



ASSOCIATION
INTERNATIONALE DES TUNNELS
ET DE L'ESPACE SOUTERRAIN

AITES

ITA

INTERNATIONAL TUNNELLING
AND UNDERGROUND SPACE
ASSOCIATION

STUDYING TUNNELLING CONTRIBUTE TO THE SUSTAINABLE DEVELOPMENT



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Today Sustainability Issues

- **Issues**

- Water
- Energy
- Raw materials
- Food
- Transport
- Environment
- Global warming
- Waste
- Natural and man-made disasters

- **Responses**

- Conservation
- Expanded infrastructure
- Compact development
- Improved environment
- Resilient infrastructure



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The answer of the underground space

Space

Protection

**Underground
Space
Characteristics**

Containment

Opacity





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Risks

- But tunnels are often considered as presenting risks
 - Financial risks
 - Public acceptance for the facility
 - Changed ground conditions
 - Construction risks
 - Contractual risks
 - Environmental risks
 - Risks in operation



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Your Role

- As future specialists your role will be to make tunnels in managing these risks through :
 - Improved techniques
 - Always better health and safety measures
 - Environmental considerations during design and construction
 - Managing budget and costs



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Join ITA

- From now on you can join ITA and its dedicated working groups to be part of this common aim to promote a safe, environmental, economical, sustainable use of underground space through modern techniques of design and construction.



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Have success

I wish you a great success in your Master at the Politecnico di Torino, endorsed by ITA, which I know, will bring you all the necessary knowledge to become a Tunnel engineer in this period highly demanding for skilled engineers worldwide.

Olivier VION

ITA Executive Director