The International Tunnelling Association held its twenty-eighth meeting in Sydney from 2 to 6 March, in conjunction with the World Tunnel Congress 2002 organised by the Australian Tunnelling Society (AUCTA). The meetings were attended by representatives, delegates, observers and working group members from 34 of the 52 Member Nations of the Association.

MEMBER NATIONS REPRESENTED

South Africa, Germany, Australia, Austria, Belgium, Brazil, Canada, Colombia, Korea, Denmark, Egypt, United States of America, Finland, France, Greece, Iran, Italy, Japan, Lesotho, Morocco, Norway, New Zealand, Netherlands, Poland, Czech, Republic, Romania, United Kingdom, Russia, Singapore, Slovakia, Sweden, Switzerland, Thailand, Turkey.

MEMBER NATIONS NOT REPRESENTED

Algeria, Saudi Arabia, Argentina, Bulgaria, Chile, China, Croatia, Spain, Hungary, India, Iceland, Israel, Malaysia, Mexico, Portugal, Slovenia, 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
K. Sorbraten	Norway	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
J.M. Kelvey	South Africa		Until 2004
K. Ono	Japan		Until 2004
H. Wagner	Austria		Until 2005
H. Oud	Netherlands		Until 2003
J. Zhao	Singapore		Until 2004
Y. Erdem	Turkey		Until 2005
C. Berenguier		Secretary General	Until 2005

Experts

G. Ash	Australia	Until 2003
F. Vuilleumier	Switzerland	Until 2004

MEMBERSHIP

The Association has registered the membership of two new Member Nations (Chile and Croatia) and of 11 new Affiliate Members (1 Corporate Member and 10 Individual Members); the total results to 52 Member Nations and 273 Affiliate Members (92 Corporate Members and 181 Individual Members) taking into account radiations and resignations.

COMMUNICATION

Tribune:

last year four issues of Tribune (152 pages) were published and about 3000 copies per issue were edited. In addition, a special issue entitled "Why go Underground?" will be widely distributed to Governments, international associations, etc. in order to present ITA, and also to serve as a good means to convince authorities or managers of the necessity to go underground in some cases.

Tunnelling and Underground Space Technology:

in 2001, four issues of TUST were published, consisting of thirty-three papers written by authors coming from twenty-one different countries. In addition, a special issue has been edited on "Tunnelling in Taiwan". Next year TUST aims to increase its issues from 4 to 5 per year, consisting of a total of 40 to 45 papers written by authors coming from 20 to 25 countries. The ITA Working Group No 2 "Research" will bring two reports into TUST. Moreover, a special issue focused on "Tunnelling in Japan" is planned to be published.

Web Site:

would gradually become the main means of communication between members of ITA; in 2002 links will be activated with TUST and Member Nations and a private forum for Corporate Members will be set up. The web site now contains about 1000 pages and is visited by 5000 different visitors per month coming from more than 95 countries.

ITA OPEN SESSION

ITA Open Session 2002 was devoted to a very topical subject: "Fire and Life Safety". Considering the recent severe and catastrophic fire accidents in road tunnels as in the Mont-Blanc-Tunnel, the Tauerntunnel and the St-Gotthard-Tunnel, this item calls for an intensified discussion on an international basis. The ITA Open Session gave an excellent stimulus in this direction following the ITA organised workshops in Lausanne, Switzerland, in March 2000 and amending the efforts of ITA Working Group 6, dealing with structural fire safety in Tunnels, in correspondence with the sister organizations.

NEXT ANNUAL MEETINGS

- **Amsterdam (Netherlands) from 14 to 17 April 2003**, during the ITA-AITES 2003 "(Re)claiming the Underground Space".
- **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.

WORKING GROUPS

WG 2: "Research"

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

Ten members from six countries attended the meeting of the Research WG. The Group has one study completed, two studies in progress and one new study, as follows:

- State of the Art Report on seismic design of tunnel (complete). The report was published.
- Settlement induced by urban tunnelling (in progress and to be finalised in 2003). The recommendation will be published in 2003.
- Risk analysis (to be finalised in 2002). The guidelines will be published in 2002.
- Site investigation (new study).

