



*Towards an
improved use
of underground
Space*

*In Consultative Status, Category II with the
United Nations Economic and Social Council
<http://www.ita-aites.org>*

Thirtieth Annual Meeting – Singapore 2004

Press Release

The International Tunnelling Association held its thirtieth meeting in Singapore from 22 to 27 May, in conjunction with the World Tunnel Congress 2004 "Underground Space for Sustainable Urban Development" organised by ITA and the Tunnelling and Underground Construction Society of Singapore (TUCSS). The meetings were attended by representatives, delegates, observers and working group members from 36 of the 53 Member Nations of the Association.

MEMBER NATIONS REPRESENTED

South Africa, Germany, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Korea, Denmark, Egypt, Spain, United States of America, Finland, France, Greece, Hungary, Indonesia, Italy, Japan, Lesotho, Norway, The Netherlands, Poland, Portugal, Romania, United Kingdom, Russia, Singapore, Slovakia, Slovenia, Sweden, Switzerland, Czech Republic, Turkey.

MEMBER NATIONS NOT REPRESENTED

Algeria, Saudi Arabia, Chile, Colombia, Croatia, India, Iran, Iceland, Israel, Malaysia, Morocco, Mexico, New Zealand, Thailand, Ukraine, Venezuela, Vietnam.

NEW EXECUTIVE COUNCIL

Members

H. Parker	USA	President	Until 2007
A. M. Muir Wood	United Kingdom	Honorary President	
A. Assis	Brazil	Past President	Until 2007
K. Ono	Japan	First Vice President	Until 2007
M. Knights	United Kingdom	Vice President	Until 2007
H. Wagner	Austria	Vice President	Until 2007
Y. Erdem	Turkey	Vice President	Until 2007
E. Grov	Norway		Until 2007
F. Gruebl	Germany		Until 2007
Y. Leblais	France		Until 2007
M. Belenkiy	Russia		Until 2007
F. Vuilleumier	Switzerland	Treasurer	Until 2007
C. Berenguier		Secretary General	Until 2005

Experts

S. Calinescu	Romania	Internal Auditor	Until 2005
J.P. Godard	France	Urban Problems - Underground Solutions	Until 2005
A. Haack	Germany	Safety in Fire	Until 2005

MEMBERSHIP

The Association has registered the membership of two new member nations, Indonesia and Vietnam, 15 new Affiliate Members (10 Corporate Members and 5 Individual Members); the total results to 53 Member Nations and 277 Affiliate Members (118 Corporate Members and 159 Individual Members) taking into account resignations.



COMMUNICATION

- **Tribune:** In 2003, three issues of Tribune (100 pages) were published and about 3 100 copies per issue were edited. They included focuses on Netherlands, Spain and Austria.
In 2004, the annual issue with focus on Singapore and the reports of the Member Nations has been published and distributed at the occasion of the General Assembly.
- **ita@news:** In 2003, four dummy issues of the [ita@news](#) have been prepared. The [ita@news](#) contents news from the association, the WGs, the Member Nations, the forthcoming events, the sister associations,... The final version has been established and the first issue has been sent to 1 500 persons beginning of May 2004. Four to five further issues will be sent by the end of 2004.
- **Tunnelling and Underground Space Technology (TUST):** Tunnelling and Underground Space Technology (TUST): In year 2003, five issues of TUST were published, consisting 67 articles written by authors from 19 countries. A special issue has been published on *Tunnelling in Japan*. In year 2004, six issues will be published combining tunnelling and underground space technology and trenchless technology. A double-issue 19/4-5 contains the abstracts of the WTC Congress in Singapore.
- **Website:** In 2003 the new Content Management System has been finalised and adapted to the wishes and needs of the various actors. This system allows the ITA members to prepare directly their own web pages. It has been put on line beginning of 2004. The web site contains more than 600 html pages and the equivalent of 500 downloadable pdf pages. New pages have been added such as old issues of Tribune, training material, ita@news. The visits on the web continuously increased to reach 3200 pages per day by 5000 different visitors per month coming from more than 110 countries.
- **CD Rom:** At the occasion of the 30th anniversary of ITA, a CD-Rom containing all papers published by ITA since 1974 has been issued. This CD-Rom contains more than 300 articles representing around 3 000 pages. A special search engine is installed on the CD-Rom authorizing search by Topic, Annual meeting, Seminar/Workshop, Year and Authors' name.

