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1. Message from the Chairman



Dear friends of ITA COSUF,

I hope that this message finds you in time just before your summer holidays. Three weeks have gone since the COSUF “New Security Challenges in Design and Operation” was held with a real success at the WTC 2017 in Bergen. In combination with the workshop we also held our Activity Group Meetings. If you have not had the chance to participate you can find a report in section 2 of this Newsletter. The presentations of the workshop are available on the website www.ita-cosuf.org.

Two Steering Board Meetings were held in the last half year during which the prospect of a joint conference between ITA COSUF and PIARC on tunnel operation and safety has been discussed. This joint event of PIARC and ITA COSUF will strengthen the already existing partnerships and possibly draw in new experts. You will read

more about this in section 5 of this the Newsletter.

The next ITA COSUF Workshop will be in Paris as part of Congrès International Paris, “L’Espace Souterrain Notre Richesse”, 13–15 November 2017, Paris. It is a co-organisation between AFTES (French Tunnelling and Underground Space Association) and ITA COSUF. The French partners are very busy to prepare a very interesting programme. During this event there will also be Activity Group Meetings and the General Assembly 2017. I look forward to meeting all of you there so that we can together contribute to the future of ITA COSUF for still better underground safety!

Yours

Roland Leucker

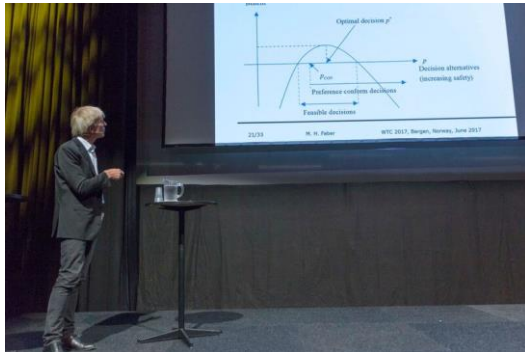
2. Report ITA COSUF Workshop in Bergen as part of WTC 2017, 13 June 2017.

On the 13th of June 2017 the ITA COSUF Workshop on New Security Challenges for Design and Operation took place. This workshop was organised as part of the World Tunnelling Congress 2017. The audience consisted of about 25 ITA COSUF members and many other delegates from the WTC 2017.



In his opening word, ITA COSUF Chairman Roland Leucker underlined that the security aspects in the design and operation of underground facilities have become increasingly important in recent years. The need for underground space use in society makes them potential for new security threats and there is a need of new knowledge by designers and operators on how these threats should be assessed and mitigated.

Various internationally leading experts enlightened the audience with insight on how different threats for the underground facilities can be identified and on the impact of human factors in case of disaster and terror.



For instance, Michael Faber from the Aalborg University went into the management of risks of terror and accidents in tunnel. He explained that there is a growing public concern for the occurrences of terrorist attacks. Tunnels are part of society's critical infrastructure. Nowadays, there is a tendency that successful terrorist attacks may be categorized as "low tech" (e.g. improvised explosive devices), or "lone wolf/small cell" (planned and conducted), or uncoordinated and random targets and times of attacks. In this presentation it became clear that world-wide expenditures for managing terrorist attack risks are sky high and generally out of proportion with their effect.

Therefore, risk-based decision making is needed which consistently and transparently balances risk reductions with committed expenditures. A systems approach for risk modelling was presented.

Another example was Christian Thienert from STUVA who went into a research project on protection of traffic, tunnel and public transport control centres against cyber-attacks. The exemplary scenarios for attack can be an aimed blocking of tunnel, demolition of technical equipment or trying to let safety systems malfunction. We learned that counter measures can be of a technical (periodical updates, deactivation of critical interfaces, secured remote access), organisational (hard & software management, system of rules for external supplier, evaluation of status messages) or personnel nature (awareness training for employees, regular advanced training, redundant system of administrators).

Terje Andreassen from the Norwegian Coastal Administration impressed the audience with the security issues of a mega project the Stad Ship Tunnel in Norway that has been decided upon earlier this year. The ship tunnel will reduce the risk of accidents at sea, reduce waiting time, lead to more efficient transport of people and freight which has a positive effect on the environment and economy. Terje Andreassen also addressed how to prevent actions of terror connected to the Stad Ship tunnel.



