

The International Tunnelling Association held its twenty-ninth meeting in Amsterdam from 12 to 17 April, in conjunction with the World Tunnel Congress 2003 organised by ITA and the Dutch Tunnelling Society (VOR). The meetings were attended by representatives, delegates, observers and working group members from 41 of the 52 Member Nations of the Association.

MEMBER NATIONS REPRESENTED

South Africa, Germany, Saudi Arabia, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Colombia, Korea, Croatia, Denmark, Egypt, Spain, United States of America, Finland, France, Greece, Hungary, India, Italy, Japan, Morocco, Norway, New Zealand, Netherlands, Poland, Portugal, Romania, United Kingdom, Russia, Singapore, Slovakia, Slovenia, Sweden, Switzerland, Czech Republic, Thailand, Turkey.

MEMBER NATIONS NOT REPRESENTED

Algeria, Argentina, Chile, Iran, Iceland, Israel, Lesotho, Malaysia, Mexico, Ukraine, Venezuela.

NEW EXECUTIVE COUNCIL

Members

A. Assis	Brazil	President	Until 2004
A.M. Muir Wood	United Kingdom	Honorary President	
A. Haack	Germany	Past President	Until 2004
A. Parker	USA	Vice President	Until 2004
H. Oud	Netherlands	Vice President	Until 2004
J.-P. Godard	France	Past Vice President	Until 2004
J. Hess	Czech Republic	Past Vice President	Until 2004
A. Nordmark	Sweden		Until 2004
K. Ono	Japan		Until 2004
H. Wagner	Austria		Until 2005
J. Zhao	Singapore		Until 2004
Y. Erdem	Turkey		Until 2005
M. Knights	United Kingdom		Until 2006
F. Vuilleumier	Switzerland	Treasurer	Until 2004
C. Berenguier		Secretary General	Until 2005

Experts

S. Calinescu	Romania	Internal Auditor	Until 2004
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MEMBERSHIP

The Association has registered the membership of 45 new Affiliate Members (25 Corporate Members and 20 Individual Members); the total results to 52 Member Nations and 276 Affiliate Members (113 Corporate Members and 163 Individual Members) taking into account radiations and resignations.

COMMUNICATION

Tribune:

last year four issues of Tribune (136 pages) were published and about 3 000 copies per issue were edited. They included focuses on Australia, Belgium, Russia & CIS countries and Sweden. For this year it is planned to have four issues with focuses on Netherlands, Spain, Austria and Korea.

From 2004, it has been decided to have only one issue per year published at the occasion of the General Assembly. A new mean of communication will be used in order to be more reactive. It will be an electronic bulletin "ITA e news" sent by e-mail every two months.

Tunnelling and Underground Space Technology:

In year 2002, four issues of TUST were published, consisting forty articles written by authors from eighteen countries. A special section as been edited on ITA 2002 Open Session "Fire and Life Safety". The year 2002 was also marked by a merging of Tunnelling and Underground Space Technology issues with Trenchless Technology Research supplement issue.

In year 2003, five issues will be published combining tunnelling and underground space technology and trenchless technology. TUST in 2003 will aim for 45 articles including 1-3 ITA Working Group Reports. Three issues have already been published in April, including a special issue on "Tunnelling in Japan".

Web Site:

The web site contains more than 1 000 pages. New pages have been added such as old issues of Tribune, publication of the WG4, articles from Sydney open ceremony. The visits on the web continuously increased to reach 16 000 pages per month and more than 500 pages per day by more than 5 000 different visitors coming from more than 90 countries.

In 2003 a powerful Content Management System will be installed and adapted to the wishes and needs of the various actors. The future website of the ITA will be constructed with all the necessary publication tools, a hierarchical ordered structure and a more intuitive navigation system. It will be progressively implemented to replace the present Web site.

ITA OPEN SESSION

The ITA Open Session was held on Tuesday 15 April. The theme of the session was "Immersed tunnels, the next generation".

Working group 11 on immersed and floating tunnels had offered to prepare the open session. After a short video show, members of the working group, from 7 different countries, held 8 presentations on the history, development and possible future evolution of immersed tunnel techniques. The session ended with a discussion.

This session drew a large audience of over 300 people, and the organizers and the ITA can look back to it as a successful event.

