



Expert Round Table Event

Battery Electric Vehicle (BEV) Fire Safety in Tunnel Construction

20th September 2023

Hagerbach Test Gallery, Switzerland

Final Programme

Round Table Agenda

Battery Electric Vehicle (BEV) -

Fire Safety in Tunnel Construction

20th September 2023, Hagerbach Test Gallery, Switzerland

10:00 Welcome and Intro - Setting the scene

(Moderator – Félix Amberg)

10:10 Topic 1: "Exploring the adoption of BEVs in tunnel construction: Client perspectives, Contractor expectations and concerns about BEV Fire Safety"

(Moderator - Ross Dimmock)

The recent introduction of battery electric vehicles (BEV) to the tunnelling industry have shown there to be positive benefits in reducing carbon through reduction of fossil fuel use, but also significant operational safety benefits, reduced whole life equipment cost of ownership, but also project costs. As typically experienced with step changes in technology, despite all the positive attributes of BEV underground equipment, there are nevertheless legitimate concerns over the fire safety of high-capacity batteries, their operating range and required charging infrastructure. Addressing these issues is crucial for gaining broader acceptance and successful integration of BEVs in tunnel construction.

Preliminary panelists:

Jan Eriksson (Head of Safety- **Implenia**- Sweden)

Kim Masey (Zero Emissions Manager- **Rental Group**- Norway)

Keith Bowers (Tunnel and Systems Director- **COWI** - UK)

Søren Randrup-Thomsen (Head of Risk Safety- **Ramboll**- Denmark)

Andreas Acherman (Safety Engineer- **SUVA**- Switzerland)

11:10 **Coffee Break**

11:30 **Topic 2:** "Enhancing Safety in Modern Battery Electric Vehicles: Proactive Risk Management, Battery Pack Design, and Recent Fire Testing and Research Approaches"

(Moderator - Michael Kompatscher)

The latest advances in design and manufacturing of battery packs, battery management systems and final underground construction equipment address BEV fire safety through a number of risk management systems. The modern design of safe BEVs is naturally vital, but there always remains a residual risk of a battery fire occurring. Fire testing and understanding how the industry manages a fire in a confined tunnel environment is also crucial, and how BEV fires differ, if at all, from internal combustion engine equivalents will be explored. Such fire knowledge will further drive safer vehicle design and risk management practices.

Preliminary panelists:

Tony McDonald (Head of Engineering- **Xerotech**- Ireland)

Philipp Strueby (CEO- **Motics**- Switzerland)

Mark Ryan (VP Equipment and New Tech- **Normet**-Finland)

Michael Derungs (Firefighter- **Schutz und Rettung Zurich**-Switzerland)

Michael Geiger (Head of Projects- **Virturail**- Austria)

12:30 **Lunch Break**

13:30 **Topic 3:** "Discussion: Managing residual risks and addressing industry needs and concerns through future Sub Space Energy Hub Projects"

Panelists: Discussion and agreed actions made between all the expert panelists and contributions from audience.

14:15 **Wrap-up and Conclusions**
(Moderator – Félix Amberg)

14:30 **Tour in the Gallery** (1 hr, optional)