ITA OPEN SESSION

The ITA Open Session was held on Tuesday, 25 May 2004. The theme of the session was "Underground Space for Sustainable Urban Development".

Five papers were presented on the theme "Underground Space for Sustainable Urban Development". Harvey Parker (USA) spoke on the history of environmental and sustainable development, ITA's activities in sustainable development, and the effect of megacities on tunnel demand. Rodney Craig (UK) spoke on the work on ITA working group 15, Environment, and gave sustainable development case histories worldwide. In-Keun Lee (Korea) described the past and current state of the development of the Seoul subway including legal issues, construction issues, and important data on urban development resulting from subway construction. Jean-Paul Godard (France) spoke on Why Go Underground and presented ideas on how to improve the benefits of Underground Space. Finally, Sushma Goh (Singapore) addressed architectural considerations and design for humanising underground space.

The co-chairs of the Open Session, R. Krishnan (Singapore) and Andre Assis (Brazil) led a lively discussion from the floor on the general theme of sustainable development.

ITA SECURITY WORKSHOP

On Friday, May 21, 2004, the ITA Security Task Force held a workshop on underground security. The workshop consisted of a series of lectures and breakout sessions on the scope of ITA's work on tunnel security. The workshop considered the development guidelines and risk management tools to assist member nations to systematically, efficiently, and effectively deal with emerging risk associated with antisocial acts against underground infrastructure and its users. It was agreed that ITA should continue its work on this important topic.

The principles and tools have universal application and provide a framework for resource allocation and prioritization of security related initiatives which respecting the autonomy of member nations and then confidentiality requirements.

NEXT ANNUAL MEETINGS

- Istanbul, Turkey, from 7 to 12 May 2005, during the ITA-AITES WTC 2005 "Let's Meet Where Two Continents Meet"
- Seoul, South Korea, from 22 to 27 April 2006, during the ITA-AITES WTC 2006 "Safety in the Underground space"
- Prag, Czech Republic, from 5 to 10 May 2007, during the ITA-AITES WTC 2007 "Underground Space-The 4th dimension of Metropolises"



WORKING GROUPS

WG2: "Research"

New Animateur: E. Leca (France); Vice Animateur: Y. Takano (Japan); Tutor: H. Wagner (Austria)

The meeting of Working Group 2 was attended by 14 participants representing 11 member countries: Austria, China, Denmark, France, Japan, Korea, Netherlands, Spain, Sweden, United Kingdom, and United States. The document on "Risk Management of Tunnelling Projects", approved in 2003 has been published, and the recommendation on "Settlements induced by Tunnelling" is complete and being submitted to the Executive Committee for review. A first draft report on "Site Investigations" has been prepared and reviewed. For the coming year, the Group will work on the completion of this report and initiate a new action on the "Monitoring and Control of Underground Works". The group has produced several documents over the past years, and more areas of investigation can be foreseen for the development of future works.

WG3: "Contractual Practices in Underground Construction"

New Animateur: A. Dix (Australia); New Vice Animateur: M. Smith (Switzerland); Tutor: Y. Erdem (Turkey)

The contractual practices group has commenced its revision and update of the ITA's general principles for underground construction contracts. Innovative financing options, project delivery and construction and maintenance techniques all requiring reconsideration of ITA's guiding principles and the formulation of new globally applicable themes for contracting. The reinsurers recent entrance into risk management was identified as a significant market development in need of urgent consideration within ITA's contractual practices framework.

