIES

Tunnelling activity in Norway had an increase of 884,000m³ from 2022, from over 5.1Mm³ in 2022 to 6Mm³ in 2023. The statistics shows that we have had an increase of more than 1Mm³ in road tunnels, otherwise just smaller changes in volumes.

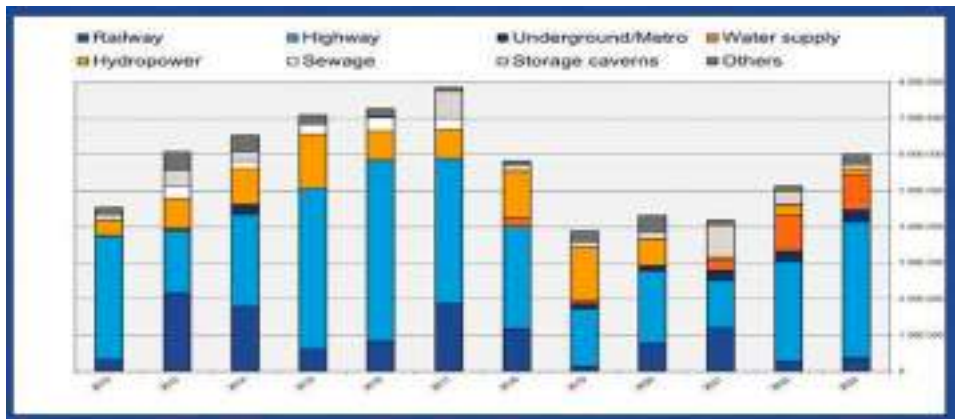
A new pedestrian and cycle path opened in 2023. It is part of a long and continuous effort to make Bergen a more environmentally friendly and sustainable city. The project provides a 9.8km long new continuous walkway and cycle path from the district of Fyllingsdalen to the centre of Bergen. The path goes through two tunnels, the Fyllingsdalen tunnel 2.9km long and Kronstad tunnel 475m long (in an old railroad tunnel). The Fyllingsdalen tunnel is the world's longest tunnels built for pedestrians and bicyclists. Link to YouTube: <https://www.youtube.com/watch?v=YxrT7LnJfPk>

FUTURE TUNNELLING ACTIVITIES

The new railroad between Drammen and Kobbervikdalen is a project that will complete the double track railroad from Oslo to Tønsberg and will open in 2025.

The project will include 6km of hard rock tunnelling, almost 300m of soft ground tunnelling and about 700m of cut-and-cover.

Nye veier will also continue road building along the E18 from Porsgrunn to Stavanger. These projects will include



THE SOCIETY ALSO ARRANGE A PHOTO COMPETITION EVERY YEAR:

- Picture 1 Happy tunnelers (Photo Lars Hage)
- Picture 2 Preparing electronic ignition (Photo Tor Kleiven)
- Picture 3 Smiling tunneler (Photo Sina Digernes Aarskog)
- Picture 4 Doble effort (Photo Sliva Khalaf)



ITA MEMBER NATION ACTIVITY REPORTS 2023

long tunnel from Holsfjord west of the city into the existing net of water pipes. The TBM, going eastward from the Holsfjord, started in January 2023 and the TBM going westward towards the Holsfjord started excavation in March 2023. In addition, The Fornebu Line continues. This will be a metro tunnel that will connect Fornebu with the rest of the metro system in Oslo. Several of the tunnelling contracts are up and running. The project will open to traffic in 2029.

As a curiosity, we also have to mention

the Stad tunnel – the world's first tunnel for ships? The request for tenders is planned for this year. Construction work could start in 2025 with preparatory work starting earlier.

STATISTICS

Length or volume excavated - % mechanized / % conventional during 2021

- 78,488min total, including 6,945m with TBM
- 6,010,948fm³ in total

EDUCATION ON TUNNELLING IN THE COUNTRY

Norway has several universities giving both bachelor and master degrees within several aspects of tunnelling, the major ones being NTNU in Trondheim and University of Oslo. In addition to the higher degrees of education, Norway can offer a set of schools preparing students through a four-year program for the certification for rock blasters. In addition to these educational institutes, there is a set of courses and classes with different levels of classifications and certifications.