Everybody knows WHY
Transport Facilities have to go Underground in Urban areas

Variety of the underground infrastructure in a city

Central Artery-Boston (USA)
- City traffic tunnels clear vehicles from surface streets, traffic noise is reduced, air becomes less polluted and the surface street areas may partially be used for other purposes.
Towards an improved use of underground space

Operational Safety of Underground Facilities – Istanbul – 6-7 October 2009

Why Go Underground?

Towards an improved use of underground space

Relations between underground structures and the ground surface

Portal of the Fourvière Tunnel – Lyon (France)

Car park at the square Estienne d’Orves in Marseilles (France)

Situation «before» and «after» the construction of the underground car park

ITA members know we have to face some Risks in going Underground
Risks during Construction

SOCATOP Motorway
France 2002

Shanghai metro
China 2003

Nicoll Highway
Singapore 2004

Sao Paulo Metro
Brazil 2007

Hangzhou Subway
China, 2008
Towards an improved use of underground space

Operational Safety of Underground Facilities – Istanbul – 6-7 October 2009

KOELN- Germany – 2009

Risk during Operation

Running tunnel filled with inflow material

Courtesy WDR

Crossover superimposed on the collapse

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Kobe earthquake – Japan - 1995

Severe damage to the City Hall

Almost no damage to the underground shopping mall

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RISK MANAGEMENT IN TUNNELS UNDER OPERATION

Risk Management

All parties have a role to play in Safety and Risk Management

» Client
» Designers
» Coordinator for Health & Safety
» Contractors
» Manufacturers
» Professional Organisations
» Regulators and Standards makers
» Insurers

Operational Safety of Underground Facilities – Istanbul – 6-7 October 2009

ITA’s mission is to transfer its knowledge for promoting the Use of Underground Facilities

Operational Safety of Underground Facilities – Istanbul – 6-7 October 2009
Towards an improved use of underground space

Operational Safety of Underground Facilities

– Istanbul – 6-7 October 2009

Foundation & Development

• Non-Profit and Non-Governmental Organization
• Founded in 1974
• Member nations: 55
• Other nations represented by affiliate members: 10
• Corporate affiliate members: 147
• Individual affiliate members: 127
• 12 Prime Sponsors and 5 Supporters

Diversity of Membership

• Owners, Public and Private
• Owner’s engineering agencies
• Private and governmental Townplanners
• Architects
• Engineering designers & consultants
• Academia & Researchers
• Heavy construction contractors
• Specialty contractors (microtunnelling, shotcreting, freezing, …)
• Material & Equipment Suppliers
• Lawyers
• Politicians
• Economists
• Financiers
• Mine owners and mining operators

ACTIVITIES

• AITES-ITA annual World Tunnel Congresses
• Training for Young professionals
• Organising international studies and experiments
• Publication of proceedings, reports, documents…
• Organizing Workshops and Colloquia
• Website
• Journal & Newsletter
• Communication with the Decision Makers

3 Committees and 12 Working Groups

• Committee on Operational Safety of Underground facilities
• Committee on Education and Training
• Committee on Underground Space

Committee on Operational Safety of Underground Facilities

Chaired by Felix AMBERG (Switzerland)
Vice-chaired by Didier LACROIX (PIARC)

To help for Safe Operation
Open for all interested parties dealing with design, construction, operation, use and research
Organize thematic workshops and tests

Mission Statement

ITA COSUF is to be developed into a Centre of Excellence for world-wide exchange of information and knowhow regarding Safety and Security of Underground Facilities
Outlook into 2009/1

- Forum for Road Tunnel Safety Officers:
  - Safety Officers introduced by EU Directive 2004/54/EC
  - ITA-COSUF will organise and run jointly with the EU "European Forum of Road Tunnel Safety Officers" Date: 4.- 5.11. in Lyon
- ITA-COSUF Workshop on: ‘Safety Challenges’ at 5.11.2009 in Lyon

Outlook into 2009/2

- Sponsoring of an ITA COSUF price for outstanding activities and to support dedicated work of students within the scope of ITACOSUF
- Training courses within ITA-CET
- Specialised technical workshop co-organised with ISTSS

ITA-CET and WG 18

Committee on Education and Training
Led by André ASSIS (Brazil) and
WG 18 : Training
Led by Daniele PEILA (Italy)

- To coordinate the exchanges among the members
- To establish the contents and requirements of the Master courses endorsed by ITA
- To disseminate training and educational materials

Topics available for Workshops

- Why Go Underground in Urban Areas
- Health and Safety during Construction and Operation
- Risk Management
- Mechanized Tunnelling
- Conventional Tunnelling
- Waterproofing
- Sprayed Concrete

UN-ITA Workshop on Underground Space Use in Developing Countries (“Group of 77”) New-York - 14 December 2007

Tunnels and Underground Space Use for:
- Clean and waste water
- Energy efficiency and conservation
- Foods and Goods storage in rural areas in harsh climates
- Public Use and bulk storage in Mega cities
- Safety during natural and manmade Hazards including Earthquakes
- Multiple Use of Lands and Preservation of world heritage sites