WG5: "Health & Safety in Works"

Animateur: D. Lamont (United Kingdom); Vice Animateur: W. Chromy (Germany); Tutor: M. Belenkiy (Russia)

Nine member nations participated in the meeting. The "Safety in Tunnelling" CD-Rom project has been completed. The revision of the "Guidelines for good occupational health and safety practice in tunnelling" continued and it is hoped to have this document completed prior to the 2005 meeting. The Group agreed to commence work on a new project relating to guidance on fire safety for TBMs and other tunnel machinery. They hoped to collaborate with a number of organisations currently interested in the subject.

WG6: "Maintenance and Repair of Tunnels"

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

The meeting group is attended by members from 14 nations. They were Belgium, Egypt, France, Germany, Italy, Japan, Korea, Netherlands, Republic of China, Romania, Singapore, Switzerland and United Kingdom, and the United States. The Working Group reviewed the final draft of Document Guidelines for Structural Resistance for Road Tunnels, a joint document with the International Road Federation. This document is to provide guidelines for better protection of road tunnels in the event of a severe fire. In addition to the review of the document Mr. Rene Van De Bosch of Netherlands provided a presentation on the Runhamer Fire Test which was performed in Norway this year. The Working Group elected to continue our work by forming two task forces one to develop a similar guideline for Fire resistance for Metro systems and the other to start to develop a Rehabilitation Manual for Tunnels.

WG11: "Immersed & Floating Tunnels"

Animateur: J. Saveur (Netherlands); New Vice Animateur: J. Baber (United Kingdom); Tutor: Y. Leblais (France)

Nine countries were represented at the meeting by a total of 14 participants of which Indonesia, Hungary and Singapore were represented for the first time. Chris Marshall has requested to step down as vice-animateur. The working group owes him a lot for his contributions.

The catalogue of immersed tunnels has been handed over to ITA's webmaster. The preparation of the report on settlements will go ahead as outlined in the meeting. The new activity will be to list the specific aspects of immersed tunnels to be included in the system of Instrumentation, Documentation and Verification, IDV for short, being a method to assure the viability of a facility from conceptual design throughout its operational life.

WG12: "Shotcrete Use"

Animateur: K.F. Garshol (USA); New Vice Animateur: A. Ishida (Japan); Tutor: E. Grov (Norway)

The meeting had 13 participants from 12 different countries. Task 1 (State of the Art Report) has received contributions from 21 countries and is now ready for publishing. Reports on fire protective sprayable mortars; certification systems for shotcrete operators; and structural fibres for shotcrete reinforcement, are all planned to be ready at the Istanbul meeting. Contact with WG19 will be established to check for possible common topics.

WG14: "Mechanization of Excavation"

New Animateur: K. Fukumoto (Japan); Vice Animateur: F. Amberg (Switzerland); Tutor: K. Ono (Japan)

"Classification and definition of TBMs with recommended keywords" has been completed with schematic drawings and will be on the ITA website soon. Also, as the "TBM Glossary" has been completed in English, French, German and Japanese, it will be on the ITA website. Besides, "TBM Glossary" will be extended to other languages, such as in Italian, in Spanish, in Korean and in Chinese, which will be good benefits to prospected authors of scientific papers of tunneling. The scope of work and schedule for "ITA Recommendation in Mechanized Tunneling", which is the next theme for WG-14, was discussed. It is determined that it will be just focused on excavating machine and fundamental equipments for functioning, which indicates that some comments on segments and other relevant items would also be



included. Since robotics was still far from the field practice, those would not be included. Since completion of "ITA Recommendation in Mechanized Tunneling" will be great benefits to member nations, it is expected to be completed in two years or so with our members' unlimited efforts. Three subgroups (EPB, Slurry, Hard rock TBM) were formed for this task.

