

Iran



Name: Iranian Tunnelling Association (IRTA)

Type of Structure: non-profit, open association

Number of Members: 834 (non-student) members, 561 student members, 197 corporate members

ASSOCIATION ACTIVITIES DURING 2020 AND TO DATE

- Publishing the Quarterly “Tunnel” Magazine
- Publishing the bi-annual “Tunnelling and Underground Space Engineering” Journal together with Shahrood Technical University
- Holding a total of seven technical seminars (online webinars)

CURRENT TUNNELLING ACTIVITIES

Water transfer tunnels

3km of the Gelass water tunnel was constructed during 2020. This tunnel, once completed, will transfer 650Mm³ of water from the Gelass River to the Urmiah Lake. The total length of the tunnel is 35.7km, being constructed with a DSTBM.

3km of the Azad tunnel was constructed during 2020. The tunnel transfers water from Azad Dam in Iran’s Kurdistan to the Dehgolan plains. The total length of this tunnel is 10.8km being constructed by EPB machine.

Wastewater Transmission tunnel

2.5km of Tehran’s western surface water drainage tunnel has been constructed (District 21 and 22). The total length of this tunnel is approx. 10.5km with a final

diameter of 3.7m constructed with an EPBM, to transfer 17.22m³/sec of waste water to the water treatment plant in south of Tehran.

Metro tunnels

Construction of various metro lines in different cities in Iran is continuing. Total constructed Metro tunnels during 2020 was about 20km. These include:

The Eslam-shar to Tehran metro line with a total length of 15km started in February 2020 with 2,700m constructed during 2020.

The southern Extension of the Tehran Metro Line 6 had 3070m constructed in 2020 with a total constructed length of 4910m

The Tabriz Metro Line 2 has a total length of 22.4 km with 20 stations (being

constructed by TBM), 1800m were constructed in 2020 with a total constructed length of 9,800m.

Mashhad Metro Line 3 has a total length of 28.5km and 24 stations (being constructed by two TBMs), 2,450m were constructed in 2020 with total constructed length of 16,500m.

Shiraz Line 2 (double tube) has a total length of 26.8km (2 x 13.4km) – 4,800m (2 x 2400m) were constructed in 2020 on a total constructed length of 23 km.

The Isfahan Line 2, with a total length of 24.7km, is under construction – 1st phase double tube tunnel of 15km (2 x 7.5km) started in March 2019, and 2,800m were constructed in 2020 from a total constructed length of 11,000m.

Road tunnels

The second sector of the Tehran-Shomal Freeway is in progress. This sector consists of 59 tunnels (in two directions) with a total length of tunnel of 37km (Approx. 16km northbound, 15km southbound, and 6.4km of service tunnels). Northbound, 9.1km were constructed during 2020

Urban tunnels

The Galoobandak Underpass in a central



Tehran Western Wastewater Transmission Tunnel

part of Tehran (District 12) is being constructed for pedestrians in an area with heavy traffic. The length of the project is 350m on two levels with 4,500m³ earth works for the tunnel.

FUTURE TUNNELLING ACTIVITIES

The following tunnel projects are planned (long term):

- Expansion of road and railway networks
- Completion and development of metro lines in numerous cities (such as Tehran, Tabriz, Karaj, Isfahan, Mashhad)
- Completion of water transfer tunnels

EDUCATION ON TUNNELLING IN THE COUNTRY

Tunnelling as a specialized field is being held at Postgraduate level (Master's Degree) in the following Universities:

- 1) Amirkabir University of Technology**
- 2) Shahrood University of Technology**
- 3) Tarbiat Modares University**
- 4) Urmia University of Technology**

Tunnelling is also taught at Bachelor level in form of study modules in Mining and Civil Engineering fields in numerous universities. Other related courses in Geotechnical Engineering (Soil mechanics, rock mechanics, Engineering Geology), Construction Management etc. are also offered in various universities.