

April 18th, 2016

SAVE THE DATE

April 22nd – 28th, 2016

ITA organises its World Tunnel Congress 2016 in San Francisco, USA: 2.200 attendees expected

From the 22nd to the 28th of April, 2016, the International Tunnelling and Underground Space Association (ITA-AITES) will hold its 42nd General Assembly at the occasion of the World Tunnel Congress (WTC) in San Francisco, United States. This year organised in conjunction with the Underground Construction Association of SME, the WTC is the top attended event launched by the tunnelling industry at the international scale. As states demonstrate strong needs in tunnels and underground spaces for public transports, interchange subway stations, hydroelectric infrastructures, etc, the WTC 2016 will be the occasion to discover the latest state-of-the art innovations in urban planning and underground construction projects in the United States and worldwide. In the frame of this edition, large highlights will be made on the sustainable and economic impact of tunnels and underground spaces within countries, as well as on the weight of digitalization and connectivity on the tunnelling industry. Several technical sessions will rhythm the week, related to lessons learnt from outstanding tunnelling projects. Besides, the new president of the ITA, elected during the Association's General Assembly on the 27th of April, will deliver one's strategic plan for the ITA within the next three years.

2014 and 2015 have witnessed a relative upswing of the global economic growth (+3,1 % GDP in 2015). The trend is notably confirmed in the United States, who registered a 2.4 % expansion last year. If the American Society of Civil Engineers put the spotlight on the bad state of American infrastructures in 2013, there is currently a positive move engaged by public authorities in favour of important transportation, water or telecommunication conveyance, high-speed rail, hydro-power or pumped-storage renewable energy projects across the country.

Owing to the rarefaction of space on surface, notably in urban areas, most of these infrastructures are deployed under the earth's stratum. Beyond the clichés abounding about them, tunnels and underground spaces are of critical importance to develop collective transports and energy schemes, avoid water floods, or expand urban facilities.



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With its 250 exhibitors and more than 300 innovation sessions and presentations, the World Tunnel Congress will be, this year, hosted by the city of San Francisco. Indeed, for the first time in 20 years, the most strategic meeting of civil engineers, public authorities, suppliers, and designing companies related to tunnels and underground spaces worldwide, will return to the United States.

22nd-28th of April, 2016: 6 days of innovation sharing around state-of-the-art tunnels and underground spaces worldwide

Tunnels and underground spaces are deployed all over the world for similar objectives: linking two spots throughout the sea, creating new traffic ways, deriving water.... Nevertheless, construction practices, methods and equipment can considerably vary from a region to another, depending on the environmental constraints of the project, the needs of populations, the level of technologies... The WTC 2016 will bring together professionals worldwide and encourage the exchange of experiences and ideas from past, current and future tunnelling projects. Focus on the WTC's highlights.

Monday 25th of April:

In the morning, the **Opening Ceremony** will welcome Dr **Peter Kaiser**, a professor and Chair for Rock Engineering and Ground Control at the Bharti School of Engineering of Laurentian University in Sudbury, Canada. Leading the Muir Wood Lecture, Peter Kaiser will develop its proposals **to meet the challenge of deep underground construction projects**, a reflexion deriving from deep-mining and tunnelling experiences in the Alps.

During the afternoon, **a special workshop will be dedicated to the Building Information Modelling (BIM)**, an intelligent process based on 3 to 5D modelling for an infrastructure project planning, conception, simulation and construction. Experience sharing, prospective analysis of future BIM developments, testimonials of engineers, will punctuate the workshop.

Tuesday 26th of April:

From 8.30 AM to 12.30 PM, **the ITA Open Session** will feature advances the industry is achieving across a broad cross-section of topics affecting the underground construction business. It will notably include conventional and mechanized tunnelling, controlled blasting, fiber-reinforced precast concrete segments, the measurement and interpretation of in-situ stresses for application to high stress environments and

Two Keynote lectures organized from 11 to 12.30:

From 11 AM to 12.30 PM, **two Keynote lectures** will take place, respectively led by **Bruce Grewcock**, CEO of Peter Kiewit Sons', Inc., and **Peter Hirshberg**, Innovation advisor, notably collaborating with the White House office of Sciences and Technology Planning. The two key speakers will notably offer outlooks on how the challenges the tunnelling industry is facing, change its future, and on how tunnels and underground spaces can contribute, at their own scale, to create Maker cities.



