

# The Netherlands

**Name:** Department of Tunnelling and Underground Works (TTOW) of the Royal Institution of Engineers (KIVI) in the Netherlands



**Type of Structure:** Non profit, The Royal Institution of Engineers in the Netherlands is an association with individual members who are also member of the various departments of the association. The Department of Tunnelling and Underground Works is one of the larger departments within the association.

**Number of Members:** 558

## ASSOCIATION ACTIVITIES DURING 2020 AND TO DATE

Due to Covid very limited activities have been organized in 2020.

- ITA presentation evening and annual meeting – online event

## CURRENT TUNNELLING ACTIVITIES Rijnlandroute (TBM)

In the Rijnlandroute project, a connection between the A4 with the A44 motorways has been established near Leiden. The twin-tube TBM tunnel is 2.5km in length. Each tunnel tube provides two traffic lanes. Fifteen years of management and maintenance are also part of the contract. The 2nd TBM-drive was finalized in 2020. The reception procedure was problematic, which resulted in deformation of the tunnel

lining and difficult demobilization of the TBM

## Victory Boogie Woogie (Rotterdamsebaan) – (TBM)

Construction works on the Victory Boogie Woogie tunnel finished in 2020. After a testing period the tunnel was opened for traffic in February 2021.

## Zuidasdok Amsterdam (in-situ)

The Zuidasdok project establishes an extension to the existing A10 Zuid motorway, the ring road for Amsterdam. In a combined approach, the existing public transport hub will be extended, and the motorway will run through a series of new tunnels. There will be two tunnels, each about 1km long. Each tunnel has two tubes; one four-lane

tube for transit traffic and one two-lane tube for local traffic. On top of the tunnels, new public space will be developed, also providing space for the expansion of the public transport hub. The project was awarded in 2017. The preliminary design was not completed according to schedule, and the contractor was not able to keep the estimates within the budget fixed during the tender. The contract was closed in 2019. In 2020 the client reconsidered the project. The tunnel project will be cut into 3 independent projects, in which the client is responsible for the integral design of the total project. Procurement of the 3 individual projects will start in 2021.

## Blankenburg connection: Maasdelta tunnel (immersed tube) & Hollandtunnel (in-situ)

The Blankenburg connection, the new A24 motorway, contains two tunnels: the Maasdelatunnel, which is an immersed tube tunnel under the Scheur (Nieuwe Waterweg) waterway, the primary access towards the harbour of Rotterdam; And the Hollandtunnel, an in-situ tunnel through a natural habitat. Also, 20 years of maintenance is incorporated in the DBFM project.

The Maasdelatunnel will be about 945m in length and is characterised by its very deep ramps. The Holland tunnel is 510m long and is situated just below surface. In 2018, execution started for the Maasdelatunnel with the construction of coffer dams, within which the deep ramps are constructed. The construction of the deep ramps will continue throughout 2021. Immersion of the 2 tunnel elements in the Scheur waterway is planned for 2023. The foundation works on the Hollandtunnel started in 2020. The Blankenburg connection is scheduled for completion in 2024.

## A16 – Rottemerentunnel (in-situ)

The A16 motorway from traffic junction Terbregseplein will be lengthened and connected to the A13 motorway near Rotterdam, The Hague airport. In this connecting road, a new tunnel is required; the Rottemeren tunnel. The Rottemeren tunnel is planned to be opened in 2024 and will be 2,235m in length. There will be two tubes with two lanes per tube and an emergency lane. The project has an energy-neutral design with optimal integration of the new road into its environment. The project is currently in the construction stage, the first-floor sections of the tunnel (reinforced underwater concrete) were poured in May 2021.



Rotterdamse Baan

Blankenburgverbinding



### The Kiltunnel (1977) refurbishment

The E&C-contract for the renovation project has been awarded. A special alliance contract has been chosen to stimulate cooperation between contractor and client, and to be flexible when unexpected conditions are found in this old tunnel.

The project was awarded in 2020 and

renovation works started in 2021. The renovation works should be finished mid 2022.

### The Heinenoordtunnel (1969) refurbishment

The project has been awarded in October 2020 and the final contract close took place

in April 2021. The renovation works will commence in 2023.

The municipality of Amsterdam is preparing a renovation scheme for the 5 tunnels it owns. (Piet Hein tunnel, Arena tunnel, Spaandammertunnel, Michiel de Ruijter tunnel, IJ-tunnel), Amsterdam is aiming to standardise the maintenance and operations procedures for this set of tunnels.)

### FUTURE TUNNELLING ACTIVITIES

#### Future renovation projects (renovation mainly to 2022):

- Eerste and Tweede Beneluxtunnel
- Buitenveldertunnel
- Noordtunnel
- Sijtwendetunnel
- Westerscheldetunnel
- Drechtunnel
- Piet Hein Tunnel
- Roertunnel and Tunnel Swalmen

#### Future tunnel projects (Renovation - after 2022):

- Botlektunnel
- Hubertustunnel
- Thomassentunnel
- Wijkertunnel
- Zeeburgertunnel