

Norway



Name: Norwegian Tunnelling Society

Type of Structure: Non-profit, open society with members from the whole value chain, both corporate and personal members.

Number of Members: 1,000 personal members and 100 corporate members (Including research institutes, academia, and public clients)

ASSOCIATION ACTIVITIES DURING 2022 AND TO DATE

The Norwegian Tunnelling Society has a set of yearly events such as conferences, courses and evening meetings. Among these, the largest one is the Fjellsprengningsdagen, which gathers more than 700 rock blasting and TBM enthusiasts to share knowledge and latest news.

The society publishes handbooks and technical reports in Norwegian and one English publication every year. The title of the English publication in 2022 was "Sustainability in Norwegian Tunnelling". Together with other industry partners we also make films. The film in 2022 was about blasting, neighbours and vibrations. The film is in Norwegian and is available on YouTube.

The society also arrange a photo competition every year. Below you can see two of the finalists in 2022.

CURRENT TUNNELLING ACTIVITIES

The tunnelling activity in Norway had an increase of almost 1Mfm³ from last year, from almost 4.2Mfm³ in 2021 to more than 5.1Mfm³ in 2022. The statistics show a large increase of road and water supply projects, a small increase in hydro power projects, and decrease in railway and cavern projects. tunnel greatly improves safety for users.

E39 Svegtjørn – Rådal opened for traffic in October 2022. The facility consists of 18km of new four-lane road, with a total of four new twin tunnels. This means that eight new roadways with a total length of 28.7km have been completed.

In August 2022 Nordøyvegen opened for traffic. The project connected several islands to mainland via bridge constructions and three subsea tunnels.

The much discussed Follo Line opened to traffic in December 2022. It was forced to close shortly after due to electrical complications. After a period of extensive testing it re-opened to traffic on the 5th March 2023.

In addition, several hydropower plants opened, supplying Europe with clean renewable energy.

FUTURE TUNNELLING ACTIVITIES

Work has already started on a new railroad between Drammen and Kobbervikdalen. This project will complete a double track railroad from Oslo to Tønsberg which opens in 2025. The project will include 6km of hard rock tunnelling, almost 300m of soft ground tunnelling and about 700m of cut-and-cover.

Another large project we are waiting for is the joint rail and road project, Ringerike Line and E16 Highway, which will include a 40km long tunnel for the railway and some shorter tunnels both for rail and highway between Sandvika and Hønefoss. Due to delayed financing, it is difficult to estimate the construction start and traffic opening.

Nye veier will also continue road building along E18 from Porsgrunn to Stavanger. These projects will include both tunnels and rock blasting above ground. The same goes for the new E6 between Hamar and Vestnes. The new E6 both south and north of Trondheim includes both rehabilitation of

old tunnels and the excavation of new ones.

The Norwegian Public Road Administration continues the construction of Rogfast. This project will include Norway's longest and deepest subsea tunnel. The large contract including the 18.5km subsea tunnel from the north was signed in December 2022 and the other large contract including 18.5km subsea tunnel from the south was signed in January 2023.

The new water supply system to Oslo continues. The water will go through a long tunnel from the Holsfjord to the west of the city into the existing network of water pipes. The TBM going westward towards the Holsfjord will start excavation in February/ 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 running. The project will open for 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 for this project is planned for the third quarter of this year. Construction work could start in autumn 2024, with preparatory work starting earlier.

STATISTICS

Length of tunnels excavated during 2021
68,710m in total, included 3,205m by TBM
5,127,384fm³ in total

EDUCATION ON TUNNELLING IN THE COUNTRY

Norway has several universities awarding both bachelor and master degrees containing several aspects of tunnelling. The major ones are NTNU in Trondheim and the University of Oslo. In addition to the higher degrees of education, Norway can offer a set of schools a four-year program for the certification for rock blasters.



Lepsøybrua (Photo Øystein Løvoll, Skanska)