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pressurized conveyances, the challenges that we face in developing underground space in urban settings, and the management of construction risk through improved contracting practices...

Then, on the afternoon, the ITA Committee for Underground Space (ITACUS) will organise a **“Think Deep” session dedicated to “Tunnels: the new urban paradigm”**. In the perspective of the UN Habitat III Conference, that is to take place next October in Quito, Peru, the ITACUS will launch discussions around central questions. As the role of cities is crucial to engage sustainable development policies, what solutions can tunnels and underground provide to contribute to a new urban agenda? Should public authorities only favour underground people transportations through Mass Rapid Transit Systems? Key speakers, like Ray Sterling, Professor Emeritus and Research fellow in Civil Engineering at the Louisiana Tech University, will introduce the public to the concept of urban underground freight.

On the evening, the countries willing to host the World Tunnel Congress 2019 will present their candidacy.

Wednesday 27th of April:

As the global Internet of Things market is booming (until reaching a 11 trillion dollars potential impact per year in 2025, for up to 80 billion connected objects), it currently makes strong inroads into the underground space industry. **What are the impacts of the accelerating digitalization on tunnels and underground spaces?** How does digitalization currently manifest itself in the tunnelling industry? What are the ongoing developments and innovations in that matter? During a **special session launched on Wednesday morning 27th (8.30-11.30), the ITA Technological Committee** will tackle these crucial questions in attendance of a **guest speaker from SIGMA**.

Zoom in on the ITA’s 42nd General Assembly:

On Wednesday afternoon, the Nation members of the International Tunnelling and Underground Space Association will elect their new President. The elected candidate will present her/his roadmap to ensure the representation of the tunnelling and underground space industry around the world.

Also, selected ITA Tech’s prime sponsors will give concrete examples of underground projects in which they have implemented the latest digital technologies: Big Data management, monitoring, measuring, control, automation, machine diagnosis, maintenance, safety, risk reduction, process optimization...

Adding value to the tunnelling industry: more than 300 oral and poster presentations on the latest underground space experiences

Through **325 oral and poster presentations** (out of 800 scientific papers received), the ITA aims at shining a light on new, novel and unique innovations and projects worldwide. It will also look at how the tunnelling industry is now able to meet sustainable goals and technical challenges. How can engineers calculate carbon-

emissions in large-shield tunnels? How can new technologies provide efficient assessment and treatment of carbon-emissions in tunnels? How can one currently transport, process, deposit and reutilize million tons of material excavated from the ground? What are the latest innovations linked with tunnel safety? What are the recent trends in conventional tunnelling in the USA? These are a few examples of the presentations that will be carried out along the World Tunnel Congress 2016. A genuine occasion to discover the tunnelling and underground space industry from the inside.

The word of ITA's President, Søren Degn Eskesen: *"How can governments and urban planners respond to rapid urbanization while encouraging collective mobility and rail fret? How can they anticipate floods in urban areas and thus secure their populations? More precisely, in what ways can tunnels and underground spaces offer innovative solutions to alleviate the pressure of climate change across countries? Such questions are crucial nowadays. Organising our annual World Tunnel Congress in San Francisco, a city that deploys so many sustainable solutions and appears like a Global City of Technologies, is meaningful for the tunnelling industry. It will be the occasion to discuss and provide, in conjunction with our peers and public authorities, strong and efficient solutions to make our countries and cities more resilient".*

About the International Tunnelling and Underground Space Association:

The International Tunnelling and Underground Space Association (ITA) is a non-profit and non-governmental international organization, which aims at promoting the use of underground space as a solution to sustainable development. Founded in 1974 and operating out of Lausanne, Switzerland, ITA currently associates 73 Member Nations, 300 affiliated members, 17 Prime Sponsors and 60 supporters.

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