NEXT ANNUAL MEETINGS

- **Singapore from 22 to 27 May 2004**, during the ITA-AITES 2004 "Underground Space for Sustainable Urban Development".
- **Turkey in 2005** on invitation of the Turkish National Group.
- **South Korea from 29 April to 4 May 2006**, during the ITA-AITES WTC 2006 "Safety in the Underground space".

WORKING GROUPS

WG 2: "Research"

Animateur: Y. Leblais (France); Vice Animateur: Y. Takano (Japan); Tutor: H. Wagner (Austria)

The final version of the "Guideline for tunnelling risk management" has been completed taking into account the comments from the Executive Council. The last improvements to the document on "Settlements induced by Tunnelling" will be done in order to deliver before next summer the final version to the Executive Council.

For the year to come, the Working Group concentrates on a text dealing with the site investigation strategy for tunnelling projects, from the project inception to the start of construction.

WG 3: "Contractual practices in underground construction"

Animateur: W. Maartens (South Africa); Vice Animateur: A Dix (Australia); Tutor: Y. Erdem (Turkey)

Presentations and discussions were held identifying the latest challenges facing the

tunneling industry (legal, social, environmental, financial, etc.). The WG also discussed how to deal with these issues in different countries.

The WG identified the need for qualified neutrals to be considered for appointment to a dispute board for tunnel projects. A procedure on how to list such specialists will be developed by the WG.

The 25 propositions on risk apportionment principles approved during the early 1990's by the ITA will be revisited to determine their applicability to the modern commercial environment with the aim to update them.

WG 5: "Health & Safety in Works"

Animateur: D. Lamont (United Kingdom); Vice Animateur: W. Chromy (Germany); Tutor: A. Nordmark (Sweden)

The group met once during the ITA General Assembly in Sydney. Seven Member Nations participated in the meeting along with a representative from the ITA Executive Council.

The group achieved most of the targets which it had set itself for the year. It plans to present the Executive Council with a final text of the "Safety in Tunnelling" booklet by October 2002, to complete discussion on the revision of the Tunnelling safety guidelines in Amsterdam in 2003 and to continue to work on the data base of basic information on health and safety legislation.

WG 6: "Maintenance and Repair of Tunnels"

Animateur: H. Russell (USA); New Vice Animateur: M. Muncke (Germany); Tutor: A. Haack (Germany)

Working Group meeting was attended by delegates from 15 member nations and a representative of the International Federation of Roads (PIARC). Mr. Bendelius the Animateur of PIARC Working Group 6 (Fire Life Safety) met with the Group and assisted the Group in the review of their current work Guidelines for Structural Fire Resistance for Road Tunnels.

WG 11: "Immersed and Floating Tunnels"

Animateur: J. Saveur (Netherlands); Vice Animateur: C. Marshall (United Kingdom); Tutor: H. Oud (Netherlands)

was successfully held on April 15. Special activities were the effective participation of some members in the First US workshop on Immersed Floating Tunnels in Seattle

and the support to Discovery Channel for its TV broadcast on Immersed and Floating Tunnels.

The Working Group has decided to continue its delayed project to bring the merits of immersed tunnels to the attention of the world. The contents will be more or less as the previous State of the Art Reports, but updated, extended, edited to suit internet use, which will also require appropriate graphics.

In addition the Working Group will undertake to issue a report on the subject of Differential Settlements as a priority out of many subjects on the list.

WG 12: "Shotcrete Use"

Animateur: K.F. Garshol (USA); New Vice Animateur: N. Tomisawa (Japan); Tutor: J. Hess (Czech Republic)

Task 1 (State of the Art Report) has received contributions from 21 countries. Final report will be ready for Executive Counsel approval within end of September. The same deadline applies for Task 2 (list of fire-protective sprayable mortars). Task 3 (Shotcrete support mechanism) will be ready in time for integration in the Task 1 Summary Report. Decided new Tasks were: (1) Compilation of information about existing systems for training and official certification of shotcrete nozzlemen. (2) Report on reinforced shotcrete ribs (arches). (3) Overview report on synthetic structural fibres for shotcrete. The reference list on projects with permanent shotcrete lining will be continued (now 610 km tunnels). Additional references are requested.

WG 14: "Mechanised Tunnelling"

Animateur: M. Kanai (Japan); Vice Animateur: F. Amberg (Switzerland); Tutor: K. Ono (Japan)

As a part of making the database on the mechanized tunneling, the "Classifications and Definition of TBMs with recommended keywords", was finalized and will be open to public on the ITA web-site shortly with a protocol for data search and acquisition.

