Fire Safety in TUNNELS-Conference 2018
Construction To Maintenance

Date: 12th - 13th April, 2018
Place: Amsterdam, Netherlands

Endorsed By

Media Partners
Overview:
Tunnel fires have taken many lives and caused much damage. Questminds’s Tunnel: Fire & Safety Conference is designed on all the critical issues and the necessary steps which tunnelling industry has to implement to protect the tunnel users from fire disasters. Safety procedures that go along with Tunnels will always be questioned to ensure that newly built tunnels adhere to these best practices.

If you don’t want to miss out on the best practices, new technologies when it comes to tunnel safety, maintenance, what were the mistakes that have been made in the past and what we have learnt from them, then 2018 April is coming to you with a must attend event for you and your colleagues.

Key Benefits for Attending:
- Speakers from over 12 countries
- 15+ Keynote Presentations
- Interactive panel discussions
- Real Life case studies - Combatting the challenges, successes as well as lessons learnt from existing and newly developed tunnels.
- A cross industry overview on Metro tunnels, Road Tunnels, Railway Tunnels
- More than 6 hours of Networking session with one-to-one business meetings

Who should attend:
Fire Brigades and Ministries:
- Ministry of Transport and Infrastructure
- Safety Advisor
- Scientist
- Fire Expert
- Chief Fire Officer
- Professors

From Tunnel Owners and Operators:
- Fire Suppression/Detection/Prevention Expert
- Tunnel Manager
- Tunnels Segment Leader
- Risk Prevention Expert
- Evacuation Expert
- Communications/Lighting Expert
- Fire/ Safety Engineer
- Operation Expert
- Infrastructure Planning Engineer
- Project Management
- Director of Structure Fireproofing
- Traffic Engineer
- Tunnel Designer
Nicole is the Vice-Chair of the Rail Industry Fire Association (RIFA), the Managing Director of NiHoFire Ltd, as well as a Founding Partner of Fire LLP and the Director of Fire Safety Engineering at Mosen Ltd. She is a Chartered Fire Engineer and a Fellow of the Institute of Fire Engineers as well as a Chartered Mathematician. Nicole has been engaged in the fire safety industry for more than 30 years, where she has been involved mainly in developing fire strategies for the transport industry, ranging from such projects as the Kings Cross underground station, Crossrail, HS2, the 2nd Avenue Subway in New York and the high-speed rail tunnel in Hong Kong. Her other associations include leading the RIFA working group addressing rolling stock fire size; being a member of the World Road Association (PIARC) and its WG3 and the development of the report on ‘Real Time Communication’, as well as being a Liverymen of the Worshipful Company of Firefighters.

Martin Brown has been Health and Safety Director for Crossrail Limited since June 2016. Before that he chaired the Independent Railway Assurance Board for Crossrail. Previously Martin was the Head of Health, Safety and Environment for Rail at Transport for London (TfL) covering London Overground, DLR, Trans, the Emirates Airline and TfL Corporate; was the independent safety expert on the Olympic Delivery Authority Games Transport Safety and Security Committee; Executive Director for Health, Safety, Quality and Environment at Tube Lines; Assistant Chief Inspector of Railways at HM Rail Inspectorate; and Deputy Superintending Inspector of Factories for the Construction National Interest group, at HSE.

