

France



Name: French Tunnelling and Underground Space Association (AFTES)

Type of Structure: Non-profit, open association

Number of Members: 1049 members (including 127 corporate members and 110 young members and students)

ASSOCIATION ACTIVITIES DURING 2022 AND TO DATE

Tunnels and Underground Space Magazine (TES)

- TES 279: Maintenance works
- TES 280: Hydraulic works (hydro-electric galleries)
- TES 281: Technical progress in building wide, deep tunnels – Design and construction of 4km of pressured line with micro-tunnelling boring machine – Grand Paris Express: Feedback on technical risk management.
- TES 282: Interpretation of the behaviour of distributed anchor bolts - Test bench to characterise ventilation equipment to train piston effect - Design & built of an ultra-low-carbon concrete microtunnel - Excavation of a technical gallery involving multiple constraints.

Technical Committee

22 working groups (WGs) in operation. Five recommendations finalized and approved in 2022:

- WG 12: Underground construction site traffic.
- WG 18: Reinforced concrete voussoirs.
- WG 6: Prescribed shotcrete.
- WG 9: Extrametered seals and drainage.
- WG 27: Mechanical ventilation for underground structures during construction and rehabilitation
- Two recommendations being finalized:
 - WG 28: Shallow Wells.
 - WG 14: Tools for diagnosing visible underground structures.
- Two technical evenings dedicated to final shotcrete and TBMs.

Materials, Equipment and Products Committee

- Regular technical committee meetings and visits.
- Advancement of a technical showcase for manufacturers.
- Representation of AFTES in Copenhagen in 2022.
- Realization of two technical days in Chambéry on October 26th and 27th, 2022 (Conferences and Exhibition): Lyon-Turin:

Major Underground Projects & Innovation 'Materials, Equipment, Products - 500 delegates, 37 stands, 23 presentations and 50 years of the AFTES.

- Preparation of a collective stand at WTC 2023 in Athens.

Underground Space Committee

- Redesign the committee to provide a broader role for the AFTES think tank that is dedicated to the contribution of underground space as a sustainable development resource.
- Preparation of the Underground Space Session to be held during the 2023 AFTES Congress.
- Valuation of the synthesis of the national research project Ville 10D.

Education Committee

- Creation of a steering group (with owners, representatives of the engineering companies, the contractors and the university) to support the actions of the committee around the themes of training and research in the field of the underground.

- Master's degree in Tunnels and Underground Works - TOS - Class 10 (October 2021 - September 2022) - 16 students.
- Continuing education sessions at the TOS Specialist Master's degree.

Youth Members Committee

- Events throughout the year, including three technical evenings.
- In 2023, the youth committee will participate in the preparation of the congress and particularly in the training day co-organized with ITACET.

Congress AFTES 2021 Paris

- Preparation of the 2023 congress in Paris from 2nd to 4th October, 2023 at the "Palais des Congrès de la Porte Maillot": The underground at the heart of transitions (<https://aftes2023.com/en/>).

EUTF – European Underground and Tunnel Forum

- EUTF Forum meetings held in Copenhagen (September 2022) and Bologna (October 2022).
- BIM and the rehabilitation of underground infrastructure heritage.
- Perspectives 2023: Eric Leca, President of the Forum for three years.

Involvement in AITES/ITA

- Participation of AFTES members in ITA Working Groups and Committees.
- Participation in the organization of ITACET training programs.
- Organization with ITACET of a training session during 2023 AFTES congress.

CURRENT AND FUTURE TUNNELLING ACTIVITIES

Grans Paris Express and Line 14



Grans Paris Express and Line 14

Since the start of the underground works, 24 TBMs have been launched. In early 2022, six of them were active on Lines 16, 17 and 18 with a tunnelling machine under construction for Line 16.

Lines	Sections	Horizon
Line 14 nord	Mairie de Saint-Ouen à Saint-Denis Pleyel	2024
Line 14 sud	Olympiades à Aéroport d'Orly	2024
Line 15 sud	Pont de Sèvres à Noisy - Champs	2025
Line 15 ouest	Pont de Sèvres à Saint-Denis Pleyel	2030
Line 15 est	Saint-Denis Pleyel à Champigny Centre	2030
Line 16	Saint-Denis Pleyel à Clichy - Montfermeil	2nd Semestre 2026
Line 16	Clichy - Montfermeil à Noisy - Champs	2028
Line 17	Saint-Denis Pleyel au Bourget - Aéroport	2nd Semestre 2026
Line 17	Le Bourget - Aéroport au Triangle de Gonesse	2028
Line 17	Triangle de Gonesse au Mesnil-Amelot	2030
Line 18	Massy-Palaiseau à CEA Saint-Aubin	2026
Line 18	Aéroport d'Orly à Massy-Palaiseau	2027
Line 18	CEA Saint-Aubin à Versailles-Chantiers	2030
Line 18	Versailles-Chantiers à Nanterre-La Folie	After 2030

Toulouse: 3rd metro line

27km - 21 stations – Tender phase in 2022.
22km underground – five TBM will be in operation. Commissioning in 2028-2029.

TELT (Tunnel Euralpin Lyon Turin)

Cross-border section, with a 2 x 57km base tunnel and two international open-air stations at the tunnel ends, all under

TELT project management.

Access on the France side is under study by SNCF Réseau, and access on the Italy side is under study by RFI.

Cross-border section divided geographically into 12 “operational sites”, with approximately 45 works contracts and 36 engineering contracts; the main tunnel construction lots have already been awarded. A total of 164km of tunnels will be excavated, 30% of which were excavated by the end of August 2022.

News

Paris: <https://www.societedugrandparis.fr/gpe/actualites>

Lyon-Turin: https://www.telt-sas.com/fr/category/news_fr/

Lyon: https://www.sytral.fr/TPL_CODE/TPL_ACTUALITE/

Toulouse: <https://tisseo-collectivites.fr/actualites>

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