

# SWEDEN



**Name of Association:** Swedish Rock Engineering Association  
**Type of Structure:** Non-profit, open association  
**Number of Members:** 115 corporate members from public and private clients, contractors, suppliers, mining companies, consulting firms, institutions and research organizations

## ASSOCIATION ACTIVITIES DURING 2023 AND TO DATE

Four committees constitute the backbone of the Swedish Rock Engineering Association (Svenska Bergteknikföreningen). These working groups are 'Yearly Congress', 'Young Members', 'International' and 'Professional certification'. The association works towards a sustainable use and development of underground space.

The main activity of the association is the annual Swedish congress where a significant part of the Swedish industry gathers. This physical event was held in March of 2023 and brought together about 700 delegates over 2 days. Young Members' mentor program DevelopYM that was launched in 2018 continues.

'International' have been working towards an increased Swedish participation in ITA activities. We are represented in all relevant Working Groups within the ITA. Since 2020, 'Professional certification' is the group within the Swedish Rock Engineering Association that is responsible for accreditations of educators and certification of grout-bolt-and shotcrete workers. During 2021 this was developed to include shot fire licensees as well.

One of our proudest accomplishments is the development of the Children's book "Vinnie and the Metro". The book has been distributed for free to more than 12,000 children between the ages of 3 and 6 years old where they learn how to build tunnels in hard rock. It is planned to be available as an e-book at the WTC 2024. The association has launched a new website during 2023 that will be available in English in 2024.

## CURRENT TUNNELLING ACTIVITIES

### Stockholm Bypass (E4 Förbifarten, Stockholm)

This project includes an 18km long road tunnel. When ready this tunnel will be one of the longest and most complex highway tunnels in the world. By 2035, the Swedish

Transport Administration (Trafikverket) estimates that The Stockholm bypass will be used by approximately 140.000 vehicles per day.

### West Link – Korsvagen station (Västlänken, Gothenburg)

The West Link is an 8km long double track railway, including a 6km railway tunnel, underneath the city of Gothenburg. With the West Link, Gothenburg central will acquire a new underground station in the northern part of the Nils Ericson Terminal. Two completely new stations will also be available at Haga and Korsvägen. The Railway Study demonstrates that this alternative best fulfils the project's primary objective of contributing to sustainable growth in both Gothenburg and the country as a whole.

### Reconstruction of Slussen Stockholm including a new underground bus terminal

Slussen is a central area by the lock between lake Mälaren and the Baltic Sea. This is an important hub in Stockholm and a large underground bus station is under construction in the area. The construction works were ongoing during 2023.

### City Link tunnel

The so-called City Link Project, the Anneberg-Skanstull Tunnel, serves to improve the power supply in the Greater Stockholm area. At a length of around 14km and a diameter of 5m, the tunnel is being driven about 50 - 100m below the Swedish capital using a tunnel boring machine. The City Link project also includes six ventilation shafts, elevator systems as well as the construction of technical buildings for electrical equipment in the Anneberg area and at the shafts. Completion of construction works is scheduled for 2024.

### Extensions of the subway in Stockholm

The Blue Line is being extended from

Akalla to Barkarby and includes two new stations at Barkarbystaden and Barkarby. In service 2026.

The Green Line is being extended from Odenplan to Arenastaden, and includes three new stations: Arenastaden, Södra Hagalund and Hagastaden. In service 2028.

The Blue Line is being extended from Kungsträdgården to Södermalm, Söderort and Nacka. Six brand-new stations: Sofia, Hammarby kanal, Sickla, Järla, Nacka, Slakthusområdet. A new platform for the Blue Line will also be built under the existing Gullmarsplan station. In service 2030.

The depot in Högdalen is being expanded to service, clean and repair more trains from both the Green Line and the Blue Line. Expected to become operational in 2025.

## FUTURE TUNNELLING ACTIVITIES

### The East Link high speed rail (Ostlanken)

New high-speed rail south of Stockholm. Design and planning is ongoing. The project includes 12 single rail tunnels and 15 double rail tunnels. The longest tunnel will be 6km and the shortest will be 100m long. Procurement of major design and build is planned to start in 2024.

### SKB Forsmark, final repository nuclear fuel

Planning is continuing regarding Sweden's final repository for spent nuclear fuel. The construction is ready to start as soon as permission is granted.

### Hydrogen storage in Gellivare

Large lined rock cavern project in northern Sweden in Gellivare municipality. This is the full scale Hydrogen Storage facility for fossil-free iron and steel production. It will be the world's largest facility for Hydrogen storage when completed.

### The Yellow Line to Älvsjö (Subway)

The completely new Metro line between Fridhemsplan and Älvsjö will link central and southern Stockholm together. This also enables the building of 48,500 new homes with sustainable communications. The line will provide new travel possibilities with convenient hubs for changing to other means of public transport, while also relieving the pressure on T-Centralen and the Red Line. The new line between Fridhemsplan and Älvsjö with six stations. Construction is expected to

# ITA MEMBER NATION ACTIVITY REPORTS 2023

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start in 2025 with services expected to start running in 2034.

## **Host of the WTC 2025 in Stockholm**

At the WTC 2022 in Copenhagen, Sweden was chosen to host the WTC 2025 and the 51st General Assembly. This will take place on the 12-18th of May in 2025.

## **EDUCATION ON TUNNELLING IN THE COUNTRY**

- Civil Engineering 3 yrs (BSc) or 5 yrs (MSc) as well as PhD studies is offered at several technical Universities. Courses are e.g. engineering geology, site investigation, rock mechanics and hydrogeology.
  - Chalmers University of Technology (Gothenburg), KTH (Stockholm), Luleå University of Technology (Luleå), and Lund University (Lund).
  - At Uppsala University (Uppsala) courses are focused on geology, engineering geology and geophysical investigations.
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