WG 3: "Contractual practices in underground construction"

Animateur: W. Maartens (South Africa); Vice Animateur: A Dix (Australia); Tutor: J. McKelvey (South Africa)

Thirteen representatives from eleven countries attended the WG Meeting. The WG approved the document "Evaluation of Tenders for Consulting Engineers and Contractors". A discussion on the role of DRB took place within the Working Group and the main conclusions were:

- An atmosphere conducive to amicable settlement must be created to try and resolve disputes fast, fair and in a cost effective manner. A DRB must base its decision on the provisions of the contract and on establishing legal principles. The allocation of risk must be carefully considered and documented.

Two draft documents were discussed by the WG and will be further developed by the Group, namely: the need for better management of underground projects and

the use of DRB as an alternative dispute resolution mechanism.

WG 4: "Subsurface Use"

Animateur: A. Nordmark (Sweden); Vice Animateur: E. Grov (Norway); Tutor: J.P. Godard (France)

This group met on Monday, 3 March to finalise its business in anticipation of the merge with WG 13. Ten members attended the meeting, i.e.: Russia, Czech Republic, Netherlands, Norway, Australia, USA, Morocco, Japan, Singapore and Sweden.

A second draft of the report "Access Ways to Underground Facilities" was presented by the Japan Tunnelling Association. Nine Member Nations have contributed to this work. A Final Report will be submitted to the Executive Council before the next General Assembly in Amsterdam.

The Animateur thanked all members - also those not present here in Sydney - for their long and devoted work during the 27 years of the group's activity.

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); Vice Animateur: R. Machon (Germany); Tutor: A. Haack (Germany)

Working Group 6 met over the last two days and was attended by delegates from ten Member Nations and a Representative of the International Federation of Roads (PIARC). Mr Bendelious, Animateur of PIARC WG 6 (Fire, Life, Safety) met with the Group and assisted it in the review of its current work "Resistance of Tunnel

Structures to Fire". This year, a new Animateur was elected.

WG 11: "Immersed and Floating Tunnels"

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

The ITA WG on Immersed and Floating Tunnels met in Sydney to discuss new developments around the world and to coordinate its plan to publish a new and extended State of the Art Report. The previous State of the Art Report was published in 1993 and the updated and extended report was published in 1997. This time the report will be prepared especially for Internet publication on ITA's website. A substantial part will be operational prior to the World Tunnel Congress of 2003 in Amsterdam.

WG 12: "Shotcrete Use"

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

The meeting had twenty-three participants from fifteen different countries. Task 1 (State of the Art Report) has received contributions from sixteen countries. The final report will be ready for the Amsterdam meeting along with Task 2 (Overview of Fire Protection Mortars) final report. Task 3 (Shotcrete Support Mechanism) next step is the description of the problem with open questions to be sent to WG members. If the response turns out to be unsatisfactory, the task may be closed without a report to the next meeting. Task 4 (Watertight Linings) is considered closed by the paper presented at the Sydney Conference. The paper content will be integrated in Task 1 Report. The reference list on projects with permanent shotcrete lining will be continued. New references are requested.

WG 13: "Direct and Indirect Advantages of Underground Structures"

Animateur: J. Reilly (USA); Vice Animateur: P. Kocsonya (Hungary); Tutor: J.P. Godard (France)

WG 13 has now finalized their report on the topic "Underground or Above-Ground - Making the Choice for Urban Mass Transit Systems" by incorporating comments on the draft report and additional data from two more Russian cities. The report presents findings and general conclusions on this topic, based on extensive data collected from thirty cities in nineteen countries and four continents.

The conclusions are general because the data shows great variations of

characteristics from country to country and region to region - meaning that the choice of above -ground or underground alignment for Urban Mass Transit Systems is very dependent on the specific policies and urban design characteristics of the specific region or city.

The report has been submitted for Executive Council review and subsequent publication in ITA's Technical Journal, Tunnelling and Underground Space Technology.