Mr. Cufer holds a bachelor’s degree in architecture from the Faculty of Architecture, University of Ljubljana. In 2002 he went to earn an MBA degree from the IEDC Bled. His fire safety carrier started with the project called “FireFly” – an innovative way of implosion to approach Kuwait oilfield fires. In 1995, he participated as a consultant at gas blow out site in India. Later in 1995, he contributed to the development of a “CoolBomb”. It is an aerosol-ultra dynamic extinguishing device intended to suppress bushfires. In 1997 he performed first water mist extinguishing tunnel test. As there were no suitable nozzles on the market for tunnels, he developed his self-cleaning high-volume nozzle for tunnels with a flow of 250 l/minute nozzle. In 1999, Mr. Cufer organized first tunnel safety conference in Bled Slovenia. Where, Mr. Cufer and Mr. Pavetic primarily introduced the 3K tunnel ventilation and water mist tunnel extinguishing system with pressurized low oxygen air. Small-scale 3K ventilation tests took place in 2002. 2008 check-up & workshop after fire protection fall off in Sentvid gallery. In 2009 was developed a fire-resistant suspension ceiling for 3K ventilation. In 2010 “( )Corset” technology implosion could be performed underwater BOP at BPs Deep Horizon oil well. In 2017 Mr. Cufer patented public extinguishing system; “Himalaya Air” was primarily developed for tunnels but is best for as fire prevention in subways, skyscraper, galleries, museums, hotels, airports… All existing sprinkler and ventilation systems could be connected to a public network as dray sprinkler all fires under control and still liveable conditions.

Aurelio Rojo has vast experience in the academic and research world. He is currently is Co-Director of the Masters in Fire Protection Engineering and professor on the Railway Masters at the School of Engineering of the Pontifical University of Comillas in Madrid, Spain, where he has had the opportunity to deal with complex conceptual models that need to be contemplated in the design and then in operation of metro systems with high levels of safety and security.
ARILD PETTER SOVIK

Experience from both the client, the contractor, the consultant and the management side. Last 7 years as National Tunnel Manager in Norway and Head engineer for the management and development of the road tunnels in Norway. Former development manager in the largest road construction company in Norway. Has also been a consultant with assignments for clients in the industry. Now CEO for Sovik Consulting and special adviser for the underground infrastructure industry.

Experience as the Norwegian Tunnel Manager and handling the management and development of the road network infrastructure (upper management authority). Handling the administrative authority for Norway regarding Directive 2004/54/EC on minimum safety requirements for tunnels. Regulations on minimum safety requirements for road tunnels (tunnel safety regulations). Norwegian delegate at the Road Tunnels Safety Committee in the European Union (EU). System owner for the management, operation and maintenance system at the NPRA. Responsible for relevant processes in the NPRA. Activities in the development of applications (and systems) for construction, operation, maintenance and management in the industry. Lead the national strategy actions for tunnel safety after several major incidents in Norway. Implementing strategy for upgrades in existing tunnels and implementing new regulations and guidelines.

Working extensively with questions of how to build, operate, maintain and manage in the future.

GUILLAUME LEROY

Fluid Mechanics Engineer with 16 years of experience. In charge with different fire safety studies for private companies and authorities. During the last 10 years, two main activities:

- Modelling: 3D fire simulation and development of methods in Fire Protection Engineering such as Coupling of fire development and structural behaviour for warehouses and in Design Fire such as a 2-stepmodelling method to simulate vehicle fire in confined space.
- Experiments: large scale experimental campaigns such as 800 m² warehouse fire or 25 m² heptanes pool fire.

GRAHAM FRANCIS GASH

Graham previously worked for Kent Fire and Rescue Service (KFRS) for nearly 44 years, where he acquired significant technical knowledge and experience in emergency response, command and control, incident management, emergency response organisation/contractor major construction project liaison, development of operational intervention tactics and evacuation plans, emergency planning, exercise planning and facilitation, training course design and training delivery.

Graham was the lead officer for KFRS for some major road and rail tunnel construction projects, which included the Medway road tunnel, the new HS1 railway and tunnels, and the refurbishment of the Dartford River crossing tunnels. He also managed as the KFRS lead officer the Watermist Fire Suppression projects at both the Channel Tunnel and the Dartford tunnels. The latter two projects, involved him attending the large-scale fire tests in the northern Spain tunnel facility.

Graham has also conducted reviews and made technical and operational contributions to a number of specialist tunnel and railway books, manuals and technical publications over a period of years. He has attended a number of tunnel seminars in Europe and the UK as a key note speaker. Graham was a member of the European Fire Service Tunnel Group for twelve years, and he is pleased to have made a positive contribution in terms of experience and technical knowledge within and outside of that industry group.

