**PRESS RELEASE**

**AND FOCUS FOR FURTHER INFORMATION**

**World Tunnel Congress**

**Naples, Mostra D'Oltremare**

**3-9 May 2019**

**Now online on the event website the scientific programme of the conference**

**Tunnels and Underground Cities: Engineering and Innovation meet**

**Archaeology, Architecture and Art**

**In Naples, international experts in underground construction**

**An event to discover best practices and innovations**

**From Paris to Stockholm, from Santiago in Chile to Cairo, Hong-Kong and Sydney,**

**Pioneering projects and construction sites. Focus on tunnel experiences**

**highlighting archaeology, architecture and art.**

*Rome, 28 March 2019* – The official programme is now available (www.wtc2019.com) for the World Tunnel Congress, the annual international event for the engineering sector dedicated to underground construction, in which Italy will play a leading role this May.

Our country is ranked first in Europe and second in the world for the overall length of its road and railway tunnels: over 2100 km, second to China alone.

According to the most recent data by ANCE (the National Association of Building Constructors), tunnel construction was an important sector for Italian industry in this field, generating a total revenue of 15 billion euro from commissions abroad. The 811 construction sites operated around the world by Italian companies include 43 for the construction of underground subway lines, in Saudi Arabia, Australia, Denmark, Qatar, Turkey, France and Romania. Above and beyond the downstream effects on the domestic market.

**The event**

Promoted by the Società Italiana Gallerie (SIG) and by the International Tunnelling and Underground Space Association (ITA-AITES), this year the *World Tunnel Congress* will be held in the city of Naples, which from May 3rd to 9th, in the spaces of the Mostra D'Oltremare, will host the leading experts in the field, university professors and researchers, professionals, engineering firms, major clients and representatives from the most important construction companies in this sector. Over 150 speakers and 2000 participants are expected from every part of the world. This is a scientific event that will review the state of the art and the most recent innovations in the field.

«We are proud that Naples is the third Italian city, following Florence in 1986 and Milan in 2001, to be chosen as the site of the World Tunnelling Conference, comments **Andrea Pigorini**, the President of SIG. The proposal to be nominated for the 2019 *World Tunnel Congress* was particularly original, and successful in attracting the attention of the other national associations. The title of this year's event, *Tunnels and Underground Cities: Engineering and Innovation meet Archaeology, Architecture and Art*, focuses on cultural cross-pollination, merging engineering themes with some of the essential elements of Italian culture, such as archaeology, architecture and art. The WTC 2019 is an event that explores growth and change in contemporary cities, illustrating the solutions that underground projects can offer. Professionals and experts will share best practices and the most recent innovations, with the aim of explaining how infrastructure can offer the opportunity to provide greater functionality for spaces while seeking a balance with the environment and harmony with the cultures of the past. We can therefore utilize areas available underground, making them more interesting from an aesthetic point of view and improving their potential for use».

«The constant rise in the residential density of major urban areas makes it impossible to find new unused spaces, and this is leading progressively to an increase in underground constructions. It is an opportunity, comments the President of the WTC 2019 Organizing Committee **Renato Casale**, considering that it is easier, more efficient and safer to manage services underground, such as energy distribution systems, infrastructure for mobility, telecommunications networks, waste management facilities. Or the storage of valuable or strategic goods, water distribution networks, combustible fuel storage or command and monitoring centres to manage increasingly complex conurbations. The *World Tunnel Congress* in Naples, adds Casale, will speak to professionals in the field and to a wider public, to shed light, at a time when so much is being said about smart cities, on how to offer a concrete contribution to an idea for a future that is rapidly approaching. Many metropolitan cities are already heading in this direction: Paris, Stockholm, New York, Singapore, Shanghai and Sydney are leading the way. Furthermore, relying on the underground to build cities resilient to climate change is becoming a frequent application around the world».

**It is no coincidence that the city of Naples has been chosen to host the Congress.** The city offers many historic examples of tunnels from as far back as Greek-Roman Antiquity and in recent years has demonstrated a significant capacity for using and enhancing underground spaces, adopting innovative solutions for excavation, and successfully combining archaeology, architecture and art in the award-winning Art Stations of the Neapolitan subway system. Toledo, Università and Garibaldi are just some of the most highly appreciated stations, glowing examples of how the combination of the Italian industry's construction know-how, the creative genius of international artists and architects, and the visionary capacity of a client such as the Metropolitana di Napoli, can guarantee a new and sophisticated reappraisal of the underground.

