

WTC2027

ITA-CET TRAINING PROGRAMME

23-24 APRIL 2027

CO-CREATING KNOWLEDGE

ACROSS DESIGN, CONSTRUCTION AND OPERATION

FRIDAY MORNING PLENARY

Tunnelling in Complex Urban Environments | Setting the Scene (Plenary) Chairs: Laurence Delplace & Bart De Pauw

08:30-09:00 **Introduction and objectives** | Welcome and introduction to the training
09:00-09:30 **Why tunnelling is central to modern infrastructure** | Global perspective and key trends
09:30-10:30 **From ground characterisation to design** | Tunnelling fundamentals refresher (1/2)
10:30-11:00 **Break**
11:00-12:00 **From site investigation to Construction method** | Tunnelling fundamentals refresher (2/2)
12:00-12:30 **Project Delta-Lambda: the case study** | Presentation and key challenges

12:30-14:00 Lunch break

FRIDAY AFTERNOON

BREAK-OUT SESSIONS

	Geotechnics & Design Room A	Construction & Delivery Room B	Digitalisation & Asset Management Room C	Safety & Operations Room D	Urban & Environmental Integration Room D
14:00-14:45	Site investigation planning <i>What information do we really need?</i>	Delivery strategy and procurement <i>Models, ECI, packaging and phasing</i>	Digital transformation in tunnelling <i>From data to value</i>	Safety in design and construction <i>Integrating safety from the start</i>	Urban development and underground space <i>Opportunities and constraints</i>
14:45-15:30	Ground behaviour and key risks <i>Implications for design, cost and schedule</i>	Site organisation and logistics <i>Access, spoil management, traffic and communities</i>	BIM and digital construction <i>From design to construction</i>	Ventilation, fire safety & emergency management <i>Key principles and solutions</i>	Integrating tunnels into urban mobility systems <i>From planning to operation</i>
15:30-16:00	Break				
16:00-16:45	Applying design methods to the case study <i>From data to design decisions</i>	Managing risks and changes <i>During construction</i>	Monitoring and data integration <i>Turning data into decisions</i>	Human factors and user experience <i>People at the centre</i>	Environmental impact and sustainability <i>Assessing and reducing impact</i>
16:45-18:00	Group work <i>Develop initial approach for Delta-Lambda</i>	Group work <i>Develop initial approach for Delta-Lambda</i>	Group work <i>Develop initial approach for Delta-Lambda</i>	Group work <i>Develop initial approach for Delta-Lambda</i>	Group work <i>Develop initial approach for Delta-Lambda</i>
18:00-20:00	Networking Event				

SATURDAY MORNING

BREAK-OUT SESSIONS

	Geotechnics & Design Room A	Construction & Delivery Room B	Digitalisation & Asset Management Room C	Safety & Operations Room D	Urban & Environmental Integration Room D
08:30-09:15	Excavation method selection & constructability <i>TBM vs D&B, support concepts, temporary works</i>	Safety leadership and human factors <i>Building a safety culture</i>	Digital twins and connected infrastructure <i>Linking design, construction and operation</i>	Operational resilience and climate adaptation <i>Keeping tunnels safe and reliable</i>	Stakeholder engagement and social acceptance <i>Building trust and collaboration</i>
09:15-10:00	Interaction with existing structures and utilities <i>Settlement, protection and risk-based design</i>	Productivity, cost and schedule control <i>Delivering on time and on budget</i>	AI, automation and robotics <i>Practical applications</i>	Smart operations and decision support <i>Data-driven and resilient operations</i>	The underground as an enabler of urban resilience <i>From climate adaptation to liveable cities</i>
10:00-10:30	Break				
10:30-11:15	Design validation and adaptive design <i>From monitoring to design optimisation</i>	Collaboration and stakeholder management <i>Managing interfaces and complexity</i>	Lifecycle asset management <i>Condition, maintenance and investment planning</i>	Managing risk throughout the asset life cycle <i>From design to operation</i>	New urban uses of underground space <i>Energy, logistics, data centres and more</i>
11:15-12:15	Group work <i>Refine and finalise recommendations</i>	Group work <i>Refine and finalise recommendations</i>	Group work <i>Refine and finalise recommendations</i>	Group work <i>Refine and finalise recommendations</i>	Group work <i>Refine and finalise recommendations</i>
15:30-16:00	Lunch break				

Visions & Roundtable How do we make mega projects successful?

Chair: Hans Mortier

13:45-15:45 **Presentation of group results** | Each group presents key findings and recommendations for the Delta-Lambda case
15:45-16:15 **Break**
16:15-16:35 **The owner's vision** | Objectives, expectations, risk appetite and long-term legacy
16:35-16:55 **The contractor's vision** | Managing complexity, innovation under constraints, partnering with stakeholders
16:55-17:15 **The consultant's vision** | Ensuring technical robustness, independent advice and integration of disciplines
17:15-17:55 **Panel discussion** | How do we make mega projects successful?

SATURDAY AFTERNOON PLENARY