WG 14: "Mechanised Tunnelling"

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

As part of making the database on mechanized tunnelling informative for prospective users interested in tunnel and tunnelling, the old but fundamental subject "Classifications and Definition of TBMs" was finalised and will be open to the public on ITA's website shortly. In WTC2002 at Sydney, the database structuring and its operation were discussed actively both from technical and legal/managerial view. Also discussed and reaffirmed is the purpose and user identification of the database to make the best use of the system to anyone who is interested in tunnel and tunnelling.

After the recommended keywords of WG14 are finalised and open to the public by the end of April 2002, prospective authors of scientific paper to ITA such as WTC proceedings, TUST or TRIBUNE should follow the WG14 requirement in writing their abstract and selecting its keywords. The WG14 first target is the prospective authors of WTC2003 as a first structuring of the database. Then, year after year, the WG14 information basket will be enriched automatically.

WG 15: "Underground Works and the Environment"

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

The Underground Works and the Environmental Working Group met on two occasions with ten members attending from seven Member Nations. Further redrafting of the summary of the first work of the Working Group will be completed in Sydney. The Working Group has been collecting data on projects which have been placed underground for environmental and sustainable development reasons. Some 80 projects have been identified to date and it is hoped that more will be collected in the next few months. A draft report will be available in Amsterdam. The Working Group is also collecting data on how tunnelling affects the environment and environmental constraints on tunnelling.

WG 16: "Quality"

Animateur: C. Oggeri (Italy); Vice Animateur: G. Ova (Norway); Tutor: K. S¿rbraten (Norway)

The technical features and the procedures for quality assessment have been the object of the working group activities. The group has been working during the meeting in order to make the revision of the report to be submitted to ITA Council for final review.

The next two-three months will be devoted to the completion of the work with corrections and editing of the annexes to the text: summary, short glossary, flow charts and schemes, figures and then the complete report will be submitted for publishing.

WG 17: "Long Tunnels at Great Depth"

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

The meeting was attended by eleven members from ten different countries. The group had received only a few replies to the questionnaire decided upon during the previous meeting in Milan. Some interesting contributions and examples of long tunnels in Japan and Europe were presented.

It was decided to focus only on long traffic tunnels (railways and road) with particular attention to the situations which are in the extreme condition for risk assessment and risk management along the lifetime of the project (from the feasibility to the operation).

The structure of the WG report was defined and the main chapters assigned to the various members. Email communication and share of contributions are planned in the next months in order to finalise the first draft to be discussed at a special working group meeting that will be organised in Switzerland end of next May with a technical site visit to the Loetschberg tunnel under construction.

WG 18: "Training"

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

The meeting was attended by seven participants from seven countries. The Working Group discussed the activities which were previously developed after the meeting in Milan. It was decided to focus future activities on the two following topics:

- collection in an electronic format of tunnel data designed and constructed in the various Member Nations. This data could be used as a significant example for teaching purposes;
- collection of teaching material coming from the activities of the other working groups. It is suggested that when a WG report is finished, a Power Point presentation should be prepared and made available to help the teaching activity in the specific subject.

WG 19: "Conventional Tunnelling"

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

Following the invitation letter from the ITA Secretary-General, thirteen members from nine countries participated in the first meeting during this Congress. After introducing the state of the art of the various countries, the members agreed on the purpose and scope of the work. The members will exchange their first draft reports and comments via the ITA Website.

WG 20: "Urban Problems, Underground Solutions"

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

There will be two Vice-Animateurs - Eivind Grov of Norway and Jacques Besner, President of ACUUS (Associated Research Centers for the Urban Underground Space). ITA and ACUUS have agreed to a "Sister Organization" relationship to work on common issues, principally through the activities of the new Working Group 20.

This Working Group will address a most important topic. The progressive increase of urban populations around the world is causing a number of serious problems for cities, which grow proportionally with the size of the city. Underground space will play an increasingly important role in solving these problems. The new Working Group will identify and classify these urban problems and will explore underground solutions which can resolve them.