

# Belgium



**Name:** ABTUS-BVOTS (Association Belge des Techniques et de l'Urbanisme Souterrains – Belgische Vereniging voor Ondergrondse Technieken en Stedebouw)

**Type of structure:** Non-profit, open association

**Number of members:** 21 individual members, 51 corporate members

## ASSOCIATION ACTIVITIES DURING 2017 AND TO DATE

In 2017 the Belgian Tunnelling Association continued to promote underground solutions to resolve congestion problems, the crossing of waterways and other sensitive areas.

Through 2017 several site visits were organised, as well as our annual study day with this year's topic 'the use of urban underground'.

We awarded our yearly academical award to two promising young engineers.

We also continued our close cooperation with the French Tunnelling Society AFTES, with whom we share the same magazine T&ES, and participated in their 3 yearly congress in Paris.

## CURRENT TUNNELLING ACTIVITIES

In 2017 only a few activities were ongoing:

- In preparation for the future Oosterweel Connection in the north of Antwerp, some works were carried out. Several sewage systems going towards the water treatment plant in the north-east of the city needed to be placed at a much lower level, as well as other cable and pipeline ducts. This was done using deep shafts in diaphragm walls and several pipe jacks with diameters ranging from DN 2.000mm to DN 3.500mm.
- In Brussels the rehabilitation of the road tunnels of the city's inner ring started. These quite old tunnels are being completely refurbished and will get an up-to-date control system.
- In Alost a large cut-and-cover tunnel project (Boudewijnlaan) was started to solve the congestion problems at the crossroads.
- In Mechelen a conventional tangent tunnel has been built to connect the road on one side of the railway station to a newly build underground park area. This project was executed in combination with the new rail by-pass.
- In Uccle in the south-west of Brussels a TBM was used to build a 1.3km underground storm water basin. With an

inner diameter of 4.2m, the basin can contain 20.000m<sup>3</sup> and will prevent floods during heavy rainfall.

## FUTURE TUNNELLING ACTIVITIES

- In Brussels the tender for the extension of the metro from the north station towards the new NATO-building will begin. At the same time the existing metro line will be adapted at the south station, so that the whole line can be upgraded into a fully automated subway system.
- In Antwerp the works for the Oosterweel Connection (the closing of the northern motorway ring) are starting up, commencing with the adaptation of the interchanger at the left bank of the Scheldt river. During this year the tenders for the immersed tunnel under the Scheldt river, as well as the cut-and-cover tunnels under the Straatsburg dock will start.
- Looking further ahead, a second railway track from Antwerp's main shunting





station towards the hinterland will be needed. This will be done utilising 2 single track, 16km long tunnels to underpass the Albert canal and several motorways, and to avoid interference with the dense urban areas on the surface.

- In Brussels, the existing north-south railway link with its 6 tracks has reached saturation point. The link needs to be extended by 4 extra tracks (each in a separate tunnel of some 10km long) that will be bored by TBM under the existing ones. The need is there, but funding will determine the start of this project.
- In Brussels the existing north-south railway link will be renovated. It will be brought up to modern standards with new control and safety systems.
- The road tunnels on Brussels' inner ring will be further rehabilitated.

## STATISTICS

1. Length or volume excavated - % mechanized/% conventional during 2017:  
Roughly 1.600.000m<sup>3</sup> were excavated - with 3% by mechanized and 97% by conventional means

2. Amount (USD or EUR) of tunnelling/ underground space facilities awarded in 2017:  
About €120M

3. List of tunnels completed:  
Tangent tunnel in Mechelen was completed but is not commissioned yet. It will be in service at the end of 2020 at the earliest.

4. List of tunnels under construction:  
Renovation of the road tunnels in Brussels  
Rehabilitation of the north-south railway link in Brussels