

Nepal Tunnelling Conference 2026

“Tunnelling in the Himalaya: Innovation and Sustainable Development”.

10 & 11 December 2026

Kathmandu, Nepal

TOPICS FOR SESSIONS:

1. Challenges and Optimization of Tunnelling in the Himalaya

- Key Note lecture

2. Site Investigation for Tunnelling and Underground Structures

- Geological and geotechnical investigation
- Advanced site investigation technologies
- Geophysical methods in site investigation
- Hydrogeological investigations
- Rock Mass Characterization and Classification
- Geological uncertainty to reliable design
- Current site investigation practices for Nepal's tunnelling and underground infrastructure projects

3. Hydropower/water Tunnels, Cavern and Shaft

- Optimization of underground layouts for hydropower projects
- Design methodologies for tunnels and underground structures
- Underground Cavern and Shaft case studies
- Failures and Design Modifications: Lessons learned from Himalayan Projects
- Selection of Surface vs Underground Powerhouses
- Raise Boring and Shaft Excavation Technologies
- Specialized Design Challenges in Himalayan Tunnelling
- Project Case Histories and Lessons Learned

4. Transportation and Urban Underground Infrastructure

- Planning and Development of Transportation Tunnels
- Urban Underground Space Development
- Design Challenges in Road and Railway Tunnels
- Design and Construction Challenges Urban Underground Space
- Numerical Modelling and Analysis

5. Advancements in Tunnel Construction Methods and Mechanization

- Drill and Blast Optimization
- TBM Technology
- Raise boring and shaft sinking
- Mechanized excavation in difficult geology
- others

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6. Instrumentation, Monitoring and Rehabilitation

- Instrumentation and monitoring of Tunnel and cavern during construction
- Advanced monitoring technologies
- Monitoring data interpretation and risk management
- Tunnel condition assessment and inspection
- Rehabilitation and asset management
- Operation, maintenance and long-term performance

7. Tunnel Safety, Risk Management and Contractual Practices

- Geological risk assessment for tunnelling
- Risk allocation
- Contracts, Claims and dispute management
- Insurance issues
- Tunnel safety management
- Tunnel systems and operational safety
- Emergency response and rescue

8. Innovation, Sustainability and Future Tunnelling; Application of AI

- TBM data analytics
- Real-time monitoring systems
- Robotics and autonomous inspection
- AI applications in tunnelling
- Building Information Modeling (BIM) for underground works