

# Thailand



**Name:** 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 2022 AND TO DATE

The Thailand Underground and Tunnelling Group (TUTG) organized the Tea-Talk Seminar on "Dusit Central Park Project – Impact of Underground Construction to the Existing MRT Tunnel" on 25th July 2022.

## CURRENT TUNNELLING ACTIVITIES

- Flood Drainage Tunnel – Klong Nong Bon to Chao Pha Ya River, Bangkok – 5.7m diameter EPB shield tunnel, 9.4km in length (Bangkok Metropolitan Administration – US\$144M)
- Bangkok MRT Orange Line - East Section – 20km long bored twin-tube EPB shield tunnels and Stations (Mass Rapid Transit Authority of Thailand – US\$2,310M)
- Mae Tang – Mae Ngud – Mae Kuang Water Diversion Tunnel, Chiangmai, Northern Thailand– 48km tunnel in length, three Double shield TBMs and drill and blast excavation, four contracts, (Royal Irrigation Department – US\$268M)
- Railway Track Doubling Project, North-Eastern Line – Mab Kabao – Thanon Chira Junction – three twin-tube tunnels, total length 7.9km (State Railways of Thailand (SRT) – US\$268M)
- 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 – US\$240M)
- Klong Taweewattana- Bottle Neck Flood Drain Tunnel, Bangkok, 3.7m diameter EPB shield tunnel, 2km in length (Bangkok Metropolitan Administration – US\$65M)
- Power Cable Tunnel Projects (Metropolitan Electricity Authority -Bangkok)
  - Work plan to change the electrical cable system to an underground power line "The City of ASEAN": 127.3km tunnel length - US\$1,420M
  - Conversion of overhead lines to an underground system, Rama III Project:

- 10.9km tunnel - US\$164M
- Chong Nonsri Project: 8.3km tunnel in length – US\$84.5M
- Ratchadapisek - Asoke Project: 8.2km tunnel length – US\$132.8M
- Ratchadapisek - Rama 9 Project: 14.3km tunnel length – US\$126.7M
- South Bangkok - Chao Phraya River Crossing Project: 3.6m diameter, 950m EPB Shield Tunnel - US\$10.6M
- Eastern Line - High-Speed Rail Linked 3 Airport Project - one tunnel of 0.3km length at Khao Chi Chan, Pattaya (The Eastern Economic Corridor Office of Thailand, EECO)
- North-eastern Line High Speed Rail Tunnel (Thai-China Cooperation) – 1st Section - Bangkok to Nakorn Ratsima, three single tube double-track D&B tunnels, with a combined length of 12.2km (State Railway of Thailand - US\$123M)
- The 9th Bangkok Water Supply Improvement Project – Water Transmission tunnel - 44km in length and 3m - 3.2m diameter EPB Shield Tunnels, (Metropolitan Waterworks Authority – US\$496M)
- Bangkok MRT Purple Line South – 25.4km long twin-tube EPB shield

tunnels and Stations (Mass Rapid Transit Authority of Thailand – US\$3,616M)

- Denchai-Chiang Rai-Chiang Khong Railway Project, new railway line in Northern Thailand – 323km in length, consists of four twin tube tunnels, - 1.18km, 6.24km, 2.7km, and 3.4km tunnel in length (State railways of Thailand(SRT) - US\$2,126M)

## FUTURE TUNNELLING ACTIVITIES

- Bangkok Orange Line - West Section - 20.4km tunnel (Mass Rapid Transit Authority of Thailand –US\$2,800M). 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 length (Bangkok Metropolitan Administration - US\$50M)
- Klong Samsen to Existing Bang Sue Flood Drain Tunnel, Bangkok - 3m diameter and 3.3km tunnel length (Bangkok Metropolitan Administration - US\$28M)
- Klong Bang Nam Jued Flood Drain Tunnel, Samut Sakorn, - West of Bangkok - 6m diameter EPB Shield Tunnel, 11.71km in length, with four shafts (Royal Irrigation Department - US\$154M)
- Klong Likit Flood Drain Tunnel, Nakorn Pathom&Samutsakorn - West of Bangkok - 4m diameter, EPB shield tunnel, 7.3km in length (Royal Irrigation Department - US\$71M - 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
  - Outgoing Cable Tunnel at Bang Sue



Track Doubling North-Eastern Line - Mab Kabao - Thanon Chira Junction (SRT)

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, 62 km in length, 10m in diameter, TBM tunnelling + D&B adits (Royal Irrigation Department of Thailand - US\$2,682M -

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 two access adits (State Railways of Thailand - US\$880M)
- Phuket: Kratu-Patong Toll Road Tunnel - twin tube road tunnel, 1.2km in length (Expressway Authority of Thailand) 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, three parallel tunnels of 1.3km in length. Detailed design completed under a Cooperation with Japan International Cooperation Agency (JICA)
- Tak-Mae Sod Motorway – three twin tunnels of 10.35km, 3.78km and 15.19km (Department of Highway)
- Railway Track Doubling Project, Denchai – Chiang Mai, eight double track single tunnels with a total length of 16km approx. (State Railways of Thailand).