



ASSOCIATION
INTERNATIONALE DES TUNNELS
ET DE L'ESPACE SOUTERRAIN

ITA
INTERNATIONAL TUNNELLING
AND UNDERGROUND SPACE
ASSOCIATION



ACTIVITY REPORT 2019

APRIL 2018 - MARCH 2019



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The Executive Committee is pleased to present the annual Activity Report of the International Tunnelling and Underground Space Association. The report highlights the Association's significant efforts and accomplishments throughout the past year.

Forewords



TARCISIO CELESTINO
President

The activities of the Executive Council during the last year of the present term are reported here. It can be stated that the final objective of the work was to harmonize the actions of the different bodies related to ITA in order to reach the mission of the Association in compliance with the guidelines set forth by the Member Nations. The growing complexity of the Association and its effective and potential relationships with external entities have required enhancing governance. The implementation of actions following the strategy delineated in the beginning of the term is described. Operational actions related to both the administration and the organization of events are also described. I hope this form of presentation meets the expectations of all those involved.



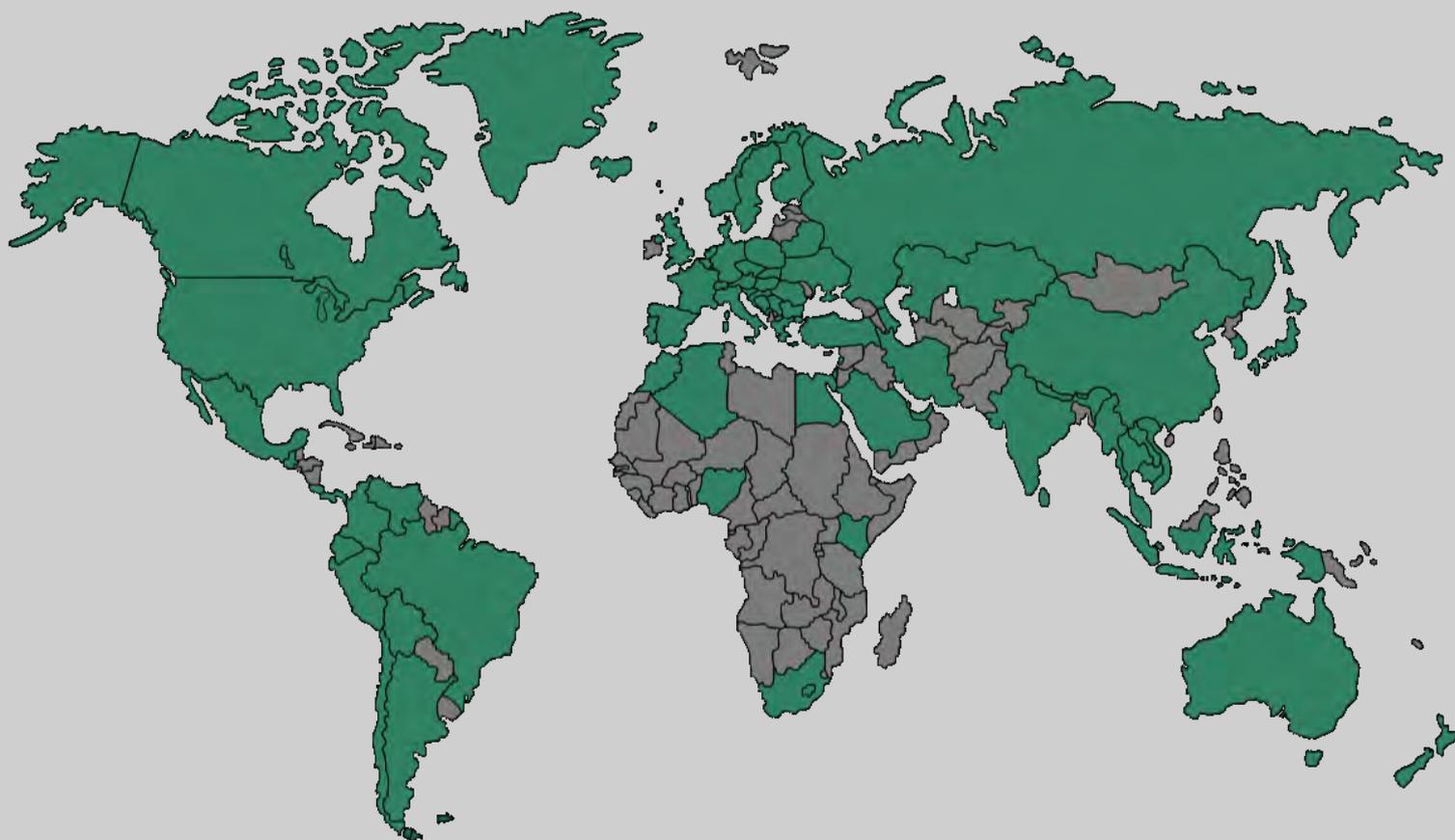
OLIVIER VION
Executive Director

Dear Member Nation, the activity report is presented every year to the General Assembly. In addition to the formal document, it has been decided to have a document that can be shared inside but also outside the Members of the Association in order to better show what ITA is doing along the year. For some of the items, we had to make some choices as the activities are various and numerous.

