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1. Message from the Chairman

Dear members of ITA COSUF,

This is the last newsletter of the year. Consequently it brings a short look back to the last months but we will also have an outlook to the coming year and what it will bring to ITA COSUF.

In October we met in Stockholm for our ITA COSUF workshop. Unfortunately not very many of the members attended the meetings and the tour to various interesting tunnel sites in Stockholm. The event was perfectly organized by Bernt Freiholtz and I would like to thank him once again for his effort and the kind invitation. The presentations given on safety aspects of the ongoing or planned tunnel projects could stir-up an interesting exchange of ideas and opinions between the ITA COSUF members and the Swedish presenters. We all regretted the time restrictions we faced and decided that next time we should allocate more time for discussions as this is exactly one of ITA COSUF goals: to facilitate the exchange of know-how among different countries, organisations and persons!

You will find more and detailed information about the event in Stockholm further down in this newsletter.

Also the next ITA COSUF event will take place in Scandinavia. The annual public workshop and the General Assembly will be held in Helsinki, Finland, on the occasion of the ITA World Tunnel Congress. The date has not been fully confirmed by the organizers but most likely it will be Tuesday, 24 May 2011. The topic of the workshop is however already fixed: 'Designing Safety for Underground Facilities – How far to go?' The issue of 'How much safety is reasonable' is certainly one of the most discussed issues and we hope that our Workshop will be able to bring some interesting views and opinions to it. In any case I ask you to block the date of the workshop already in your agenda! As soon as we have further information we will let you know.

So close to the end of this year, all Steering Board members and I would like to take the opportunity to thank you for the support and the cooperation of ITA COSUF in the past twelve months and we wish you good health and a happy and prosperous New Year.

Felix Amberg



2. ITA COSUF Workshop “Stockholm City Tunnels – means for efficient and safe transportation”, Stockholm, 19 and 20 October 2010.

On the 19th of October a half-day ITA-COSUF Internal Workshop in Stockholm took place. This workshop was sponsored by the Swedish Transport Administration. About thirty participants took part. The workshop started with a bus trip passing two major road tunnels and a visit to the site for the Northern Link tunnel. From the bus, the artistic material was clearly visible (see picture below). This is used for the recognition of the exact tunnel location by the tunnel users.



In the afternoon a meeting was organised at the Citybanan office of the Swedish Transport Administration. Tunnel projects were presented with a focus on safety aspects. First of all, Mr. Lars Lilja presented a brief overview of the use of infrastructure through tunnelling over time in Stockholm. The bottom line is that Stockholm is a growing and divided region with a lack of transport capacity and a sensitive traffic system. More and longer tunnels based on advanced safety concept and attention for interior design will solve this situation the coming years.

Then, the road tunnel project Northern Link was presented by Mr. Tor Tomassen. Mr Tomassen addressed amongst others the traffic safety, the construction, surveillance, evacuation principals, preventive and supporting safety devices and redundancy of provisions in the Northern Link tunnels. It became clear that many resources are used to optimise the level of road tunnel safety in modern Swedish road tunnels.

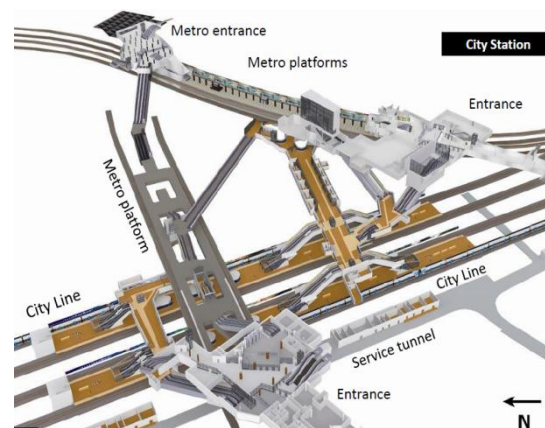


Mrs Anna Lundman informed the participants on the Western Bypass of Stockholm, which forms an outer ring with a length of 21 km around Stockholm connecting north and south. Part of this ring is a number of waterway crossing tunnels with a total tunnel length of 17 km. The construction will start in 2012 and will last for about 8 years. The total costs are estimated to be SEK 27.6 billion (€ 3 billion). The safety concept in these sequence of tunnels will be traffic in one direction in two separate tubes, emergency exits every 100-150 m, CCTV cameras monitoring every part of the tunnels and a 24/7 manned traffic management centre. There will be interior design for orientation and fixed fire fighting suppression systems (sprinklers).



Finally, the project is urgent. Since 1871 only two railway tracks are available for trains leaving the south part of the Main Railway Station. The daily number of leaving trains has increased from 10 in 1871 to 550 today!

The project Citybanan consists of 6 km of railway tunnel (10 to 45 m below the surface) comprising two tracks and two new stations. During the construction works 35 000 households and businesses are affected. There are six access tunnels, eight contracts and nine years of construction time. The total costs are estimated to be SEK 16.8 billion (€ 1.8 billion).