WG14 decided that some recommendations on acquisition and interpretation of tunneling data and on a reaction process should be prepared as a very first step to automated tunneling. Hard rock TBM, EPB shield and Slurry shield were chosen to make a model study. The issue and the final draft would be discussed at WTC2004 in Singapore.

Also decided was a data collection on sticking material on TBM to make a draft recommendation on geological investigation, TBM design, tunneling plan,

preventive measures and measures at site. This issue would be discussed again at WTC2004 as well.

WG 15: "Underground Works and the Environment"

Animateur: R. Craig (United Kingdom); Vice Animateur: J. Rhode (Norway); Tutor: H. Parker (USA)

A summary of the first report of the Working Group was published in the October 2002 issue of Tribune. The meetings heard six presentations on environmental considerations and problems in Member Nations' countries. The Chairman of the EU GeoTechNet Environmental Working Party gave a presentation on the work associated with the EU Water Framework Directive. The Working Group's next report of 'Environmental and Sustainable Development Reasons for Going Underground' will be published during the next year.

WG 16: "Quality"

Animateur: C. Oggeri (Italy); Vice Animateur: G. Ova (Norway); Tutor: J. Hess (Czech Republic)

The Working Group has presented the final edition of the general report, organized in three main parts: the text of the report, the appendix with tables and flow charts and the appendix with a report summary.

The WG considers that the document, after the collection of the reviewer's opinions, is ready for editing. The WG has also found some topics that should be developed in the future, mainly in the field of Monitoring the performances of the Design previsions (mainly geotechnics and technology).

Contributions and ideas from new members will be appreciated. In the near future some work will be done also for the web site presentation.

WG 17: "Long Tunnels at Great Depth"

Animateur: Descoeudres (Switzerland); Vice Animateur: P. Grasso (Italy); Tutor: F. Vuilleumier (Switzerland)

A draft of the working group's report was presented, discussed on two occasions and finally approved. The final report will be published this year.

It focuses on both road and railway long traffic tunnels, which are characterized by extreme conditions for risk assessment and risk management along the whole lifetime of the project (from feasibility to construction and operation). A general

methodology is consequently defined. The major guidelines are related to the planning and design of the tunnels, including ground conditions and ground investigations, safety and environmental requirements for the construction and operation, the latter being considered separately for railways and roads.

WG 18: "Training"

Animateur: D. Peila (Italy); Vice Animateur: N. Chittenden (Switzerland); Tutor: J. Zhao (Singapore)

Seven delegates from seven countries attended the meeting of the group.

The group started with the presentation of reports from France, Japan and Italy on didactic activities and material that were prepared last year; the obtained data will be made available on the ITA web site for didactic purpose.

The group has decided to prepare a list of Universities involved in tunnelling activities, which will be put on ITA web site. In short, the working group's activities in the next year will be focused on the following:

- to improve and create an University professor list
- to prepare basis training and/or didactic material which will be offered through ITA web site
- to prepare standards to be given to the various working groups to prepare didactic material coming from their activities.

WG 19: "Conventional Tunnelling"

Animateur: K. Kuhnhenh (Germany); Vice Animateur: H. Lauffer (Austria); Tutor: A. Assis (Brazil)

Twenty participants attended the meeting from twelve nations. There had been prepared four drafts of national reports, which have been presented and were discussed. For the ongoing elaboration of the further national reports a table was worked out to give a guideline for the most important topics. A report was given about contractual practice, which also will be an urgent part of our final report. During the next four months the national reports should be elaborated.

WG 20: "Urban Problems, Underground Solutions"

Animateur: J. Reilly (USA); Vice Animateurs: E. Grov (Norway) and J. Nishi (ACUUS); Tutor: J. P. Godard (France)

The first official meeting of ITA Working Group, No. 20, "Urban Problems –

Underground Solutions" was held in Amsterdam to consider a topic of great significance – how best to provide the infrastructure to support rapidly growing populations in Urban Areas. Underground space will play an increasingly important role in solving this question.

In the past year, a questionnaire was sent to all ITA Member Nations, asking them to identify the urban problems that have been solved, or could have been solved, by the use of underground space or facilities. The responses give good information on many projects in several countries.