

Australia



Name: Australian Tunnelling Society (ATS)

Type of Structure: The ATS is an industry based Technical Society of Engineers Australia (EA).

Number of Members: 693 Members, 64 Gold and Silver Corporate Members and 6 Platinum Sponsors

ASSOCIATION ACTIVITIES DURING 2020 AND TO DATE

Like many around the globe in 2020, the Australian Tunnelling Society (ATS) has had to move many of its events and activities to an online format as workplaces and people were largely working from home.

Activities and Events: Prior to the COVID 19 pandemic the ATS held face to face technical presentations including a well attended site visit to the Mr Coottha Quarry in Queensland with exhibits by leading organisations in the field. After this time events were moved to an online platform as webinars and delivered to members across the nation. The ATS collaborated with other societies, including the Australian Geomechanics Society, British Tunnelling Society and NZ Tunnelling Society to produce

webinars with presentations by leading experts. Webinar attendance exceeded expectations and moving forward future technical presentations will a hybrid model. The 2020 David Sugden young tunneller's Award was presented to Daniel O'Kelly.

The ATS triennial conference '2020 Australasian Tunnelling Conference' scheduled for 29 December to 2 November had to be postponed and will now be held in 2021, 10 to 13 May in Melbourne. The ATS will announce the winners of its inaugural Women In Tunnelling Award and the Allen Neyland Award at the conference. The next conference will be held in New Zealand with the NZ Tunnelling Society in 2023.

Toward the end of 2020 restrictions had begun easing around the country which allowed for a few face to face networking and hybrid (in person and online) events.

The ATS Chapters are beginning to return to holding monthly technical sessions using a hybrid approach for 2021.

Publications: The ATS Journal was published twice in the last calendar year in conjunction with Tunnelling Journal International.

The ATS Young Members developed a Tunnel Design Guidelines that was published online for members at the end of 2020. Webinars and workshops are planned for 2021 to introduce the guidelines.



Working Groups: During 2020, the ATS developed a Tunnel Operators focus group to draw attention to the systems and operations of tunnels after construction and provide a broader viewpoint to the ATS.

Following the launch of information on health strategies for managing silica dust exposure in tunnels in 2019, the ATS regularly participates in the Silica Working Party, established by the Australian Government.

The ATS has 8 members active in ITA Working Groups which includes shotcrete, shafts, and BIM.

CURRENT TUNNELLING ACTIVITIES NSW

WestConnex: Stage 3A. M4-M5 Link under construction and planned to be open for traffic 2023. Stage 3B. Rozelle Interchange: Underground interchange linking the M4 M5 Link to Anzac Bridge, Iron Cove Link and the future Western Harbour Tunnel. The project is under construction and due for completion in 2023.

Sydney Metro City & Southwest Tunnel and Stations Excavation: Underground rail Link from Chatswood to Sydenham via Central Station which includes twin 15km long tunnels excavated by TBM. Due to be completed in 2021.

Queensland

Cross River Rail: New north-south tunnel(s) with connections running from Dutton Park in the south to Victoria Park in the north and new underground stations. Under construction and due for completion 2024

Brisbane Metro: a 21km service connecting 18 stations along dedicated busways with easy links between Metro, bus and train services. This project includes a new underground bus station. Early utility diversions commenced. Due to be completed in 2023

Kidston: Renewable and pumped hydropower developer Genex Power has appointed engineering procurement and construction contractors McConnell Dowell and John Holland for the pumped storage hydro plant and dam construction, underground and waterway civil works, plus full powerhouse fitout.

Victoria

Melbourne Metro Tunnel and Stations PPP: Twin 9km long rail tunnels with five underground stations. Due to be completed 2025

West Gate Tunnel: Twin road tunnels (2 - 4km long) and elevated road



Sydney Metro City and South West Tunnels and Station excavation



Melbourne Metro

structures linking the Westgate Freeway at Williamstown Road with City Link. Construction work has been delayed now due to be completed 2024

Western Australia

Forrestfield - Airport Link Project: A 7.1km twin-bored, concrete lined and 6.2m internal diameter tunnels extending from Guildford Road to Dundas Road in Forrestfield. Three stations will be located underground close to the current Domestic Airport precinct. Due to be completed 2021.

FUTURE TUNNELLING ACTIVITIES

Snowy 2.0 Hydro Project – New South Wales

Civil works which will include 27km of TBM tunnels. TBM excavation has commenced.

M6 Stage 1 (formerly known as F6 Stage1) – New South Wales

4km of motorway tunnel from new M5 to Presidents Ave Kogarah. Tenders have been submitted.

Sydney Metro West (Tunnels and Station Excavation Works) – New South Wales

22km underground metro rail link from CBD to Westmead. Tenders have been submitted for Central package. Contract award expected in July 2021.

Western Harbour Tunnel – New South Wales

Road tunnel linking WestConnex with North Sydney. Expressions of Interest for project being sought in 2021.

Sydney Metro Western Sydney Airport (Station boxes and tunnels) – New South Wales

A Metro rail link from St Marys to the new Western Sydney Airport that is currently under construction. Expressions of interest submitted in 2020 and tenders are expected in April 2021 for award by December 2021.

Beaches Link – New South Wales

Road tunnel connecting Warringah Freeway with the Northern Beaches. Still in planning phase.

Coffs Harbour Bypass – New South Wales

A road project including three tunnels with a combined length of 1km. Procurement is expected to commence in 2021.

Inland Rail Project – Kagaru to Gowrie PPP package – Queensland

A 126km rail link which includes three tunnels totalling 8.5km in length. Tenders are in preparation for submission in 2021.

North East Link – Victoria

A road link from Greensborough to Bullen linking the Western Ring Road to the Eastern Freeway which includes TBM bored tunnels and mined tunnels by roadheader. Tenders have been submitted. Award expected mid 2021

Hawthorn Main Sewer Syphon – Victoria

DN2000 pipejack under the Yarra River at Hawthorn. Tender has been awarded to John Holland/KBR.

Maribyrnong River Main Sewer Augmentation – Victoria

Augmentation of the existing sewer with

a 1.3km pipeline which includes 800m of DN1400 pipejacking. Tenders have been submitted.

Hobson Bay May Sewer – Victoria

Upgrade of existing Hobson Bay Main Sewer crossing of the Yarra River. Tenders have been submitted.

Suburban Rail Loop – Victoria

A 90km long rail loop to connect the outer suburbs of Melbourne. To be delivered in four stages. Expressions of Interest are expected in 2021.

North South Corridor (Torrens River to Darlington) – South Australia

Southern Project includes twin road tunnels, each 4km long. Northern Project includes twin road tunnels each 2km long. Procurement likely to commence late 2021.

STATISTICS

1. List of tunnels completed:

- NorthConnex, opened October 2020
- WestConnex Stage 2 (New M5), opened July 2020
- Gold Coast Seaway
- Forrestfield Airport Link (WA), TBM tunnelling completed April 2020

2. List of tunnels under construction

- Sydney Metro City & South West Tunnels and Station Excavation
- WestConnex 3A – M4 M5 Link
- WestConnex Stage 3B – Rozelle Interchange
- Melbourne Metro Tunnel & Stations PPP
- WestGate Tunnel Project
- Cross River Rail Tunnel Stations Development PPP

EDUCATION ON TUNNELLING IN THE COUNTRY

Post-graduate (Master of Engineering) subject courses were held at the University of NSW, The University of Queensland, Royal Melbourne Institute of Technology and the University of Wollongong.