

Working Group 14 – Newsletter

March 2017

Summary

The following is a summary of activities, reports and publications from Working Group 14 – Mechanized Tunnelling for the International Tunnelling Association based in Lausanne, Switzerland. Additional information is provided from the WG-14 meeting in San Francisco in April 2016 and planned activities for WTC 2017 in Bergen, Norway in June.

Working Group Mission Statement

WG-14 is to promote mechanised tunnelling and to inform about the current state of development in this flexible technology. It shall support public and private clients, planners and contractors with general and technical information during the preparation for tunnelling projects.



Further, it is the intent of WG-14 to give information about technical regulations and standards which might affect TBM projects. Being an international organization, it is the intent to develop a document collection covering the world tunnel market. It is anticipated to grow this compilation and to update it as the Working Group becomes aware of changes in regulation.

Working Group Contact Personnel

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| • Animateur | Brian Fulcher | Brian.Fulcher21@hotmail.com |
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| • Tutor | Soren Eskesen | sde@cowi.dk |

WTC 2016 Working Group Meeting in San Francisco

The group is working on several concurrent activities in addition to other ongoing developmental projects as listed below:

- Risk management and insurances of TBM tunnelling; possible collaboration with WG-2 for ITA Risk Management program documents
- Training courses for students and young professionals
- Demonstration of benefits of mechanized tunnelling

Recent Publications

- Published and printed in 2016:
Recommendations on the Development Process for Mined Tunnels, co-authored by WG-14 – Mechanized Tunnels **and** WG-19 – Conventional Tunnelling
- Available from the ITA website:
<https://www.ita-aites.org/en/publications/wg-publications/1468-recommendations-on-the-development-process-for-mined-tunnels>



This publication is a 32-page summary of the decision-making process for determining the most appropriate tunnelling method between mechanized (e.g. TBM) and conventional tunnelling (i.e. drilling and blasting) and other tunnelling methods. It was several years in development and refinement and relies on the collective resources and experience from two well-established ITA Working Groups and approximately 20 contributors from around the globe.

Soft bound copies are available from the WG-14 Animateur on request. Please feel free to contact Brian at Brian.Fulcher21@Hotmail.com

WTC 2017 Working Group 14 Activities – early planning stages

- **Past publication follow-up from 2016 – ideas to be considered by the WG:**
 - Case studies to expand on the 2016 published document (described above)
 - Additional research and refinements as appropriate to stay current
- **New discussion on further studies and publications for the Working Group such as the following as discussed at WTC 2016 in San Francisco**
 - TBM contract specification reviews and commentaries
 - Wear part (and surfaces) management issues, technologies and modeling
 - Summary of new and changing TBM technologies
 - Tunnel spoil removal and disposal options and treatment as well as legal, environmental and contractual issues to address and compare
- **Adding well-focused reference documents to the ITA-WG-14 webpage and improving access to all ITA documents. WG-14 documents could include some of the following for example:**
 - Contract specifications
 - Technical reports, research papers, ground improvement methods
 - Geotechnical reports and recommendations for support and groundwater
- **Ongoing collection of *Challenging Project Summaries and List* to the WG-14 webpage:**
 - More projects requested from the member nation participants in the Working Group
 - New projects to be presented in the Working Group meeting in Bergen in June
 - For reference, Challenging Projects List includes the following:
 - With the regular updated “Challenging Projects List” the reader receives a global overview of the current high profile projects.
 - According to the stipulated “Criteria for Challenging Projects” a selection of projects demonstrates the capability of tunnel boring machines in various aspects, such as special characters of the encountered geology, or certain features of the tunnel alignment and as well new technologies with certain impact on the TBM tunnelling industry.

- This list will be updated regularly and the WG 14 hopes to expand this document into an informative compilation of interesting projects.
- A “Challenging Project” submittal form allows the submittal of additional projects to the WG for enclosure. It is based



on a PDF-form which assures an easy handling of the data to submit to wg14data@ita-aites.org

<https://www.ita-aites.org/en/wg-committees/working-groups/211-ita-active-working-groups/working-group-14-mechanization-of-excavation>

WTC 2017 Working Group 14 Schedule

- **Saturday, 10 Jun 17** Animateur and Vice Animateur meeting with the ITA ExCo
 - Place, time and meeting agenda still to be confirmed
- **Sunday, 11 Jun 17** – General Working Group 14 Meeting
 - Place, time and meeting agenda, presentations and format still to be confirmed
 - Follow-up Newsletter expected in **May 2017**. Feedback is welcome.....!

WTC 2017 Working Group 14 Meeting Agenda – draft only for comments

Sunday, 11 Jun 17 – General Working Group 14 Meeting (place and time to be confirmed)

- Introduction of attendees and confirmation of delegates from member nations and special guests
- Publication exchange by attendees – **please brings samples:**
 - Hard copy and pdf files of local area publications
 - New tunnelling books and publications.....
 - Gotthard Tunnel, London's Crossrail
 - US Tunnelling History and others
- Presentations from WG-14 members (10 minutes each):
 - Norway tunnelling projects
 - Seattle, Washington SR-99 (17.5 m EPB)
- Proposed new Working Group projects (need group endorsement and key champions for each)
 - Case studies in support of the joint WG-14+19 publication from 2016
 - Specification reviews; e.g. muck disposal, EPB and slurry, ground improvement techniques
 - Site logistics including plant and equipment essential for safe, efficient tunnelling operations
 - Research and studies; i.e. tunnelling risks, benefits from mechanized tunnelling
 - Summary of new technologies; i.e. robotics, wear testing and mitigation, tunnel training
- Challenging projects list:
 - New projects (globally) and assignments for the WG 14 web page

World Tunnel Congress 2017 – Bergen, Norway



Friday, 09 Jun to Friday, 16 Jun 17

Location **Bergen,**
Norway
Event website www.wtc2017.no



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Recent Tunnel Industry Publications (not from WG-14 or ITA) – for leisure reading.....

