

Madrid, Spain, July 12, 2019

5TONIC to explain the impact of 5G on railway sector at Passenger Global Forum

Arturo Azcorra, IMDEA Networks Director and 5TONIC Vice-President, will participate with a Keynote Speech entitled “The 5G Revolution and its impact on the Railway Sector”

5TONIC, the open research and innovation laboratory focusing on 5G technologies, takes part today in the ‘Passenger Global Forum’, organized by the UIC (the Worldwide Railway Organisation) and hosted by RENFE (the National Network of Spanish Railways). 5TONIC has been invited by the Spanish government to provide an overview of the potential applications of 5G to the railway sector. To this end, Arturo Azcorra, IMDEA Networks Director and 5TONIC Vice-President, will give a keynote speech entitled “The 5G Revolution and its impact on the Railway Sector”.

During the event, 5TONIC’s VP will present various use cases and ideas about the upcoming transition to a “Railway Industry 4.0” with the incorporation of 5G technologies. 5G is a transversal technology that will have a direct impact in many different industries, in very different ways. Railways are not the exception, especially considering the increasing railway transportation demand in many countries, which will require ultra-fast and high-quality communications, the management of complex data operations, such as predictive maintenance, signalling and control of trains, as well as high capacity communications to handle passenger density. The existing communication systems are unable to provide this kind of services, hence, 5G does not only represent an opportunity, but a necessary step in the evolution of the railway system.

One of the main objectives of 5TONIC is to identify specific and particular 5G niche applications, across different industries, testing them and then being able to support their creators to take them to the market. In the particular case of railway, there are plenty of possible uses in three different operational cases:

1. Real time operations: traffic forecasts, real-time monitoring of aspects such as train load rates to better distribute passengers and marketing customization targeting millions of customers, among many others.
2. Travelers: free high-capacity reliable connection onboard, readability of tariffs, etc.
3. Rail operators: IoT for operations and maintenance, mass communications, critical environment communications, etc.

“One of our 5TONIC members, Ericsson, estimates that there will be around 29 billion connected devices by 2022, of which around 18 billion will be related to IoT. Imagine the possibilities in an operationally complex industry such as the railway, and the benefits of applying 5G in terms of cost reduction and increased efficiency. The possibilities are endless,” said 5TONIC VP Arturo Azcorra. “We are thankful to the UIC for inviting us today to participating in the Passenger Global Forum, where we have had the opportunity to share our vision about the important role that 5G is to play in the railway industry.”

About 5TONIC

5TONIC was initiated by Telefónica and IMDEA Networks Institute with a clear vision to create an open research and innovation ecosystem laboratory in which industry and academia come together to boost technology and business innovative ventures. The laboratory promotes joint project development, joint entrepreneurial ventures, discussion fora, events and conference sites, all in an international environment of the highest impact. 5TONIC serves to show the capabilities and interoperation of pre-commercial 5G equipment, services and applications, by leading global companies in the 5G arena. The laboratory was recently awarded Digital Innovation Hub status by the European Commission.

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About Us

IMDEA Networks Institute is a **research organization on computer and communication networks** whose multinational team is engaged in cutting-edge fundamental science and technology. As a growing, English-speaking institute located in Madrid, Spain, IMDEA Networks offers a unique opportunity for pioneering scientists to develop their ideas. IMDEA Networks has established itself internationally at the forefront in the **development of future network principles and technologies**. Our **team** of highly-reputed researchers is designing and creating today the networks of tomorrow.

***Some keywords that define us:** 5G, Big Data, blockchains and distributed ledgers, cloud computing, content-delivery networks, data analytics, energy-efficient networks, fog and edge computing, indoor positioning, Internet of Things (IoT), machine learning, millimeter-wave communication, mobile computing, network economics, network measurements, network security, networked systems, network protocols and algorithms, network virtualization (software defined networks - SDN and network function virtualization - NFV), privacy, social networks, underwater networks, vehicular networks, wireless networks and more...*

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