



Newly elected President of the International Tunnelling and Underground Space, **Tarcisio Celestino** sets out his strategy in this Q&A



Q You were elected President of the International Tunnelling and Underground Space Association during ITA's General Assembly, last April in San Francisco. What is your own perspective of countries' demands regarding tunnels and underground space? How do you see the future of the tunnelling industry?

A The economic configuration is currently changing. In recent years, we have faced a long-lasting economic slowdown, during which everybody tended to curb their long-term investments. Yet, and it is good news, we are now entering a recovery phase, which implies new investments in tunnels and underground space. Until now, the sustainability factor had not been sufficiently taken into account in investment choices, which is understandable: public authorities and owners do not always have in-depth knowledge of sustainable existing solutions and environmental regulations in terms of underground construction, even though things tend to evolve in a good way. It is the role of the ITA to accompany the move of public authorities in their reflection on sustainable cities, for them to think about their underground infrastructures upstream. Indeed, if you wait for your city to face intense traffic jams before you design and develop public transports, then you will have to wait another 15 years for these problems to be fixed!

Q Does it mean that today is the best time for countries to think about the future of their infrastructures?

A Absolutely, for the world is facing a very drastic increase in urban

population that will keep skyrocketing by 80% in the 3 or 4 decades to come. This means more traffic, therefore more transport networks needed. With the global warming effects, cities also have to devise efficient flood regulation solutions to cope with heavy rains and the rise of water levels. Considering the existing backlogs and the fact that we have to rebuild or repair everything we have already constructed so far within the next 2 or 3 decades, the actors of the tunnelling and underground space sector have a huge market potential ahead of them. Faced with these current and future needs, our industry has to adapt and to prepare itself for growth. Regarding mechanized tunnels and tunnel monitoring, significant technological progress has been made within the last twenty years. I believe new actors will come up with disruptive innovations in the next twenty years.

A new generation of young people – engineers from various sectors notably -, studying electronics, automation, big data, or the internet of things, will create new hopes of applications in the tunnelling industry. We have to welcome these people, and inform them that the ground construction industry is a key market where they could find interesting career opportunities.

Q Regarding your analysis, how do you think the ITA has been coping with these opportunities and challenges?

A The International Tunnelling and Underground Space Association is turning 42 this year. Since its creation at the initiative of 19 nations, it has been encouraging the use of the subsurface for the benefit of public and sustainable development.

Also, it has been closely involved in the promotion of advances in the planning, design, construction, maintenance and safety of tunnels and underground space. In addition, it has gathered relevant information, sharing the latest reflections and ideas developed on tunnels and underground space, notably through working groups and committees. Along with the increase in its members, the Association has also been working at enlarging its service offers, in order to appear as the leading reference in the sector of underground infrastructures. In 2013, the Association even set seven strategic goals to be achieved within the period 2014 to 2016. To be specific, deepening relationships with local shareholders such as Member Nations Organizations was one of the main goals to reach. Indeed, the Association relies on their endorsement to undertake a project in any country.

Therefore, ITA created four boards to enhance these relationships: ITACUS dedicated to interact directly with urban and regional planners; ITACET: focusing on knowledge transfer and sharing, and finally ITATECH: aimed to create a synergistic work between industry developments, academic research and final users; ITA-COSUF: not intended to promote tunnels but to improve their operational safety and to make them more viable solutions. Significant progress has occurred since the frequent accidents in the 1990s. ITA-COSUF is partly responsible for this.

After two result reports carried out in 2015 and this year, one can note that most of them have been successfully reached. The newly elected Executive Council is currently working at a new strategic plan in order to continue along this path.

Q How does it translate into organization and missions?

A Further changes had to be initiated to cope with a shifting environment, we wanted to go further in improving our organization. In 2013, the Executive Council proposed to the General Assembly and this latter decided to regularly assess the governance of the Association. The Surveillance Council was established during the General Assembly held in Geneva the same year. Dedicated to ensure that ITA's internal functioning matched a good governance, the Surveillance Council released its first report at the end of 2013 and reported to the General Assembly in 2014. The report confirmed that the ITA, recognised as an NGO, fully complies with the Code of Ethics and Conduct of Non-Governmental Organizations.