WG15: "Underground Works and the Environment"

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

The Working Group met on one occasion and was attended by twelve members from eight Member Nations. The meetings heard six presentations on environmental considerations and problems in Member Nations' countries. The Working Group approved in principle the revised report of 'Environmental and Sustainable Development Reasons for Going Underground'. Following receipt of written comments in June from members of the Working Group, the report will be finalised and forwarded to the Executive during the summer. The meeting discussed the Working Group's other questionnaires and future work.

WG16: "Quality"

Animateur: C. Oggeri (Italy); Vice Animateur: --; Tutor: A. Assis (Brazil)

The working group met with the participation of three members from Korea and one member from Japan. After the very recent publication of the general report on TUST, the activity will go on with the preparation of material for the ITA website and for didactical presentation. The true turning point is now the focusing on detailed and practical items, also by means of contacts with other WG, namely conventional tunnelling, in order to prepare a short report on Selection of technical procedures for investigation, design and monitoring when difficult or changing conditions are encountered. A new vice animateur will be appointed after discussion among the members. New members are also claimed for increasing experience background of the Group.

WG17: "Long Tunnels at Great Depth"

New Animateur: P. Grasso (Italy); New Vice Animateur: M Shimokawachi (Japan); Tutor: F. Vuilleumier (Switzerland)

The meeting was attended by 22 members from 15 different countries. The group had appointed ex vice animateur, P. Grasso as Animateur following the resignation of Prof. F. Descoedres and elected at the same time Dr. Minoru Shimokawachi as vice animateur. The group was informed about the decision of the Executive Council that the final version of the WG report on "Long Traffic Tunnels at Great Depth" has been approved and will be published soon. The working group decided to extend our domain of interest to cover the long hydraulic and pipeline tunnels only for the design and construction optimisation aspects.

WG18: "Training"

Animateur: D. Peila (Italy); Vice Animateur: N. Chittenden (Switzerland); Tutor: F. Gruebl (Germany)

The meeting was attended by 10 participants coming from the following countries Belgium, China, Korea, France, Italy, Japan, Lesotho, Singapore and The Netherlands.

The discussion analysed the work done after Amsterdam's meeting. ITA standard presentation of the didactic material was finalised and was approved by ITA Executive Council and it is now available also the first teaching presentation coming from a working group's activity is available on ITA web site.

For the future activities it was decided to develop a new collection of data on University Professors and tunnelling courses which will be the base of the University Network and to complete the preparation of teaching power point presentations coming from the activity of the working group.

WG19: "Conventional Tunnelling"

New Animateur: H. Ehrbar (Switzerland); New Vice Animateur: R. Galler (Austria); Tutor: A. Assis (Brazil)

In the first session, 17 delegates representing 12 nations held a vivid discussion after the presentation of the Swiss, the Brazilian, Japanese and Austrian Reports on the state-of-the-art on Conventional Tunnelling in their respective countries.

In a second session 7 delegates representing Austria, France, Greece, Italy and Switzerland agreed on the guidelines and the working schedule for the finalisation of the international report on Conventional Tunnelling.

In the next meeting in October 2004, the first draft of the ITA WG 19 Report will be discussed around the EUROCK-Congress at Salzburg.

WG20: "Urban Problems, Underground Solutions"

New Animateur: S. Nelson (USA); New Vice Animateur: M. Thewes (Germany); Vice Animateur: and J. Nishi (ACUUS); Tutor: J. P. Godard (France)

The first task was to elect a new animateur and vice animateur, due to the resignation of J. Reilly. The group then discussed the goal of the working group which is to publish a document which describes successful underground projects around the world and the urban problems they have addressed. The intended audience for the publication is planners and decision makers at all levels. In response to a request from ITA President Andre' Assis, contributions has been received from The Netherlands, Japan, USA, France, Russia, Norway, Sweden and Germany. Contributions on interesting and significant underground projects are requested from other nations in the ITA family. The contributions can take the form of a brief abstract where the project and the urban problems it addressed are described.