This is the first time that the report is presented this way and we hope that this document will be helpful for yourself, your association in your daily work with your stakeholders and partners in order to have them better understand the role and activities of our Association.

Understanding

75 Member Nations





KEY FIGURES



75 Member Nations
17 Prime Sponsors
300 Affiliate members



5 ExCo meetings
UAE, North Macedonia,
Spain, China, Brazil

1 mio € budget



50 web / conf call meetings



26 visits to Member Nations

15 endorsed conferences



Task forces working on **4** topics:
ITA Awards, WTCs, Accidents, Governance

Governance

As an NGO, ITA is very concerned by its governance. In order to improve it in a fast growing environment and to take into account the comments made by the Auditor and the Member Nations, the Executive Council worked on a modification of Statutes and By-Laws as well as on an updated process and procedure table. The basic idea is to combine the roles of the Auditor and the Governance Board in to a single body.

2018-2019 ITA Executive Council



Tarcisio B. Celestino
President
2016-2019



Søren Degn Eskesen
Past President
WTC 2021



Alexandre Gomez
Vice President
2016-2019



Ruth G. Haug
Vice President
2016-2019



Eric Leca
Vice President
2016-2019



Jinxiu (Jenny) Yan
Vice President
2016-2019



Lars Babendererde
2017-2020



Arnold Dix
2017-2020



Randall Essex
2017-2020



Davorin Kolic
2016-2019



Giuseppe Lunardi
WTC 2019
2016-2019



Chungsik Yoo
2016-2019



Felix Amberg
Treasurer
2016-2019



Ooi Teik Aun
WTC 2020
2017-2020

Working Groups

	ANIMATEUR	VICE-ANIMATEUR
WG2	Elena Chiriotti	Ron Tluczek
WG3	Mathias Neunschwander	Martin Smith
WG5	Donald Lamont	Werner Burger
WG6	Henry Russel	
WG9	Giorgio Piaggio	Wenge Qiu
WG11	Jonathan Baber	Eelco van Putten
WG12	Eivind Grov	Stefan Bernard
WG14	Brian Fulcher	Karin Böppler
WG15	Cedric Thalmann	Nikolai Bobylev
WG17	Gérard Seingre	Magali Schivre
WG19	Nasri Munfah	Robert Galler
WG20	Wout Broere	Damian McGirr
WG21	Martin Muncke	Laetitia D'Aloia Schwartzentrube
WG22	Jurij Karlovsek	Paolo Cucino

Committees

	CHAIR	VICE-CHAIR
ITA-CET	Robert Galler	Michel Deffayet
ITA COSUF	Maximilian Wietek	Eric Premat
ITAtch	Nick Chittenden	
	CO-CHAIR	CO-CHAIR
ITACUS	Han Admiraal	Antonia Cornaro

Young Members Group

CHAIR	VICE-CHAIR
Keith Bannermann	Jasmin Amberg

Secretariat

Olivier Vion	Executive Director
Claudia Clivaz	Executive Secretary
Jocelyne Kervino	Accountant
Sonia Salles	ITA tech Secretariat / Awards Secretary
Annette Schmidt	Marketing
Anne Brissaud	Communication Officer



Member Nations

The Executive Council pursued in priority the development of its relations with the Member Nations:

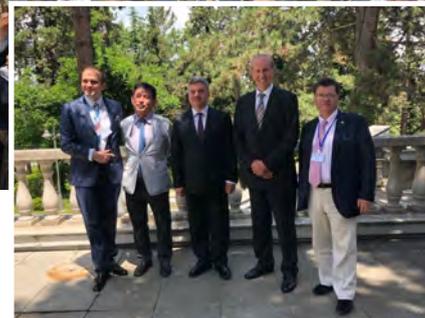
In addition to the participation of ExCo members in the different conferences endorsed by ITA , the ITA President, ITA Vice Presidents, Executive Director and other ExCo members met with Member Nations representatives all over the year. In total **26** Member Nations have been visited or met.



During the past year, the Member Nations visited by ITA Executive Council members were the occasion of dedicated meeting.

The ExCo meeting in June has been the opportunity to meet with members of the board of the Macedonian Association for Tunnels and Underground Structures. This meeting in Skopje was organised in correlation with the XVI Danube – European Conference on Geotechnical Engineering. of the ISSMGE. A special one day seminar on “Risk Analysis and management in Tunnelling” has been organised with participation of many ExCo members and with the participation of around 100 attendees and notably many young engineers and students. Executive Council members present were also invited by the President of the Republic of North Macedonia at the occasion of the awarding of the medal of merit for Macedonia to Prof Heinz Brandl (AT).

End of May, Tarcisio Celestino was invited by CAST (China Association for Science and Technology). The year 2018 marks the 40th anniversary of reform and opening-up in China and the 60th anniversary of the establishment of CAST. the annual meeting chose as its theme “Reform and Innovation”, and attracted more than 2,500 attendees, including such experts as academicians from Chinese Academy of Sciences and Chinese Academy of Engineering; As one of the 10 parallel sessions of this annual meeting, “Seminar on Technical Challenges of Extra Long Tunnel Projects” was the one and only session for civil engineering industry.