Besides, ITA built a solid communication system that has been implemented within the Association, thanks to the working groups and boards, like those mentioned previously, in order to bring the actors of the industry together and to create a genuine synergy between them. In that matter of improving processes and actions, continuous efforts are made and are still carried on.

Therefore, as of today, and thanks to the precious and regular contributions of our working groups and committees, we are on the right track. And of course, we will keep questioning and improving ourselves. But I think we have all the assets and tools to appear as a solid and credible international key speaker to the whole tunnelling community of decision-makers and public authorities.

Q Why is communication so important for the International Tunnelling and Underground Space Association?

A Communication is an indispensable condition without which the ITA cannot sustain its industry. The success of the ITA Tunnelling Awards - whose last edition attracted 110 entries -, the success of the last World Tunnel Congress in San Francisco, attended by 2,300 people from the tunnelling industry (a record figure) and hundreds of Press articles throughout the world were perfect demonstrations of that synergy. A balance also confirmed by the strong interest displayed by the four solid candidates competing for the WTC 2019.

Eager to have tangible evidence of the

satisfaction of its different members (Member Nations, Prime sponsors, affiliate members, workings groups and committees), the ITA ordered a survey in 2014, at the request of the Executive Council. It appeared to get a good satisfaction rate from 70.1 % of the poll, which is a strong indicator of the confidence members place in it. The members' level of satisfaction is particularly high among Member Nations, concerning communication from the Executive Council, the President and the Secretariat. In the



same way, during our last discussion with the ITA's Prime Sponsors in San Francisco, the latter expressed their full satisfaction regarding the Association's activities. It is very encouraging for us, for it means that our efforts to reinforce our different stakeholders' level of commitment are fruitful. It is the only way we can make the tunnelling and underground space industry vivid and visible to the world.

The world will keep evolving at a fast pace, either demographically or technologically speaking. Hopefully, new Member Nations will join us, new strategic needs will emerge. The new Executive Council is fully aware that these external factors require us to pursue our desired improvements on the ITA's management and external actions. New ideas and proposed actions are currently being discussed, for an early operationalization.

Q As the new President of the ITA, what will your roadmap and priorities be for the next three years? What could the ITA's new perspective be for the upcoming decade?

A My first goal is to undertake concrete actions to influence government decision makers to significantly increase the use of underground space around the globe. In that matter, as I said before, we

have strong opportunities, such as urban development, growing needs for energy and water supply and storage, and hopes for underground developments in the mining sector. To make it work, we need to keep addressing strong messages to the general public, by bringing people strong and regular evidence of the benefits of using underground infrastructures (in terms of security and resilience, in particular).

This will necessarily involve regularly putting the costs of infrastructures into perspective, bearing in mind that the costs of underground works are not as high as they are said to be with respect to the benefits and the returns on investment generated for populations.

Yet, it is clear that rising awareness among international decision-makers cannot be achieved without the support and involvement of the Member Nations, together with the whole industry. This must rest upon state-of-the art research and regular assessments of our activities, for completed tunnels and underground spaces around the world

are our most valuable assets.

For this reason, in accordance with its strategic goals approved by the General Assembly in May 2014, the ITA has been striving for more regular and substantiated feedback from its different Working Groups ever since. There have been regular meetings of the Executive Council with Working Group Leaders and Committee Chairs. These discussions have resulted in the launch of a new Peer Reviewing Process, in order to assess the solidity and technical soundness of the works. This way, the ITA betters its odds to strengthen its influence on the academic and political field, while enlarging practical application possibilities through its research work.

More generally speaking, and while some countries remain in their early phase in terms of use of underground infrastructures, the ITA will pay particular attention to knowledge sharing, thanks to its working groups and through the organization of training sessions and symposia. If we succeed in convincing decision makers to adopt underground solutions, therefore having more resilient cities, we will create a boom in our underground construction industry. That is exactly what we are planning to do.