

Madrid, Spain, February 06, 2019

Ericsson hosts meeting of the European program 5G-EVE in Spain

Key players of 5G R&D and Innovation in Europe meet at Ericsson headquarters in Madrid

Meeting includes a visit to the 5TONIC Lab, founded by Telefónica and IMDEA Networks Institute and of which Ericsson is a member, to showcase demos with application in various sectors

Ericsson Spain hosts the first plenary meeting of the European program 5G-EVE from February 4th to the 6th. The program currently has twenty-eight partners from seven countries, including four of the main European operators and six vertical companies.

5G-EVE (5G European Validation platform for Extensive trials) is the 5G European testing validation platform launched in July 2018 with the objective of implementing and testing advanced 5G infrastructures in Europe. The platform will develop and interconnect four European sites in Spain, Italy, France and Greece to collaboratively create an open end-to-end 5G installation.

One of the main objectives of the Madrid meeting is to plan and coordinate the deployment of 5G technologies in the four laboratories in Spain, Italy, France and Greece so that from May 1st, 2019, use cases of six industrial sectors (Industry 4.0, Tourism, Transport, Smart Cities, Utilities and Media) start their validation tests against their required 5G KPIs.

The 5G-EVE platform in Spain is developed within the framework of 5TONIC (www.5tonic.org), the open research and innovation Lab for 5G technologies co-founded by Telefónica and IMDEA Networks Institute, and of which Ericsson is a member since 2015.

Luisa Muñoz, Head of Ericsson's R&D Center in Madrid, says: "Ericsson's alliance with Telefónica, Universidad Carlos III de Madrid and IMDEA Networks through 5TONIC, with the stimulus of the European 5G-EVE project, will help consolidate the Madrid-based 5G lab as a European landmark and increase the number of vertical collaborators within the 5G innovation ecosystem".

As part of the session, 5G-EVE participants will visit the 5TONIC lab, headquartered at IMDEA Networks, where Ericsson has recently deployed new infrastructure from its radio, core, transport and fronthaul portfolio, and where some of the latest technological applications, including LTE Private Networks, Massive MIMO, IoT, Latency Reduction and Virtualized Core as enablers of 5G technology, are showcased. These applications are available to the different verticals so they can test concrete 5G use cases in different industry 4.0 sectors - such as automotive and intelligent transport, entertainment and media, smart tourism or critical control of remote devices, among others.

During the visit, the technological solutions which constitute some of the basic components of 5G and enable these use cases, will be showcased. They have been deployed by Ericsson, in collaboration with CommScope and Intel:

- **Massive MIMO:** Single-user MIMO, and Multi-user MIMO are Massive MIMO implementations to increase user data speeds and system capacity to meet 5G standards. Both take advantage of Massive MIMO by dynamically transmitting data as highly focused beams and exploiting multipath propagation and spatial multiplexing to simultaneously send and receive more than one data signal through the same radio channel. Multi-antenna transmission plays an important role in the current generations of mobile communications and will be even more central with the arrival of 5G. This type of solutions has application in drone communication and in spaces with a high density of devices.
- **IoT and latency reduction:** Low latency is one of the characteristics of 5G that will allow the expansion of IoT, industry 4.0 and the use of Automated Guided Vehicles (AGVs). The objective is to store the data generated by AGVs in a cloud server where users can query production and machinery maintenance information, prevent downtime and improve AGV real-time control. All this will have practical applications in self-guided factory vehicles/robots with various functionalities, such as transportation.
- **Virtualization and Orchestration,** focused on two important aspects for 5G-EVE: The orchestration of a multi-site experimentation environment and the possibilities offered by 5G and edge computing for offloading part of the device's intelligence to the network. The proof of concept is based on a real use case, in which an end-user device performs a video analysis using Artificial Intelligence. The demo proves that video processing can be downloaded to the network thanks to the low latency and high throughput offered by an edge environment made possible by the 5G network.

5G EVE project consortium is creating the foundations for 5G end-to-end networks in Europe. The 5G EVE results are expected to significantly contribute to accelerate the development of the European innovation ecosystem for 5G with a full set of capabilities, positioning the European industry in the global 5G market.

Source(s): Ericsson; IMDEA Networks Institute
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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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