ITA President, Tarcisio Celestino, Ita Executive Director, Olivier Vion and Nicolai Bobylev (Vice Animateur of WG15) spent several days in Nigeria for a training session on “Underground Space use” as well as several meetings with ministries and with senators. The training session gathered more than 100 attendees in a country that for the moment has not developed much tunnels or use of underground space, but in which the needs are enormous. The main challenge at the moment is to convince the decision makers to act in this direction. Several projects might be launched as tunnel for hydro and also the rail network development that will require tunnels.

In September in Madrid, at the occasion of the ExCo meeting we had a fruitful meeting with AETOS board as well as a visit of the railway tunnel Atocha-Chamartin, that will allow direct link between South-West and North railway lines without changing stations.



Executive Council Members, the Executive Director or ITA President participated in various conference and meetings such as the Conference on Road Tunnels Operations and Safety organized by PIARC and ITACOSUF in Lyon - France, the BTS Conference in London-UK, the SIG Conference organised by the Young member Group in Bologna-Italy.

Together with Olivier Vion and Han Admiraal, ITA President Tarcisio Celestino delivered a one-day training course in Nairobi, Kenya on «Underground Space use and Tunnel Project management». The training was attended by around 100 participants. It has also been the opportunity to discuss with public and private entities on the constitution of the Tunnel Association Kenya.



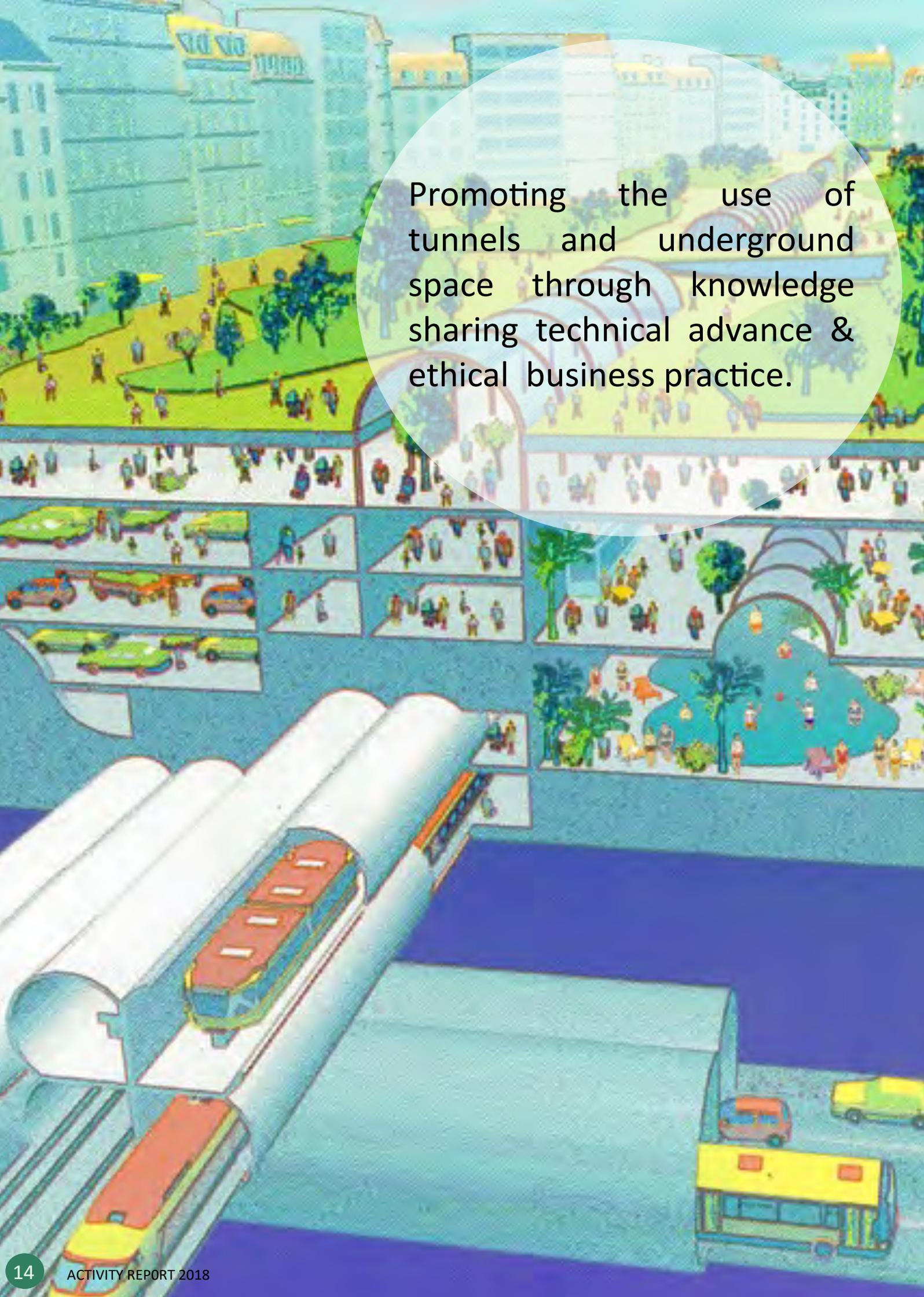
Contacts were renewed with Albania, which decided to create a specific association and request to become an ITA Member Nation. Eric Leca, ITA Vice President and Davorin Kolic visited them.

