

## **Advances in design and construction of tunnels**

The objective of this training session is to give a global overview on the design and construction process with updated and advanced information of the new developments.

### **Session 1: 1<sup>st</sup> February - 14:00-18:00 IST time (09:30- 13:30 CET time)**

#### **14:00 -15:45 Chap 1: Introduction – main milestones**

- 14.00 : Welcome and opening :
- 14.10 : ITA and the tunnelling community (ITACET)
- 14.30 : The design and construction process : overview and main issues
- 15.30 : Q&A

*15:45-16:15 Coffee Break*

#### **16:15-18:00 Chap 2: Tunnelling methods**

- 16.15 : Selection of a tunnelling method
- 17.00 : Geotechnical investigation and design parameters
- 17.45 : Q&A

### **Session 2: 2<sup>nd</sup> February – 14:00-18:00 IST time (09:30- 13:30 CET time)**

#### **14:00 -15:45 Chap 3: Mechanized tunnelling**

- 14.00 : Specificities and examples of TBM rock tunnelling
- 14.45 : Specificities and examples of TBM soft ground tunnelling
- 15.30 : Q&A

*15:45-16:15 Coffee Break*

#### **16:15-18:00 Chap 4: Conventional tunnelling**

- 16.15 : Principles and examples
- 17.00 : Auxiliary methods
- 17.45 : Q&A

### **Session 3: 3<sup>rd</sup> February – 14:00-18:00 IST time (09:30- 13:30 CET time)**

#### **14:00 -15:45 Chap 5: Design methods and tools**

- 14.00 : Design methods and fields of application
- 14.45 : Design of shafts, portals and junctions
- 15.30 : Q&A

*15:45-16:15 Coffee Break*

#### **16:15-18:00 Chap 6: Context framework**

- 16.15 : Risk management in tunnelling
- 17.00 : Contractual practises – Role of stakeholders
- 17.45 : Q&A



## **Session 4: 4<sup>th</sup> February – 14:00-18:00 IST time (09:30- 13:30 CET time)**

### **14:00 -15:45 Chap 7: Construction issues**

- 14.00 : Worksite organisation and logistics
- 14.45 : Health and Safety issues
- 15.30 : Q&A

*15:45-16:15 Coffee Break*

### **16:15-18:00 Chap 8: From construction to operation**

- 16.15 : Instrumentation and monitoring during construction
- 17.00 : Monitoring in the operation phase
- 17.45 : Q&A