Graham now runs his own fire consultancy business which enables him to continue to contribute to both the tunnel industry and the emergency services.

RON BEIJ

Ron Beij studied Molecular Sciences at Wageningen University. After this study he worked 5 years for a Swedish pharmaceutical company before he entered in the fire brigade of Amsterdam. In the 25 years he has become a senior officer with a specialisation on hazardous materials and spatial planning. He is also a teacher and examiner on the Dutch Fire academy. The last 10 years he has been involved with a lot of complex infrastructure projects, energy transition and adaptive building. He also became a specialist on tunnels and tunnel safety. Besides his work for the Amsterdam fire brigade and the fire academy he is working for the Dutch Knowledge Platform Tunnel safety. An independent, governmental founded organisation on tunnel safety. Besides working he is married, has two daughters and likes sporting.
Roel is co-founder and director of NedMobiel. NedMobiel is involved in tunnel safety, asset management, training and education, and project management of various tunnelling projects, including Blankenburg tunnel, Gaasperdammer tunnel, Stadsbaan tunnel, Tunnels of Schiphol and Abdij tunnel.

Last year’s Roel was responsible for the Dutch National Knowledge platform on tunnel safety and for the tunnel portfolio of the Dutch Centre for underground constructions (COB), and for the development and opening of the Waterwolf tunnel. At present Roel is responsible for the design of the technical installations of the Zuidas Tunnel.

Dr. Gunnar D. Jenssen

Gunnar is a senior research scientist and Human factors expert with a doctorate in Roads and Transport and a Master in Psychology. He has more than 25 years’ experience in multidisciplinary projects in road design, road safety, and road user behaviour. In SINTEF he has been responsible for several national and international projects related to tunnel safety. He is presently engaged as a safety consultant in design of Rogfast, the world’s longest (27 km) and deepest (-392 m) subsea twin bore road tunnel and two projects on underground development in Singapore. Further he is a lecturer at engineering faculty at the University in Trondheim (NTNU) on safety and driver behaviour in tunnels. Efforts in the Lærdal project (world’s longest road tunnel) was rewarded with Norwegian Lighting Prize and the Nordic Lighting Prize. This work was further developed with special safety measures in the Chinese Qinling Highway tunnel (18.2 km). He has worked with NPRA and the Accident Investigation Board Norway on investigations of tunnel fires in Norway and Road authorities in the US (FHWA) in revision of emergency signs and exit systems for highway tunnels.

Erwin Reichel

A positive, proactive and results-driven manager with a highly successful background in safety and security.

Career Summary:
Growing up in Austria/Tyrol
Studied Chemistry at the University of Innsbruck
Officer training for a fire department officer - 24 Month at the professional fire brigade of Vienna
2003-2015 Fire Chief Officer at the professional fire brigade of Innsbruck
Since 2010 a sworn and certified expert at the court
Since 2014 Owner of an engineering office for technical chemistry and Training in work safety
Since 2016 at the Brenner-Basis-Tunnel responsible for Safety and Security (Construction and Working operation)

Markus Vogt

The International Fire Academy is Europe’s leading fire academy for instruction and training in underground transportation facilities. An expert team delivers the Swiss tunnel training in the heart of Switzerland, a country known for its many tunnels, using a training concept that has been specially developed for the purpose and which enjoys extensive support. At the heart of the fire academy are two unique, gas-fired tunnel exercise facilities in the Swiss towns of Balsthal and Lungern, in which students can be deployed and trained on a 1:1 basis.