After having received the request by the newly constituted, Lebanese Association of Underground Space, Olivier Vion visited them to present more in detail ITA activities and be informed on the development of the association as well as on the present and future projects in the country.



Algeria is a Member Nation of ITA since more than 30 years. In the last years the contact was lost, due to change of people in the Member Nation. New contacts have been taken and several people from the tunnelling industry are ready to create a new association and become active inside ITA. A workshop was planned to be held in Algiers in February; unfortunately due to the planned Presidential elections, it had to be postponed and will probably take place during the autumn.

At the occasion of the ExCo meeting last February in Brazil, CBT organized a conference (see page 27). During the conference a specific round table took place called "Quo Vadis, ITA?". It has been the opportunity to discuss the expectations from CBT towards ITA and vice versa.



Promoting the use of tunnels and underground space through knowledge sharing technical advance & ethical business practice.

FROM 2009 to 2019

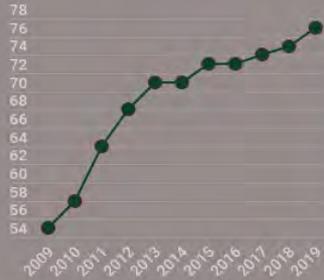
2009

Creation of the Muir Wood lecture
Establishment of ITACET Foundation



2011

Six New Member Nations
Creation of ITAtech



2010

New ITA ExCo

2012

Four New Member Nations
Nomination of a PS representative

2013

New ITA ExCo
Three New Member Nations
New WG on Life Cycle Assessment

2014

Creation of the Young Members Group
First publication of Market Survey



2015

Two new member Nations
Organisation of the first ITA Tunnelling and Underground Space Awards

2016

New ITA ExCo

2017

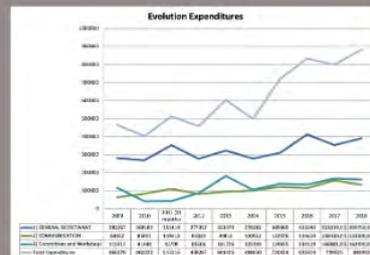
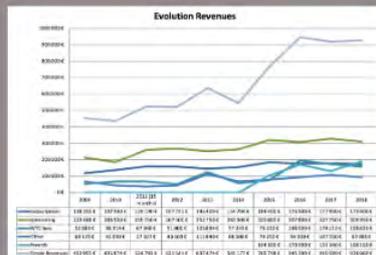
Second edition of Market survey
Creation of a new WG on Information Modelling in Tunnelling
New Strategy
MN Reports as a brochure



2018



Work on Governance
Guidelines for organisation of WTCs



New Executive Council

ITA-FIDIC Emerald book on conditions of contracts for underground works
WTC in Naples with special focus on (Archeology, Architecture, Art)

ACTION PLAN
2018

In 2017, six strategic goals have
been identified for the period
2017 – 2020

Strategy

During the year 2018-2019, different actions have been conducted in relationship with the 6 goals:



GOAL 1

Encourage Member Nations to actively develop and share technology, promote underground space and be active as a Member Nation in ITA

Through the new Member Nations activity reports format, the sharing of information between the Member Nations and with the Executive Council and the secretariat has been more intense. For the past 2 years we have received 46 activity reports. In addition, several Member Nations provided ITA with examples of tunnelling works that have then been used for the video of

“Tunnelling the world 2018”.

During the year several seminars and training have been organized in the Member Nations such as North Macedonia, China, Belgium, Malaysia....

For several years now Member nations belonging to the same geographic area meet during the WTC and sometimes along the year to share their best practices.

GOAL 2

Optimize the contribution of Working Groups and Committees through facilitating interaction with MNs & Sponsors, encouraging synergies and deploying modern communication practices.

During the annual meeting with WGs Animateurs, Committees Chairs and ExCo members, it has been highlighted some important topics to be implemented such as improvement in coordination, focus and working with outside institution and increase the diversity in participating Member Nation. The secretariat is regularly contacting Member Nations to update the list of participants in the different Working Groups as well as the

industry to find experts for the various Committees.

The process of document reviewing has been improved and all documents published this year have followed this process.

At this stage it is necessary to find ways to help WGs to produce for every publication and guidelines related documents for training purposes in different format presentation but also audio visual.

GOAL 3

Enhance interaction with Industry

Three main objectives have been set up to achieve goal n°3. During the year the following actions have been made:

◆ Follow up on collaboration with Prime Sponsors and Supporters:

- Regular visits to PS,
- Yearly meeting with PS at the occasion of each WTC,
- Satisfaction survey completed in 2017, and used to realign objectives.

◆ Develop mutually beneficial initiatives with Industry:

- PS invited to present at events adjoining ExCo meetings such as in Florianopolis.
- ◆ Regularly update tunnel market forecast and organize dissemination:
 - Second market survey finalized and disseminated at WTC 2017 in Bergen. An addendum on African market will be delivered at WTC 2019 Naples.

GOAL 4

Encourage further knowledge sharing through education & training

Training is one of the core of ITA. In order to help Member Nations, the ITA Committee on Education and Training is providing the possibility of training sessions. The ITA ExCo has been working closely with the ITACET Foundation to find better ways for the organization of the training sessions. During the year, training sessions have been organized in France, UAE, Argentina, Kenya and Nepal.

In addition, the ExCo started to work with different International banks and funding bodies to promote training when financing infrastructures that include tunnels & underground spaces.