**The programme for the WTC 2019** is distinctive in the way it highlights the many connections between the world of tunnelling and the disciplines that until now have been considered unrelated to the field. Hence the many specific focuses planned for the event. They include what have been called the Triple-A sessions – Archaeology, Architecture and Art, to be held at the Mostra D'Oltremare and at Palazzo Serra di Cassano, in particular on Wednesday May 8th. Furthermore, a special visit has been planned to see the Tunnel Borbonico, the ancient underground tunnel commissioned in 1853 and just recently restored. The tour is organized in collaboration with ITACUS, one of the four permanent committees of the *International Tunnelling and Underground Space Association* (ITA-AITES).

**Patronage, institutional partners and chairmanship of the Congress**

The event has received the patronage of many institutions, such as the Ministry of Foreign Affairs and International Cooperation, the Ministry of Infrastructure and Transportation, the Regione Campania and the City of Naples. The event also enjoys the patronage of the professional associations in the field, such as ANCE and ICE, as well as the Consiglio Nazionale dell'Ordine degli Ingegneri, the Collegio Ingegneri Ferrovieri Italiani, the Consiglio Nazionale degli Architetti Pianificatori Paesaggisti e Conservatori, the Consiglio Nazionale dei Geologi, the Associazione Geotecnica Italiana and the Associazione Georisorse e Ambiente.

The Ferrovie dello Stato Italiane group is the Institutional Partner of the WTC. Pietro Salini, CEO of Italy's largest construction company, was recently named Chairman of the Congress.

**The scientific programme**

**The format** – The next WTC in Naples will alternate moments of high scientific culture with convivial opportunities and attention to the history and beauty of the city and its locations, thanks to the special social programme planned for the guests.

 The Congress will open officially on **Monday May 6th**, with the **Opening Ceremony**, but thematic courses and international teams will already be hard at work from May 3rd to 5th. From May 6th to 8th, a series of lectures, seminars and workshops will focus on the world of design and construction, in relation to works involving tunnels. On the panels, the finest authorities in the world on underground construction: **Georgios Anagnostou** of ETH University in Zurich; **Raffaele Zurlo**, **Konrad Bergmeister** and **Mario Virano** administrators of the special purpose entities responsible for the construction of the great Alpine railway tunnels in Italy; **Håkan Stille** from Sweden; **Jamal Rostami** from Colorado, who will talk about excavating equipment designed to build tunnels on the moon; **Markus Thewes** from Germany; as well as other renowned designers and planners of the underground, including **Elisabeth Reynolds**, **Elsa Wifstrand**, **Dominique Perrault**, **Han Admiraal** and **Antonia Cornaro**, who will participate in the session dedicated to archaeology, architecture and art.

**May 9th** will be dedicated to the **technical field trips**, offering the opportunity to visit some of the most important construction sites currently open in Italy. There are four possible destinations: the **Metropolitana di Napoli**, Lines 1 and 6, the Municipio Station and the Capodichino headquarters; the **Naples-Bari** high-speed railway line; the **Metropolitana di Roma**, Line C, from the Fori Imperiali to the San Giovanni Station; **the Brenner Base Tunnel**, the longest railway tunnel in the world.

The WTC 2019 will also offer opportunities for continuing education for technical professionals. A request has been made to confer credits for the categories of engineers, geologists and architects. On **Friday May 3rd and Saturday May 4th**, the schedule also includes two thematic courses on technological innovation and communication, sponsored in collaboration with ITACET, the ITA committee responsible for training:

• *Tunnellsing 4.0 and computer technology for the design, construction and maintenance of underground works*, with a focus on BIM (Building Information Modelling) methodology and how it is applied in every phase of the design process;

• *Tunnel construction, design, operative communication and stakeholder* involvement, which will cover the most up-to-date techniques for communication and involving the territory. It will feature actors who have participated in the development of the largest construction projects in the world, to confirm how the acceptance of the work by its future users has increasingly become an integral part of the infrastructure itself.

