

AUSTRALIA



Name of Association: Australian Tunnelling Society (ATS)
Type of Structure: The ATS is an industry based Technical Society of Engineers Australia (EA).
Number of Members: 835 members, 69 Corporate Sponsors (52 Gold, 17 Silver), 6 Platinum Sponsors

ASSOCIATION ACTIVITIES DURING 2023 AND TO DATE

Activities and Events: With the Covid pandemic largely behind us in 2023, the Australian Tunnelling Society was able to return to more in-person technical events, as was the traditional approach, supplemented by hybrid (in-person + online) as well as some entirely on-line events. The focus of 2023 was preparation for the biennial Australasian Tunnelling Conference (ATC), an event the ATS runs with the NZTS to highlight and celebrate tunnelling projects and innovations in the Australasian region.

The event was held in Auckland, New Zealand and was well attended by presenters and delegates from both Australia and New Zealand and included an address from the ITA President, Arnold Dix and various other Australian Tunnelling entities.

Publications: The ATS ANZ Journal was published twice in the last calendar year in conjunction with Tunnelling Journal and is sent to ATS (and NZTS) members in April and October of each year.

Working Groups: The Diversity in Tunnelling sub-group of the ATS (formerly Women in Tunnelling) is made up of representatives from the various

ATS chapters interested in promoting and supporting diversity in tunnelling. Since launching in the second half of 2022, they had a busy year in 2023 with several events held. Lately they have just launched a Mentoring & Buddy Program which has been extremely well received. Collaboration with overseas organisations is ongoing, and it is hoped that further connections will be made at WTC2024 in Shenzhen.

The Tunnel Systems sub-group of the ATS is made up of experts in the field of tunnel systems, such as Fire Life Safety, ventilation and lighting. These are important elements of any tunnel and as such the sub-group was formed to provide greater exposure to this work in both new tunnels under construction and tunnel refurbishment, which is itself of ever-increasing importance as existing tunnels age and need to be upgraded with new systems for futureproofing.

CURRENT TUNNELLING ACTIVITIES

- North East Link, Melbourne, VIC. 21,200 BCM excavated. Tunnelling ongoing.
- West Gate Tunnel, Melbourne, VIC. 311,930 BCM excavated. Tunnelling complete.
- Snowy 2.0 Cooma NSW. Tunnelling ongoing.

- WestConnex Stage 3A - M4-M5 Link, NSW, Sydney. Tunnelling complete.
- M6 Stage 1 Sydney, NSW. 570,000 BCM excavated. Tunnelling ongoing.
- Western Harbour Tunnel Phase 1, Sydney, NSW. 465,000 BCM excavated. Tunnelling ongoing.
- Western Harbour Tunnel - North Driven tunnels, IMT and M&E Fitout, Sydney, NSW. Tunnelling about to commence.
- Sydney Metro West Central package CTP, Sydney, NSW. Tunnelling ongoing.
- Sydney Metro West Western package WTP, Sydney, NSW. Tunnelling ongoing.
- Sydney Metro West Eastern Tunnelling package ETP, Sydney, NSW. 52,000 BCM excavated. Tunnelling ongoing.
- Sydney Metro Western Sydney Airport - Station Boxes and Tunnels Contract, Sydney, NSW. 467,000 BCM excavated. Tunnelling ongoing.
- Cross River Rail Tunnels & Stations Development PPP, Brisbane, QLD. Tunnelling complete.
- Brisbane Metro - Brisbane, QLD. 24,000 BCM excavated. Tunnelling ongoing.
- Kidston Pumped Hydro - Regional QLD. 15,000 BCM excavated. Tunnelling ongoing.

FUTURE TUNNELLING ACTIVITIES

- Suburban Rail Loop – Package C, Melbourne, VIC.
- Coffs Harbour ByPass, Coffs Harbour, NSW.
- Suburban Rail Loop – Package D, Melbourne, VIC. (under tender)
- North-South Corridor – Torrens to Darlington, Adelaide, South Australia (under tender)
- South West Rail Link Extension – NSW
- Borumba Dam Pumped Storage Hydro, Sunshine Coast, QLD



ITA MEMBER NATION ACTIVITY REPORTS 2023

TECHNICAL SESSIONS (TALKS) HELD IN 2023

Event Title	Start Date	Event Title	Start Date
■ The Missing Link: Constructing the Westconnex M4-M8 Link Tunnels	16/02/2023	■ Careers in tunnelling – a young engineer's perspective	20/07/2023
■ Fire testing of tunnel concrete lining segments – requirements and practical advice	23/02/2023	■ Geomechanics of pressure tunnels and shafts – a critical review of existing knowledge	3/08/2023
■ Celebrating diversity in tunnel engineering	9/03/2023	■ ATS QLD – Discrete fracture network approach for underground support design optimisation	24/08/2023
■ Water mist suppression for road tunnels	16/03/2023	■ Mt Coot-tha Quarry site visit	31/08/2023
■ Herrenknecht presentation – Mechanised sinking of deep shafts in hard rock	23/03/2023	■ North East Link Tunnel Project industry updates	6/09/2023
■ Kidston Pumped Hydroelectric scheme design and construction	30/03/2023	■ Inclusion, Everybody Matters	7/09/2023
■ Brisbane Metro Adelaide Street tunnel	20/04/2023	■ Lessons learned from design and construction of Nant-de-Drance Powerhouse	27/09/2023
■ ATS Vic Technical Site Visit – Westgate Tunnel Project	24/04/2023	■ Tunnel systems: planning assets today for the future	28/08/2023
■ North East Link Program tunnel design overview	2/05/2023	■ Revolutionising Australia's infrastructure through centralised geological and geotechnical data management	19/10/2023
■ Ground challenges in Melbourne's Metro Tunnel Project	16/05/2023	■ Pathways to sustainable TBM tunnelling using intelligent electrical equipment	1/11/2023
■ Tunnelling Risk Management on the Forrestfield Airport link Project, Perth	18/05/2023	■ ATS Young Members site visit to Brisbane Metro Adelaide Street tunnel	29/11/2023
■ The use of fibre optics to improve tunnel support design	24/05/2023	■ Considerations for designers and constructors to deliver practical operation and maintenance outcomes	7/12/2023
■ ATS Vic – Discrete fracture network approach for underground support design optimisation	25/05/2023	■ Tunnels and underground works for pumped storage hydropower projects: Challenges and Opportunities – Panel discussion	13/12/2023
■ ATS NSW – Discrete fracture network approach for underground support design optimisation	8/06/2023		
■ Getting the most out of the International Tunnelling Association	15/06/2023		

SEMINARS, SHORT COURSES AND CONFERENCES HELD IN 2023

Event Title	Start Date
■ Building around existing tunnels seminar	27/04/2023
■ Tunnel Fire Safety – short course	3/08/2023
■ Shotcrete seminar	5/11/2023
■ Australasian Tunnelling Conference 2023	6 to 8/11/2023

SOCIAL EVENTS HELD IN 2023

Event Title	Start Date
■ NSW Charity Golf Day	23/11/2023
■ QLD St Barbara's Day dinner	1/12/2023
■ NSW St Barbara's Day social event	4/12/2023
■ VIC St Barbara's Day social event	7/12/2023