One of the other axe of work concern a survey with Member Nations about the level of training on underground works for professionals obtaining degrees on civil engineering, mining engineering and geology.



GOAL 5

Enhance tunnelling and underground space awareness

ITACUS is the main entity in enhance tunnelling and underground space awareness. It's also important to develop digital materials and share the good examples. This year, a success story of highspeed railway tunnels for PyoungChang Winter Olympics has been published in Tunneltalk.

We are also engaged to develop educational materials for non-engineers and disseminate them by posting on our website and Youtube.

In 2018 ITACUS organized three thematic workshops on underground spaces.

Think Deep Sweden has been formed.

“Think Deep” publication being disseminated in coordination with ISO-CARP.

THINK DEEP National Action Program (TDNAP) is planned during WTC2019: Five National Action groups will participate (Australia, UK, Nigeria, Netherlands, Sweden).

Through ITACUS we have maintained and improved contacts with ISOCARP in

participating in their congress and with other bodies such as UN Habitat , ACUUS, ICLEI....

The organization of specific training sessions on the use of underground space in developing countries is an important action to help decision makers, planners, engineers to better know the benefit of using the underground space.

ITA and ITACUS have, together with the Member Nations and the ITA-CET, organised training session in Abuja, Nigeria done in March and another in Nairobi in December.



GOAL 6

Improve communication with Member Nations, Industry & general public



In the strategic plan, actions concern a better planning of communication as well as sharing innovation and successful projects of Member Nations and Industry.

To perform this goal, we have this year emphasis the communication towards the member nation in the preparation of the General Assembly, in order that all Member nations can know sufficiently in advance what is planned and how to communicate.



As for the previous year, the Member Nation reports will be disseminated to the Member nations but more largely to all participants at the WTC. Through this magazine, which will be produced for the third year, ITA takes care to better communicate to the whole tunnelling industry the activities but also showcase the works and projects in all Member Nations.

From October, Anne Brissaud has joined the ITA staff as Communication Officer. We have now more possibilities to share information largely through the ita@news, specific information, the internal bulletin and of course with a publication as this one which allow a better communication from the ITA Executive Council towards the Member Nations and more largely the ITA family.



This year, the Member Nations have sent quite a lot material that has been used for producing the "Video of the Year" focusing on projects that have been achieved or were under construction during the year 2018.

We have also produced a video presenting in 10 minutes the ITA as well as for the previous year a video showing the tremendous event which has been the ITA Awards 2018 in China. All the videos are available on ITA Youtube channel.





Working Groups & Committees

During the WTC in Dubai, all ITA WGs met, for most of all, two times. These meetings are for all the opportunity to make progress on the different documents they are working on.

The meetings have been very well attended showing the great interest of the ITA Member Nations and the whole tunnelling community for the core activity of ITA. All together 285 people participated in the meeting of the 13 active Working Groups.

It is important to highlight the good cooperation that exist between the working groups and the different committees. One example is the publication of a guideline prepared jointly by two working groups.

This year 3 publications from the WGs will be released:

WG2 - Guidelines for the Design of Segmental Tunnel Linings

WG5 - Guide to ITA/BTS CAWG Report 10 for Clients and others not familiar with high pressure compressed air work.

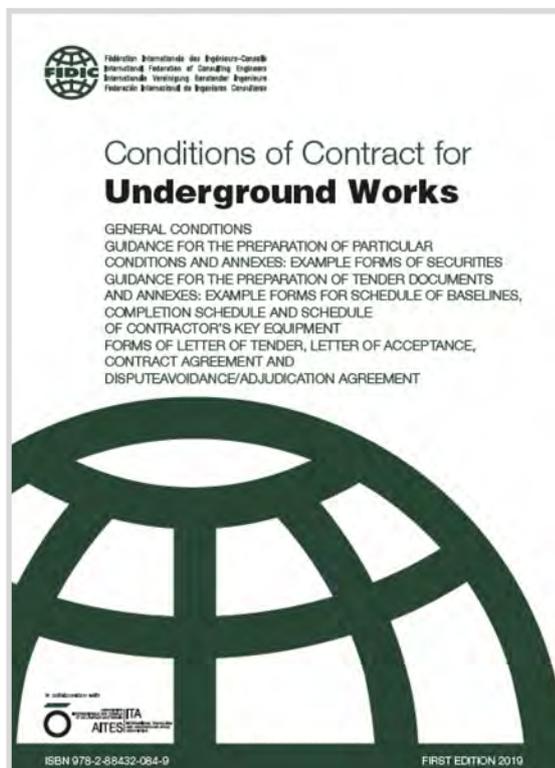
WG14/15 - Handling, Treatment and Disposal of Tunnel Spoil Materials,

The ITA Committees will also release some publications:

ITAtech – Practical approach for controlling the blasting vibration and optimizing advance in urban tunnelling

ITAtech – Guidelines on rebuilds of machinery

ITA COSUF - Current practice on cross-passage design to support safety in rail and metro tunnels



The ITA FIDIC Emerald book has been finalized by the TG10 composed of participants from ITA WG3 and FIDIC, reviewed by ITA reviewers, FIDIC reviewers and the FIDIC Contract Committee. The book will be released in Naples and available form ITA and FIDIC websites.



