

World's first 5G radio channel model

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While the next mobile network generation – 5G – is yet to be fully realised, the EU has committed itself to ensuring that European businesses and services are able to take full advantage when this new wave of technology arrives. Industry predicts that the speed and capacity of 5G will open the door to new applications in Cloud Computing, the Internet of Things (IoT) and Machine-to-Machine (M2M) communications, to name but a few.

To ensure that European industry and technological endeavour fully benefit, however, Europe must play an influential role in designing 5G infrastructure. The EU-funded METIS project is a strong example of the serious European investment being made in 5G.

The project, which has received EUR 15.9 million in EU funding, used

its final meeting in March 2015 in Turin to herald a significant breakthrough – the delivery of industry-first 5G radio channel models. These models are based on realistic end-user scenarios and requirements, and are mapped to a range of options. As 5G will support a broad range of applications, different channel models are likely to be required.

Researchers and developers of new technologies and products will benefit from the proposed 5G radio channel models in several areas, not least in enabling them to characterise the performance of early 5G designs. For example, the models will enable technologists to run laboratory tests to predict how devices will work in real world conditions.

The models will also allow for system performance evaluation, system optimisation, radio interface simulation, R&D testing and final product approval, ensuring that Europe will have a major say in what 5G technology will look like.

Consortium members have also been careful to ensure that the proposed [radio channel](#) models address a very wide frequency spectrum, from relatively low frequencies in the current cellular frequency bands to centimetre and millimetre wave frequencies. Some technology firms believe that new channel models will be needed for 5G – in 2020 mobile and wireless traffic volume is expected to increase a thousand-fold over 2010 figures – while it has been acknowledged that limited work has been done on understanding how millimetre wave systems will work in practice.

These models will therefore help speed up development of the next generation of wireless technology, and ensure that European business and know-how are very much in the driving seat. METIS has also helped to lay the foundation for a European – and indeed global – consensus on the future of mobile and wireless communications, providing a valuable

contribution to pre-standardisation and regulation processes.

A key reason for the success of the METIS project has been the strength of its European consortium, complemented by selected non-European partners to ensure global harmonisation. The consortium brought together leading telecommunication stakeholders, vendors, operators and academic researchers, along with a new partner from the automotive industry to provide new insight.

More information: METIS: www.metis2020.com/

Provided by CORDIS

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