Mr. Bo Wahlström introduced us to the specific safety challenges and solutions for the Citybanan project, such as the connections to the existing metro stations during the construction phase and the operational interaction with metro stations. The picture on the left shows this complex connection to the existing railway tunnel and station and also the service tunnels for evacuation and rescue operations. After a brief but lively discussion the participants drove to the Scandic Hotel Ariadne, where they enjoyed a dinner offered by ITA COSUF in a very pleasant atmosphere.

3. Report of ITA COSUF Activity Groups

On the 20th of October all Activity Groups organised meetings in Stockholm. The progress and actual news facts from the AG's are briefly summarised in the following.

AG1 Interaction with European and international initiatives

During the meeting the need for COSUF to take a (un)asked coherent position on certain safety topics was discussed. Felix Amberg was asked to describe a coherent position on a certain topics by ITA. It was decided that if ITA COSUF would formalise this, then first of all positions (views) must be approved by SB, then by the ITA board. The idea of making an ITA COSUF list of topics of which we could take a position was launched. Also the effectiveness of the use of social media to send newsfeeds about the existence of the ITA COSUF was discussed.

AG2 Regulations, guidelines and best practice

In AG2 the following topics are being studied in work streams:

- Guidelines and recommendations for minimum requirements of the man-machine-interface of supervisory control and data acquisition systems (MMI of SCADA),
- Best practice recommendations for design objectives for smoke control in underground rail stations,
- Best practice recommendations for implementation of EU-directive on mobility impaired persons in emergencies,
- Recommendations of fire protection of platform screen doors.

The initiation of additional topics was discussed and initiatives to strengthen and improve the AG2 were examined. It appears to be necessary to focus on selected, existing topics only. It is intended to contact experts in the domains of the above work streams for review of results.

AG3 Research and new findings

The list of ongoing research activities has been updated. With regard to emerging technologies a short overview over some results coming out of the SKRIBT-project in Germany were presented. SKRIBT (Security of bridges and tunnels in the course of roads) is a project which is funded by



the federal ministry of education and research of Germany and which is has reached its final phase. SKRIBT provides an all-hazard approach and will come up with new findings both regarding the structural and user aspects of tunnels, especially in the course of roads. This comprises a method for structural design for tunnels with explosive impact as well as information on new detection technologies developed by SIEMENS and some results regarding the human behaviour. As a future task, AG3 wants to build core groups for upcoming proposals within FP 7 and the following funding opportunities of the EU. First steps into this direction will be taken within the end of this year and the start of 2011. Please stay tuned.

AG 4 Road Tunnel Safety Officers

AG4 was launched earlier this year and offers a platform for road tunnel safety officers to discuss best practice and experience on how to implement guidelines, regulations and directives. Although focusing on EU regulations, AG 4 is open for worldwide participation. ITA COSUF is member of the European Road Safety Charter. AG4 is active on the collection, exchange, evaluation and dissemination of best practice of road tunnel safety and on the organization of the European Forum for Road Tunnel Safety Officers.

For all enquiries to COSUF membership please contact Ben van den Horn

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Demands for operational safety should be focused from preliminary stages of the tunnel design

Satra, as a designing and consulting company involved in several urban road tunnels projects, is among other participants responsible for the optimal safety design and operation of the tunnels. The membership of the ITA COSUF Activity Group 3 dealing with Research and New Findings helps us to stay in touch with the state-of-the-art of the safety issues.

During the urban tunnel design not only constructional and technological aspects of the tunnel must be taken into account. There are also other aspects of the tunnel design as environmental and city traffic impacts (including other means of transport), utility networks etc. During the construction phase the function of the traffic network and utility networks must be also kept. Satra pays attention to all of these aspects with the aim at optimal (safe and cost-effective) operation of the final solution.

Since the foundation of the company our aim is good quality, perfect technical background, theoretically educated, experienced and skilled professionals who share interest in their professional field and who get adequate working conditions. The work on the contract does not terminate by handing over the documentation, but getting building permits and putting construction into operation.

Activities and the range of services offered by the company:

- design services
- consulting services
- engineering activity
- graphic works and drafting
- engineering construction works in fields of tunnelling, galleries, shafts
- public, production and industrial constructions and buildings
- special foundations
- utility networks
- monolithic underground structures
- technical-economical studies
- safety and risk analysis studies
- safety documentation
- documentation for zoning decision, building permit and tender
- working drawings
- operational-technical information systems of the constructions
- operation regulations
- elaboration of static calculations by the method of final elements
- proposal and dimensioning of operational and fire ventilation of tunnels
- measurement of relative damages in reinforced concrete structures using vibrating wire strain gauge
- projects support – processing of informational materials, constructions visualization, information center equipment, photo documentations



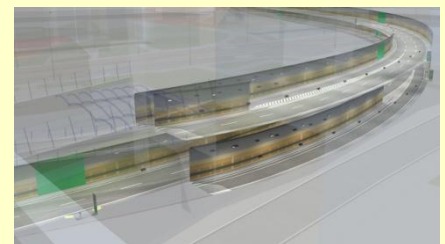
Blanka tunnel complex, Prague City Circle



Mrázovka tunnels, Prague City Circle



Fire ventilation design and tests



Feasibility studies

Contact

If you want like to learn more about the services and products related to the company, please contact:

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