ITA COSUF had three important events, the first of which was the 5th European Road Tunnel Safety Officers Forum held in Madrid, Spain, in May 2018 on the topic “From historical events to future trends”, organized by AG4. The level of participation was really good, and so was the attendees’ satisfaction. The second event was the joint PIARC and COSUF conference on “Road Tunnel Operations and Safety” that took place in October 2018 in Lyon, France. Linked to this conference, the meetings of the Steering Board

and AGs took place as well as the ITA COSUF General Assembly, where Lei Jiang, RISE, received the ITA COSUF Award 2018. The third big event was the public “Workshop on New Energy Carriers (NEC) in underground transportation facilities” organized in February 2019 in Utrecht, The Netherlands. This was also an activity with strong links to PIARC and good representation of the PIARC Technical Committee D5. The day before, an NEC Expert Group meeting took place to discuss future NEC challenges we may face and in order to provide input to the NEC White Paper highlighting research needs in the scope of NEC and operational safety of underground facilities.



For the 6th time, the ITA Prime Sponsors and ITAttech organized in Dubai an industry dinner. 400 participants from the whole tunnelling industry participated in this friendly and networking dinner.

During the year the six activity groups totaling 8 sub Activity Groups worked on different topics such as Excavation, Support, Lining and Waterproofing, Monitoring, Investigation and Design.

Two guidelines have been finalized:

- Practical approach for controlling the blasting vibration and optimizing advance in urban tunnelling
- Guidelines on rebuilds of machinery for mechanized tunnelling

The AG on Lining and Waterproofing is finalizing the training pack for a better use of sprayed waterproofing membranes. An important task of ITAttech design Activity Group is to review all the different documents from ITAttech but also for some of the Working Groups.



During the period April 2018 - March 2019, close collaboration with the ITACET Foundation has

enabled 6 training sessions to be held in 5 different countries in (France, UAE, Argentina, Kenya, Nepal). These sessions have enabled over 500 students and professionals to benefit from the international expertise of ITA lecturers. ITA-CET has collaborated with ITA COSUF and ITACUS for two of these events. ITA-CET has issued the conclusions of its review on the

content of an EPB TBM operator course that has been developed by the Colorado School of Mines in collaboration with ITAttech and major TBM manufacturer. The Committee will continue to collaborate on the implementation of this course. The ITA-CET university network now comprises 28 members from universities and higher education establishments around the globe that offer Master or post-Master courses in tunnelling and underground space. MIT World Peace University Pune, India has recently requested to join this global network.



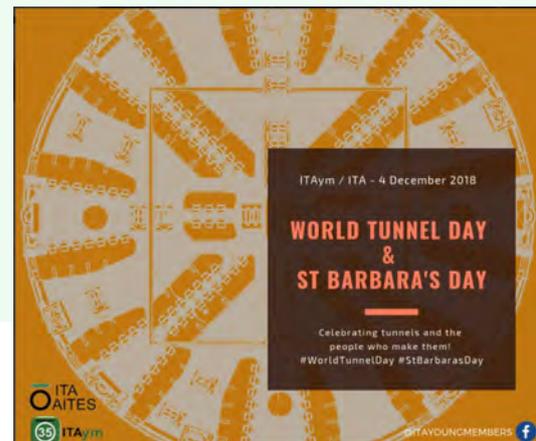
ITACUS is thrilled to see our Think Deep National Actions Program taking off. Think Deep UK has seen a strong year with three thematic workshops on underground spaces which were presented at the TDUK summer event in London, UK, moderated by Elizabeth Reynolds and Petr Salak. ITACUS is further strengthening its core team: Abidemi Agwor agreed to lead the ITACUS National Action Program from now on, Per Tengborg will lead our new activity group on urban resilience, supported by Loretta von der Tann. Professor Youssef Diab has become our Scientific Ambassador maintaining relations with academia and with ITACET. At the Global Engineering Congress in London on October 25, 2018, ITACUS co-chairs Han Admiraal and Antonia Cornaro, held a presentation on