Previous positions: Head Maintenance and Technique, PRIMUS AG March 2004 – December 2008, Binningen, Switzerland
Responsible for 55 employees, which make service and maintenance on fire extinguishers around Switzerland. Markus Vogt part of development about technic and extinguishing agent, new products or improvement existing products.
Head of Safety and Security, Local Government Allschwil May 2000 – March 2004, Allschwil, Switzerland
As head of Safety and Security in the local government of Allschwil (20’000 habitants), Markus Vogt was responsible for the fire brigade, the local civil defence and the administration of military service. Instructor Civil Defence, Civil Defence Organisation City of Basel
March 1994 – September 2001, Basel, Switzerland
Engineer Mainframe Computer, IBM Basel June 1985 – March 1994, Basel, Switzerland
08:00 - 09:00  Registration & Tea
09:00 - 09:10  Opening remarks:
  Director
  Questminds
09:10 - 09:20  Welcome Speech by Conference Chairman
  Nicole Hoffmann, Vice-Chair
  Rail Industry Fire Association (RIFA), UK
09:20 - 09:55  Keynote Speaker:
  Paul Bryant, Founding Partner
  Fire Cubed (Fire) LLP, UK
  Holistic Fire Engineering
  - An introduction to Holistic Fire Engineering and the key concepts and ideas
  - How this concept could benefit fire safety engineering for tunnels
  - What are the next step in developing the concept further
  Q & A sessions
09:55 – 10:40  Session reserved for Gold Sponsor 1
10:40 - 11:10  NETWORKING TEA - BREAK
11:10 – 11:40  Session reserved for Sponsor 2
11:40 - 12:15  Martin Brown, Health and Safety Director
  Crossrail, UK
  The tunnelling challenges of Crossrail
  - Fire challenges in component selection
  - Designing the smoke control systems
  - The benefits of embedding the Fire Regulation Authority in the project
  Q & A sessions
12:15 – 12:50  Andrej Cufer, Founder
  Orbipark engineering, Slovenia
  Tunnel safety 2020 – Prevention/Curative. What needs to be done?
  - White tunnels lighting is a big new danger for elderly drivers and self-stirring cars
  - BONPET - 'on board' automatic extinguishing systems
  - 3K - Tunnel ventilation - best you could get safe escape to both portals in single tube
  »Himalaya Air« The new extinguishing system for tunnels and cities
  Q & A sessions
12:50 - 13:50  NETWORKING LUNCHEON
13:50 – 14:25  Erwin Reichel, Safety Coordinator
  BBT, Austria
  The Brenner- Basis- Tunnel:
  - Facts, special Vehicles (MSV) use for safety operation
  - Providing an overview and concept of the planning safety and security during the tunnel construction phase
AGENDA
DAY - 1

Outlining tactical actions for firefighters and rescue services
Stressing the importance of Education and training for voluntary and professional fire fighters
Evaluating operating limits of the tunnel and assessing self-rescue concepts

Q & A sessions
14:25 – 15:00
Dr Gunnar Jenssen, Senior Research Scientist
SINTEF, Norway
Three Myths in Tunnel Safety
Evacuation behaviour
Role of Smoke and ventilation
Use of safe havens

Q & A sessions
15:00 – 15:30
NETWORKING TEA - BREAK

15:30 – 16:05
Aurelio Rojo, President
APICI, Spanish Fire Protection Engineers Association, Spain
Fire Protection and Emergency Situation Management in Underground Metropolitan Railways
Implementing active fire protection systems and intelligent evacuation lighting in trains, tunnels and stations to increase safety levels
Investigating benefits by using IT intelligent new technologies and computer modelling to design an effective evacuation strategy
Examining the ways control systems can influence the speed of evacuation and emergency services to prevent the amount of damage
How to deal with emergency situations in underground railways systems?

Q & A sessions
16:05 – 16:40
Roel Scholten, Director
NedMobiel BV, Netherlands
Innovations in Training and Education of the calamity organisation of Road tunnels
the added value of training
developments in VR and augmented reality
standardisation and Quality standards

Q & A sessions
16:40 – 16:45
Closing Remarks by Conference Chairman
Nicole Hoffmann, Vice-Chair
Rail Industry Fire Association (RIFA), UK
08:00 - 09:00  Registration & Tea

09:00 - 09:10  Welcome Speech by Conference Chairman:
Nicole Hoffmann
Vice-Chair - Rail Industry Fire Association (RIFA), UK

09:10 - 9:45  Arild Petter Sovik, CEO
Sovik Consulting, Norway

Study of several large incidents in Norway and new innovative
technologies to improve safety in tunnels.

