

Objective: to provide an introduction to the safe use and operation of metro and road tunnel systems. The seminar will provide a general overview to be followed by more in-depth sessions on operation (management structure and organization for emergency situations), monitoring technology, fire control (detection, passive and active fire fighting and mitigation) and research (recent research about safety in operation). The seminar aims at Clients, Designers, Consultants and Operators.

Tentative Programme

Day 1

Session 1: General Overview

- 09.00 – 09.45: Welcome and Opening: ITA and concerned country representatives
- 09.45 – 10.30: Introduction to safety management and state of regulations – *Felix AMBERG*
- 10.30 – 11.00: Coffee break

Session 2: Specific Aspects of Safety of Metro Systems – *Niels Peter HOJ and Henry RUSSELL*

- 11.00 – 11.45: Integrated safety analysis for metro systems
- 11.45 – 12.30: Models for probabilistic safety analysis and deterministic scenario analysis
- 12.30 – 14.00: Lunch

- 14.00 – 14.45: Technology and technical measures for metro tunnels, stations and rolling stock
- 14.45 – 15.30: Structure, management and operation of safety and emergency forces
- 15.30 – 16.00: Coffee break

- 16.00 – 16.45: Integration and use of advanced supporting technology (i.e. SCADA systems)
- 16.45 – 17.30: Contingency plans for metro systems, Permanent education and training of emergency forces and operators
- 17.30 – 18.00: Questions and Answers (to all sessions)

Day 2

Session 3: Specific Aspects of Safety of Road Tunnels – *Niels Peter HOJ*

- 09.00 – 09.45: Integrated safety analysis for road tunnels, human behaviour and self rescue
- 09.45 – 10.30: Models for probabilistic safety analysis and deterministic scenario analysis
- 10.30 – 11.00: Coffee break

- 11.00 – 11.45: Technology and technical measures for road tunnels, integration and use of advanced supporting technology
- 11.45 – 12.30: Structure, management and operation of safety and emergency forces, contingency plans
- 12.30 – 14.00: Lunch

Session 4: Fire control in Metro and Road Tunnels – *Peter REINKE*

- 14.00 – 14.45: Ventilation systems
- 14.45 – 15.30: Fire detection systems, passive/active fire fighting, fixed fire fighting systems
- 15.30 – 16.00: Coffee Break

Session 5: Research and Development – *Felix AMBERG*

- 16.00 – 16.45: Results of recent R&D projects, tests and their relevance for safety operation
- 16.45 – 17.30: R&D topics of the future

Session 6: Q&A, Closing remarks

- 17.30 – 18.00: Questions and Closing Remarks