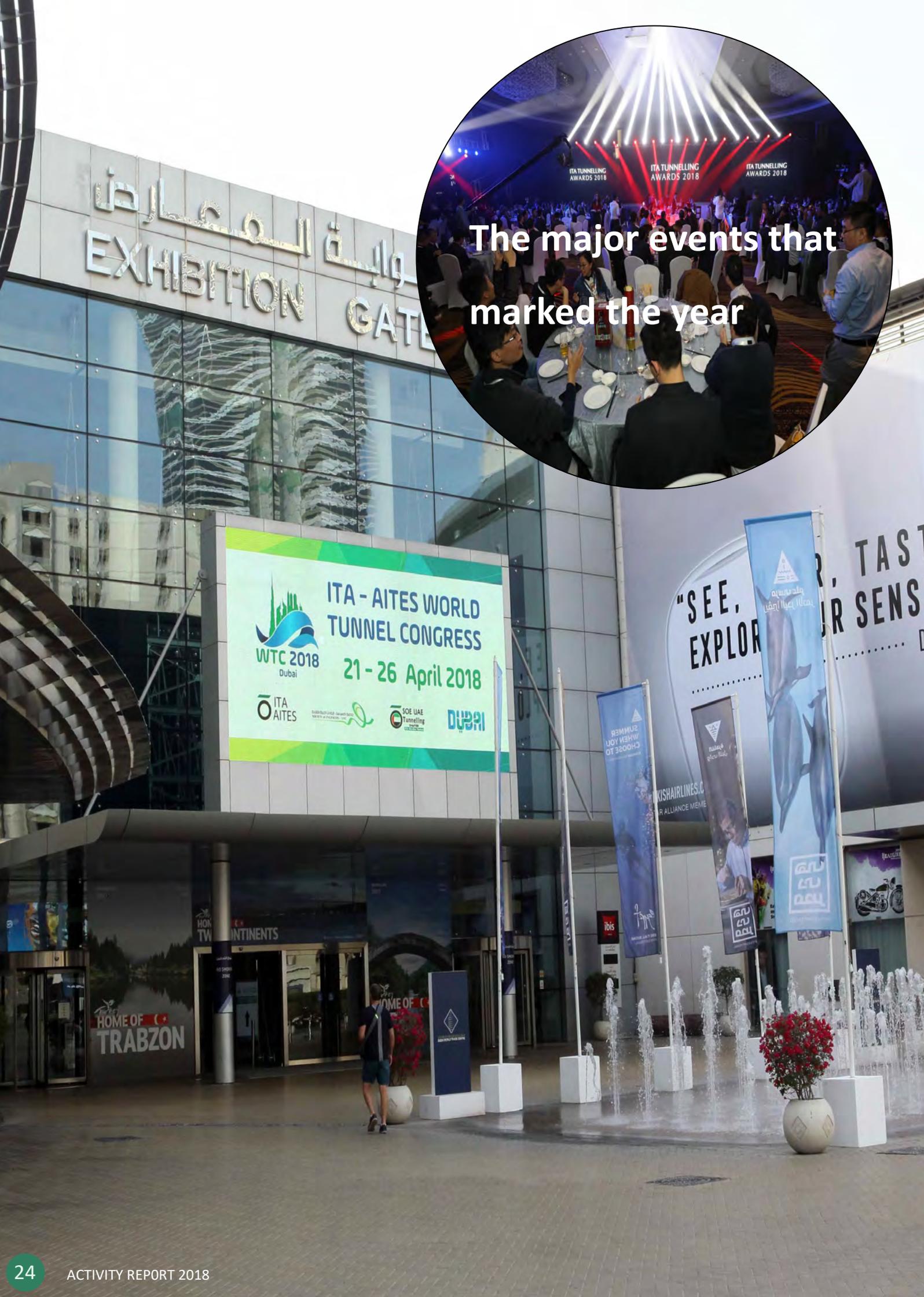
“Inclusive underground spaces”. Their concluding statement: “Inclusive underground spaces are there for all to enjoy and enhance the urban fabric” was greatly appreciated by the audience and reported in social media.

ITACUS and Think Deep National Actions programme partner TDUK joined forces at the Futurebuild conference held at the London Excel Centre. ITACUS worked closely with the WTC 2019 organising committee to put together an interesting and unique Archaeology, Architecture and Art programme consisting of both off-site and on-site sessions as part of the Naples Congress.

ITAYM have been involved in the following activities the last year:

- Successfully attended the WTC 2018 and elected and established a new steering committee during the ITAym general assembly,
- Held activities during the WTC 2018, including ITAym social event with around 80 participants,
- Worked Towards ITA organisations to get young people involved and contribute actively in organization activities. This includes involvement in ITACUS and especially ITA-CET,
- Celebrating Word Tunnel Day on 4th of December. Encouraging the national ym-groups.





EXHIBITION GATE

ITA - AITES WORLD TUNNEL CONGRESS
WTC 2018 Dubai
21 - 26 April 2018
ITA AITES SOE UAE Tunnelling



The major events that marked the year

"SEE, EXPLORE, TASTE"
"TASTE FOR SENSES"
KISHAIRLINES.COM
FOR ALLIANCE MEMBERS

HOME OF TRABZON

Conferences



WORLD TUNNEL CONGRESS

The 44th ITA-AITES General Assembly and The World Tunnel Congress was hosted by the Society of Engineers-UAE at the Dubai World Trade Center from April 21 – 26 2018. The theme around which the Congress focused has highlighted the subterranean potential for many urban functions, in particular in the development of sustainable cities.

The first two days of the conference included ITA Committee and Working Group meetings as well as the ITACET tunnelling training courses. A full 3-day technical programme kicked off on Monday with an excellent Muir Wood lecture been delivered by Prof. Cording on tunnel induced ground movements. The technical sessions that followed covered a broad spectrum of topics such as mega projects in MENA and abroad, TBM case studies, construction safety and risks, contract risks, innovative technologies, planning and design as well as smart cities and sustainability.



