

## Efficient and modern tunnelling

19<sup>th</sup> – 20<sup>th</sup> April 2024

Shenzhen, China

### 19th April 2024 : Clients oriented day – Project management and contractual practices

#### Session 1: The essentials for an appropriate management of a tunnel project

08:45 – 09:00	<b>Opening</b>
09:00 – 09:45	<b>Tunnel project management – actors and main principles</b> <i>/Eric Leca, France/</i>
09:45 – 10:30	<b>Uncertainties management approach as a guidance</b> <i>/Uni. Prof. Robert Galler, Montanuniversität Leoben, Austria/</i>
10:30 – 10:45	<b>Coffee Break</b>
10:45 – 11:30	<b>Health and safety requirements</b> <i>/Michael Halwachs, PORR Bau GmbH, Austria/</i>
11:30 – 12:15	<b>Recent developments for carbon footprint reduction in design and construction of tunnels</b> <i>/Benoit de Rivaz, Bekaert Underground Solutions, France/</i>
12:15 – 13:00	<b>Q&amp;A</b>

#### Session 2: Contractual practises and contracts

14:00 – 14:45	<b>Risk management adapted to underground works</b> <i>/Elena Chiriotti, INCAS Partners, France/</i>
14:45 – 15:30	<b>Risk allocation in underground works contracts</b> <i>/Matthias Neuenschwander, Neuenschwander Consult Eng., Switzerland/</i>
15:30 – 15:45	<b>Coffee break</b>
15:45 – 16:30	<b>Contract conditions and management</b> <i>/Yang Jinjun, China Railway Tunnel Group Co., Ltd (CRTG), China/</i>
16:30 – 17:15	<b>Case studies and examples of the implementation of different contracts – Experience from the Grand Paris Express</b> <i>/Alexis de Pommerol, Société du Grand Paris, France</i>
17:15 – 18:00	<b>Case studies – contracts from different countries</b> <i>/Alvin Sim, Land Transport Authority, Singapore/</i>
18:00	<b>Q &amp; A - discussion</b>

## 20th April 2024 Technicians oriented day – Modern tunnelling methods and equipment

### Session 3: Drill and blast equipment latest developments

- 09:00 – 09:45 **Conventional tunnelling process in soil and rock**  
*/Nasri Munhaf, Gall Zeidler Consultants, LLC, United States/*
- 09:45 – 10:30 **Innovations in the drilling technology and equipment**  
*/Toni Xia & Pekka Nieminen, Sandvik Group/*
- 10:30 – 10:45 **Coffee break**
- 10:45 – 11:30 **Innovations in the blasting technology and equipment**  
*/Mark Ganster, Austin Powder GmbH, Austria/*
- 11:30 – 12:15 **Innovations in the supporting technology and equipment**  
*/Güenther Volkmann, DSI Underground Group, Austria/*
- 12:15 – 13:00 **Q&A**

### Session 4: Specific technical issues in mechanized tunnelling

- 14:00 – 14:45 **Innovations in mechanized tunnelling- hard rock**  
*/Brad Grothen, Robbins TBM, United States/*
- 14:45 – 15:30 **Innovations in mechanized tunnelling-non circular TBMs**  
*/Zhang Zhiguo, China Railway Engineer Equipment Group Co., Ltd (CREG), China/*
- 15:30 – 15:45 **Coffee break**
- 15:45 – 16:30 **Innovations in mechanized tunnelling- large TBMs & variable ground conditions**  
*/Karin Bäßler, Herrenknecht AG, Germany/*
- 16:30 – 16:55 **Innovations in mechanized tunnelling - geology prediction technology during TBM driving**  
*/Wang Xu, China Railway Academy Co., Ltd (CRA), China/*
- 16:55 – 17:20 **Digitalisation for sustainability of underground infrastructures - carbon assessment and optimisation for TBM tunnelling**  
*/Uni. Prof. Qianbing Zhang, Monash University, Australia/*
- 17:20 **Q&A - discussion**