

## **Underground Space Use**

**21 March 2018**

**Nigeria - Abuja**

**Objective:** Introduction for engineers, architects, planners and public administrators to the use of underground space to increase liveability and sustainability in urban areas and in other key public resource regions. The seminar will identify key issues that need to be considered when using underground space and will show how these key issues are dealt with on a worldwide basis.

### **Session 1: Introduction and Overview of the main issues**

09.00-09.15: Welcome and Opening: ITA and concerned country representatives

09.15-10.00: Advantages and disadvantages of underground solutions (T. Celestino)

10.00-10.45: Solutions and missed opportunities for underground projects (N. Bobylev)

10.45-11.15: Coffee Break

11.15-12.00: The key stakeholders and their role and responsibilities (Michel Deffayet & O. Vion)

12.00-12.45: The main stages in a tunnel project management (Michel Deffayet & O. Vion)

12.45-13.00: Questions and answers

13.00-14.00: Lunch

### **Session 2: Organisation and planning**

14.00-14.45: Sustainability and resiliency issues (N. Bobylev)

14.45-15.30: Underground utilities and services in urban areas (O. Vion)

15.30-16.00: Coffee Break

16.00-16.30: Case study 1: Example of a metro network management (T. Celestino)

16.30-17.00: Case study 2: Microtunnelling and underground service network (O. Vion)

17.00-17.30: Discussion and closing Remarks