**New features and proposed themes** – One of the principal new features of the 2019 edition is the way the programme has been structured into thematic sections and topics with specific subcategories, made to provide answers that focus on the interests of the professionals involved. The topics on the agenda include *archaeology, architecture and art in underground constructions; environmental sustainability in underground constructions; innovations in engineering, materials and equipment; public communication and safety; urban tunnels; geological and geotechnical knowledge and requisites for project implementation.*

On **Tuesday May 7th**, the WTC 2019 will also feature a focus on the **Emerald Book**, the new contract outlines and guidelines that regulate the relationship between the client and the contractor, written specifically for the tunnel construction sector, which many countries rely on as a model to refer to. During the event, SIG will present the publication **The Italian Art of Tunnelling**, an outlook on underground projects built by the major companies of Made in Italy.

A particularly important session will be the one on **transalpine tunnels**, scheduled for the afternoon of Tuesday **May 7th** with 10 specific lectures. Italy - a pioneer in the construction of this tunnel typology, having built the first tunnel in the Alps near Monviso between 1475 and 1480 and the first tunnel to actually pierce a mountain, the Frejus railway tunnel between 1857 and 1871 – will illustrate its know-how and technological capacity, acquired in meeting the challenges inherent to the orographic configuration of its territory, and examine other important projects built in neighbouring Alpine countries, such as the Gotthard railway tunnel and the Ceneri Base Tunnel, the project to double the Gotthard highway tunnel in Switzerland and the Koralm tunnel in Austria. For Italy, two focuses on the tunnel for the Milan-Genoa high-speed railway and the Gronda in Genoa.

**The module dedicated to innovation in engineering systems and production**, will illustrate cases of application (*Tunnel Boring Machine* - TBM) that will define the future of this sector, for example digging wells. Also on the programme is a section dedicated to special projects, such as the large underground laboratories for studies in advanced physics (a ring-shaped tunnel over 100 km long for the new particle accelerator) similar to the model of the CERN, the European Organization for Nuclear Research.

**Attention to new infrastructures, as well as the maintenance of existing ones** is a theme to which the Tunnel Refurbishment section will be dedicated, with the goal of examining techniques and innovations in this specific sector which more than others may rely on computer digital modelling systems to efficiently handle the maintenance of civil engineering works and systems. Among other themes, there will be discussion of the uses of diagnostic scanning systems, real-time monitoring systems, big data analysis and artificial intelligence.

**Innovation will be at the core of the session on industry and tunnelling 4.0**, with BIM or more appropriately I-BIM (on linear infrastructures), a virtuous computer-based approach that makes it possible to create the digital twin of the infrastructure starting with the design phase, and then enrich the model itself with "as built" data during construction and use it to manage the work after completion. The focus will be on best practices, illustrated with specific papers on themes such as the Naples-Bari High-Speed Railway system, as part of the Tunnelling 4.0 course May 3rd and 4th, and the Albvorland Railway Tunnel in Germany, between Stuttgart and Ulm, during the session scheduled for Wednesday May 8th.

**The social events**

A special programme of social events has been planned in the most beautiful locations in Naples, as detailed in the attached programme. The gala dinner is scheduled for the evening of May 8th at the Museo Nazionale Ferroviario in Pietrarsa, which preserves the history of Italian railroads. The guests will be accompanied to the dinner on the historic train of the Italian Ferrovie dello Stato, which will run along the itinerary of the first Italian railway line, between Naples and Portici, inaugurated in 1839.

**Charity Partner**

There will of course be moments of attention to social themes with the Fondazione Archè, selected by the Organizing Committee as the Charity Partner for the WTC 2019.

**Events for journalists**

• Opening Press Conference: May 6th at 1 pm

• Press briefing during the event: May 7th and 8th at 12 noon

• Press tour for the journalists, visit to the Metro C in Rome: May 8th at 10 am, with departure from the Mostra D'Oltremare at 8 am.

**Follow WTC 2019 on Facebook, Twitter and LinkedIn**

**FOR FURTHER INFORMATION AND INTERVIEWS**

PRESS OFFICE WTC 2019: PPAN

Federica Ruggeri

federica.ruggeri@ppan.it - wtc2019@ppan.it

+39 06 87751723 | +39 388 576 2810

PRESS OFFICE ITA-AITES

Diane Loth

d.loth@giesbert-mandin.fr

+ 33 6 47 27 74