- Overview of the fires and lessons learned
- Challenges when it comes to interactions between technology, organisations and the individual
- New innovative technologies to improve safety in tunnels
- Important issues for the suppliers - Reliability, Availability, Maintainability and Safety

Q & A sessions

09:45 - 10:25  Session reserved for sponsor 3

10:25 – 11:00  Graham F Gash, Managing Director
GFG Road and Rail Tunnel Fire Consultant Ltd, UK

A fire in a 3.3km long rail tunnel during construction when a locomotives gearbox exploded

- Liaison between the Fire & Rescue Service and Contractors to ensure emergency preparedness and the provision of services to support an intervention.
- Establishing a rapport and developing a partnership approach with all parties.
- Develop emergency intervention plans for the construction and running phase of the project.
- The need to secure services and safe transportation to support an emergency intervention to saves lives and mitigate infrastructure damage caused by fire.

Q & A sessions

11:00 – 11:30  NETWORKING TEA - BREAK

11:30 - 12:10  Nicole Hoffmann, Vice-Chair
Rail Industry Fire Association (RIFA), UK

‘Train Fire Sizes’.

- What fires are associated with trains?
- Why do we need to know what the peak fire size is?
- Why are there so many different peak fire sizes? Which one should I be using?

Q & A sessions
12:10 – 12:45  
Ron Beij, Senior Officer  
Amsterdam Fire Brigade, Netherlands  
Tunnels in Amsterdam, the pro-active role of the fire brigade.  
- Multiple use of space. How to fit physical safety with existing building legislation  
- Conceptual thinking during spatial planning. Creating possibilities for repression in an early stage.  
- The future of the fire brigade, Risk management instead of repression?  
Q & A sessions  

12:45 - 13:45  
NETWORKING LUNCHEON  

13:45 – 14:20  
Guillaume Leroy,  
Fire Safety Expert  
Ineris, France  
- Current safety design in tunnels  
- Impact of New Energy Carriers on design fire  
- Evaluating the fire relative to battery transportation methodology  
- Evaluation of consequences in case of fire in tunnel: CFD Approach  
Q & A sessions  

14:20 – 14:55  
Markus Vogt, Head Consulting  
International Fire Academy, Switzerland  
- The differences between building fires and fires in UTS (Underground Transportation Systems)  
- The necessity of tactical training and technical knowledge for operations in UTS  
- The HOW and WHY of the training, but also demonstrates strikingly that NO special equipment is needed  
- And over all COMMUNICATION simple, understandable and clear  
Q & A sessions  

14:55 – 15:15  
NETWORKING TEA - BREAK  

15:15 – 16:00  
Speaker Hosted Panel Discussion  
Interactive Panel session offers a unique opportunity to come together with your peers to share best practice and develop solutions to critical challenges facing the industry as a whole. And to build your personal network and learn from the experience and expertise of others.  
- Active vs. passive fire protection  
- Effective use of Ventilation  
- Self-rescue and Evacuation  

16:00 – 16:05  
Please take 5 minutes to fill out the feedback forms Provided as part of the conference pack.  

16:05 – 16:15  
Closing Remarks by Conference Chairman  
Nicole Hoffmann, Vice-Chair  
Rail Industry Fire Association (RIFA), UK
## PARTICIPANT DETAILS

1) Name (Mr/Mrs/Ms): ____________________________
   Position: ____________________________ Department: ____________________________
   Direct Telephone: ____________________________ Mobile: ____________________________
   Email: ____________________________

2) Name (Mr/Mrs/Ms): ____________________________
   Position: ____________________________ Department: ____________________________
   Direct Telephone: ____________________________ Mobile: ____________________________
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Bilina Patt
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