NEXT WTC

- 2019** Naples, Italy
- 2020** Kuala Lumpur, Malaysia.
- 2021** Copenhagen, Denmark

WTC PROCEEDINGS ON NEW
THE ITA ONLINE LIBRARY
<https://library.ita-aites.org>

WTC AT A GLANCE



1550 delegates & visitors



130 exhibitors



125 technical papers presented orally



60 poster presentations



More than **40** countries



ITA TUNNELLING AWARDS

The 2018 edition took place on 7 November, in Chuzhou-Nanjing during the 20th Chinese Tunnel and Underground works Conference (CTUC) from 5 to 6 November followed by technical visits on Nov.8 in Nanjing, Chuzhou and Shanghai. After two days of presentations, case studies and technical conferences, the Awards ceremony was a successful finale and offered the audience an immersion in of ancient China. With more than 300 attendees for this 4th edition (day and ceremony), the ITA Tunnelling Awards confirmed the industry's interest in this event. ITA Tunnelling Awards have collected 68 valid entries coming from all around the world. The ITA Tunnelling Awards judges have revealed their choices and awarded 8 outstanding projects and also the Young Tunneller of the Year and the prestigious Life Time Achievement.

WINNERS

Major Project of the Year (over €500M) - The Immersed Tunnel of the Hong Kong-Zhuhai-Macao Bridge Link, China · Project of the Year (between €50M and €500M) - The Queershan Tunnel on National Road 317, China · Project of the Year incl. Renovation (up to €50M) - Zarbalizadeh Shallow Tunnel Construction underneath the Operating Railways, Iran · Technical Project Innovation of the year - A Mechanized Method with Large Section Horseshoe Shape EPB-TBM First Applied in Loess Mountain Tunnel, China · Technical Product/Equipment Innovation of the year - Multifunctional Energy-Storage and Luminescent Material for Sustainable and Energy-saving Lighting for Tunnels, China · Innovative Underground Space Concept of the year - Norwegian Rock Blasting Museum, Norway · Safety Initiative of the Year - ROBY 850 Semi-Automatic Drilling Robot, Hong Kong, China · Young Tunneller of the year - Giuseppe M. Gaspari, Italy · Lifetime Achievement Award - Dr. Evert Hoek, Canada





and Antonia Cor
Han ADMIRAL **Antonina CORNARO**

19 participations in Member Nations events or meeting

15 conferences endorsed by ITA



5 - 7 Nov
Hong Kong



BTS CONFERENCE & EXHIBITION 2019, UK

A two-day conference attended by world class, international industry suppliers with the latest in tunnelling technology on display. The 2018 British Tunnelling Society Conference & Exhibition attracted delegates, speakers and exhibitors from across the globe in London. There were stimulating discussions and debate in the conference hall and more than 50 major manufacturers and suppliers in the exhibition for the more than 800 attendees from industry to enjoy and appreciate. Professor Arnold Dix, the ITA Exco Representative has presented a keynote « Strategies to manage catastrophic failures in construction and operation as nations scramble to stretch the boundaries of underground solutions »

BEYOND A TUNNEL VISION, BELGIUM

November 27th Brussels launched a new international tunnel congress named Beyond a tunnel vision. An immediate major response was noted: 350 people attended the conference. This event was organised with the support of The Government of the Brussels-Capital Region and endorsed by the International Tunnelling and underground space Association (ITA) and by the ITA Committee ITA COSUF. The conference focused on how tunnels can be renovated in a clever way. During the plenary session, the ITA Exco representative Eric Leca took over the microphone to present « ITA wants a strong European collaboration ».

ITACUS PARTICIPATED IN ACUUS WORLD CONFERENCE 2018 IN HONG KONG, CHINA

ITACUS was represented by co-chairs Han Admiraal and Antonia Cornaro at the ACUUS World Conference on 'Integrated Underground Solutions in Compact Metropolitan Cities', which took place in Hong Kong from 3-5 November 2018. Presenting on 'Investment-ready and bankable underground spaces', based on Chapter 7 of their recently published book, they sparked some interesting discussion points amongst the audience.

On the last conference day, Han and Antonia also held their, by now trademark, full book presentation on 'Underground spaces unveiled: planning and creating the cities of the future', highlighting various examples and chapters from their book as well as reading from the book to the audience.

TUNNELLING ASIA 2019, INDIA

The Tunneling Asia 2019 Conference, organized by Tunneling Association of India in conjunction with the ITA, was held February 27-28 in Mumbai and proved to be a great success. The theme of the conference was "Underground Facilities for Better Environment and Safety: Issues and Challenges." Keeping in view the importance of the event the ITA President Tarcisio Celestino and Vice President Jinxiu (Jenny) Yan participated in the deliberations of the conference and shared their experience on the different aspects of tunnelling and underground space development with Indian underground professionals.

INTERNATIONAL WORKSHOP ON TUNNELS - FLORIPATUN, BRAZIL

The Brazilian Tunnelling Committee CBT promoted the FloripaTun - International Tunneling Seminar, on February 21 and 22, 2019, in Florianópolis, Santa Catarina. The event sought to bring together researchers, students and tunnel professionals to discuss news and recent technological advances in the field.

Numerous ITA representatives contributed to the seminar: The first lecture, presented by Lars Babendererde, was on mechanized tunneling. The next talk was with Eric Leca, explaining about tunnel-induced settlements. Professor Jinxiu (Jenny) Yan showcased mega-projects in China. Randall Essex gave a lecture on the importance of the GBR - Ground Baseline Report and Søren Eskesen spoke on a project whose implementation is being discussed for Brazil, the tunnel immersed.



ASSOCIATION
INTERNATIONALE DES TUNNELS
ET DE L'ESPACE SOUTERRAIN

AITES

ITA

INTERNATIONAL TUNNELLING
AND UNDERGROUND SPACE
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