Michael Faber



Götz Vollmann



Christian Thienert



Terje Andreassen



Johan Bosch



Johan Bosch of Rijkswaterstaat presented the result of a Heinenoord tunnel fire accident analysis with a focus on human behaviour. It appeared that separate driving directions (tubes) are not only important for road safety but also for tunnel safety because it makes longitudinal ventilation an effective tool to facilitate evacuation, to prevent escalation and facilitate the emergency services. Longitudinal ventilation was very effective to save guard people upstream of the accident and to limit the damages to the tunnel, hence maintaining the availability. With regard to escape we learned that people like to take the shortest way to the outside. A direct route to the light is preferred. An important lesson was that instructions are effective to positively influence the behaviour.

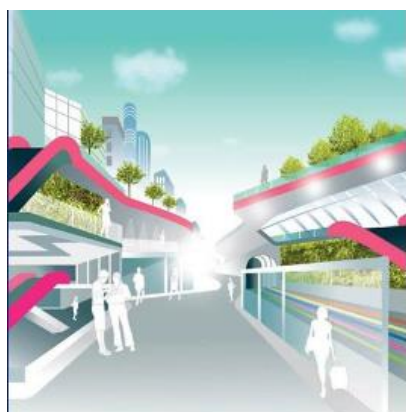
Last but not least Benjamin Truchot of Ineris presented information on the impact of hazardous goods in tunnels. The passage of hazardous goods through road tunnels was assessed to improve security management planning and Götz Vollmann of Ruhr University of Bochum went into explosions and fires in tunnels to identify structural threats and possible mitigation measures.

Before the workshop, the Activity Group Meetings took place and the traffic control centre of the Norwegian Public Road Administration was visited. At the end, we could conclude that there was a successful day with good lectures and networking.

The presentations can be downloaded on www.ita-cosuf.org.



3. Congrès International Paris, “L’Espace Souterrain Notre Richesse”, 13 – 15 November 2017, Paris



THE VALUE IS
UNDERGROUND



PARIS
PALAIS DES CONGRÈS
from 13 to 15 nov. 2017



AFTES (French Tunnelling and Underground Space Association) and ITA COSUF will organise a technical session dedicated to tunnel operation issues on Tuesday 14 November 2017. This technical session will be followed by a Round Table on “Designing, operating and upgrading complex underground hubs”, fully organized by ITA COSUF as part of the AFTES Conference. The Round Table aims at encourag



ing discussions by experts about complex underground hubs with questions raised at the full lifecycle starting from design up to operational phase including upgrading concerns. The goal is to share experiences between infra providers, operators, emergency rescue services, contractors and consultants. Good practise, bottle necks, needs for improvement and new solutions (of a technical, organizational or research nature) for these complex underground hubs. In the audience we hope to attract not only the anticipated civil engineers but also the tunnel operation community that are really in touch with operational and safety issues. Three main issues that will be addressed during the discussion are 1) How to build safe complex underground hubs? 2) How to achieve a safe operation of complex underground infrastructures? and 3) How to keep a complex system operational and available during inspection, maintenance, refurbishment works or extension of the traffic networks?

4. ITA COSUF/PIARC joint event (3–5 October 2018), Palais des Congrès, Lyon, France

The World Road Association (PIARC)'s Technical Committee D.5 "Road Tunnel Operations", the French PIARC Committee, the French Centre for Tunnel Studies (CETU) and ITA COSUF are pleased to announce the First International Conference on Road Tunnel Operations and Safety. It will be of great relevance for owners, operators, designers, representatives of fire departments, suppliers, installers.

Please save the date: This conference will be held in France, at the Lyon Convention Centre, from 3 to 5 October 2018. More information will be provided shortly on the topics to be discussed, the detailed program and the registration procedures.

5. Norwegian Tunnel Safety Conference, 7–8 September 2017, Stavanger, Norway

ITA COSUF would like to draw your attention to the the Norwegian Tunnel Safety Conference (NTSC). NTSC brings together tunnel operators and owners, policy makers, fire and rescue services with researchers and the tunneling industry to spark innovative solutions to improve tunnel safety. IT is a two-day event with the theme Personal safety in tunnels on day 1 and ITS support on day 2. There will be various site visits and there is an exhibition. More information can be found on www.ntsc2017.no.

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6. Future ITA COSUF events

ITA COSUF workshops and Activity Group meetings

13–15 November 2017 **ITA-COSUF workshop on Operational Safety of Multiple Layer Systems and Round Table Discussion on “Designing, operating and upgrading complex underground hubs”**

Event organised during Congrès International Paris, “L’Espace Souterrain Notre Richesse”, AFTES, Paris, France.

3–5 October 2018 **International Conference on Road Tunnel Operations and Safety**

PIARC/ITA COSUF joint event, Congress centre Lyon, France

Other events organised or endorsed by ITA COSUF

7–8 September 2017 **Norwegian Tunnel Safety Conference, Stavanger, Norway.**

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