

THAILAND



Name of Association: Thailand Underground and Tunnelling Group (TUTG), The Engineering Institute of Thailand under H.M. The King's Patronage

Type of Structure: Non-profit organization

Number of Members: 60 members

ASSOCIATION ACTIVITIES DURING 2023 AND TO DATE

- Tea-Talk Seminar on "Solutions to stop water leakage in Underground Construction" dated 25 May 2023.
- Training on "Tunnelling in Soft Ground" (Generation 5), dated 12-14 July 2023.
- Special Lecture on "Roles of Pile Load Tests in Rational Design of Pile Foundations", dated 19 December 2023.
- Tea-Talk Seminar on "Press-in Method", dated 20 December 2023.

CURRENT TUNNELLING ACTIVITIES

- Flood Drain Tunnel – Klong Nong Bon to Chao Pha Ya River, Bangkok – 5.7m diameter EPB shield tunnel, 9.4km in length (Bangkok Metropolitan Administration – 4,925.665MB- 1MB = 0.3 M US dollars)
- Bangkok MRT Orange Line - East Section –20km long bored twin tube EPB shield tunnels and Stations (Mass Rapid Transit Authority of Thailand – 79,221.24MB)
- Mae Tang – Mae Ngud – Mae Kuang Water Diversion Tunnel , Chiangmai, Northern Thailand– 48km tunnel in length, 3 Double shield TBMs tunnelling and Drill and blast excavation, 4 contracts, (Royal Irrigation Department – 9,206.81MB)
- Railway Track Doubling Project, North-Eastern Line – Mab Kabao – Thanon Chira Junction – 3 twin tube tunnels, total length 7.9km (State Railways of Thailand (SRT) - 9,200MB)
- Klong Prem Prachakorn Flood Drain Tunnel, Bangkok – Khlong Bang Bua to Chao Pha Ya River – 5.7m diameter EPB shield tunnel 13.5km in length (Bangkok Metropolitan Administration - 8,233.35MB)
- Klong Taweewattana- Bottle Neck Flood Drain Tunnel, Bangkok, 3.7m diameter EPB shield tunnel, 2km in length (Bangkok Metropolitan Administration- 2,219MB)
- Power Cable Tunnel Projects (Metropolitan Electricity Authority -Bangkok)

- Work plan to change electrical cable system to underground power line "The City of ASEAN" : 127.3km tunnel length– 48,717.2MB
- Conversion of Overhead Line to Underground System, Rama III Project : 10.9km tunnel– 5,635.3MB
- Chong Nonsri Project : 8.3km tunnel in length– 2,899.8MB
- Ratchadapisek - Asoke Project : 8.2km tunnel length– 4,554.91MB
- Ratchadapisek – Rama 9 Project : 14.3km tunnel length– 4,344.67MB
- South Bangkok -Chao Phraya River Crossing Project : 3.6m diameter, 0.95km EPB Shield Tunnel, 366MB
- Denchai-Chiang Rai-Chiang Khong Railway Project, New railway line in Northern Thailand – 323km in length, consists of 4 twin tube tunnels, - 1.18km, 6.24km, 2.70km, and 3.40km tunnel in length (State railways of Thailand(SRT) - Project Cost = 72,919.26MB)
- Eastern Line - High-Speed Rail Linked 3 Airport Project - 1 tunnel of 0.3km tunnel length at Khao Chi Chan, Pattaya (The Eastern Economic Corridor Office of Thailand, EECO)
- Northeastern Line High Speed Rail Tunnel (Thai-China Cooperation) – 1st Section - Bangkok to Nakorn Ratsima, 3 single tube double-track D&B tunnel, combined length 12.2km (State Railway of Thailand- 4,220MB)

- The 9th Bangkok Water Supply Improvement Project –Water Transmission tunnel- 44.0km in length and 3.0-3.2m diameter EPB Shield Tunnels, (Metropolitan Waterworks Authority – 17,012MB)
- Bangkok MRT Purple Line South – 25.4km long twin-tube EPB shield tunnels and Stations (Mass Rapid Transit Authority of Thailand – 124,000MB)

FUTURE TUNNELLING ACTIVITIES

- Studies and designs of tunnels in 2024
- Bangkok Orange Line - West Section –20.4km tunnel (Mass Rapid Transit Authority of Thailand – 96,000MB)- To start in 2023
 - Klong San Saeb Flood Drain Tunnel, Bangkok – from Khlong Lad Praow to Soi Lad Praow 130 – 3.7m diameter and 3.8km tunnel in length (Bangkok Metropolitan Administration – 1,701MB)
 - Klong Samsen to Existing Bang Sue Flood Drain Tunnel, Bangkok – 3.0m diameter and 3.3km tunnel in length (Bangkok Metropolitan Administration – 970MB)
 - Klong Bang Nam Jued Flood Drain Tunnel, Samut Sakorn, - West of Bangkok – 6.0m diameter EPB Shield Tunnel, 11.71km in length, with 4 shafts (Royal Irrigation Department- 5,290 MB)
 - Klong Likit Flood Drain Tunnel, Nakorn Pathom&Samutsakorn -West of Bangkok – 4.0m diameter, EPB shield tunnel, 7.3km in length (Royal Irrigation Department- 2,430MB – Tunnel cost only)
 - Power Cable Tunnel ((Bangkok) Metropolitan Electricity Authority)
 - Outgoing Cable Tunnel at Bang Phli Terminal Station – 2.6m diameter EPB Shield Tunnel, 1.2km in length



ITA MEMBER NATION ACTIVITY REPORTS 2023

- Outgoing Cable Tunnel at Bang Sue Terminal Station – 2.6m diameter EPB Shield Tunnel and 2.6km in length
- Outgoing Cable Tunnel at Lad Phraw Terminal Station – 2.6m diameter EPB Shield Tunnel, 1.6km in length
- Outgoing Cable Tunnel at Erawan Terminal Station – 3.6m diameter EPB Shield Tunnel, 5.5km in length
- Bhumipol Water Diversion Tunnel, From Western to Central Thailand, 62km in length, 10m in diameter, TBM tunnelling + D&B Adits (Royal Irrigation Department of Thailand- Project Cost 92,000MB - PPP project)
- Tak-Mae Sod Railway line – Single Track Twin Tube D&B rail tunnels, 15.1km, 1.43km, 0.74km and 11.9km in length = 29.1km in total with 2 access adits (State Railways of Thailand –30,200MB)
- Phuket : Kratu-Patong Toll Road Tunnel – Twin Tube Road Tunnel, 1.2km in length – (Expressway Authority of Thailand- 5,200 MB)- PPP Project
- Phuket Airport-Patong Link: Khoh Kaew- Kratu Expressway – Twin Tube Tunnel, 1.1km in length - (Expressway Authority of Thailand) – Under detailed design
- Krabi City By-pass roadway, 3 parallel tunnels of 1.30km in length – Detailed design completed - under a Cooperation with Japan
- International Cooperation Agency (JICA)
- Tak-Mae Sod Motorway – 3 twin tunnels of 10.35km, 3.78km and 15.19km –(Department of Highway)
- Railway Track Doubling Project, Denchai – Chiang Mai, 8 Double Track Single Tunnels with total length of 16.0km approximately – (State Railways of Thailand)

EDUCATION ON TUNNELLING IN THE COUNTRY

Tunnelling in Soft Ground, TUTG, The Engineering Institute of Thailand under H.M. The King's Patronage Tunneling and Underground Construction, King Mongkut's University of Technology Thonburi.