The project partners TU Dresden, RWTH Aachen, Deutsche Telekom and Ericsson sign a cooperation agreement in Dresden to launch the National 5G Energy Hub project

Digitisation 26.07.2018

National 5G Energy Hub project launched

Last week, TU Dresden officially launched the long-term National 5G Energy Hub research project. This is aimed at making the future 5G mobile standard usable for applications in energy technology. Project partners are TU Dresden in cooperation with RWTH Aachen, Deutsche Telekom and Ericsson. In addition, the associated partners Techem, VDZ, E.ON and the city of Dresden are also involved. In the presence of Dr Rodoula Tryfonidou from the German Federal Ministry for Economic Affairs and Energy, the cooperation agreement was signed on 19 July 2018 at an official ceremony in Dresden.

Digitisation is one of the major challenging issues of our time and will affect all areas of life in the future. In particular, the media and telecommunications will play a pioneering role here. With the introduction of 5G technology, new opportunities will be created in the coming years to enable modern, wireless-based data transmission methods to be also used by traditional industries. Energy technology in particular could benefit from this development, as the energy transition will mean that many decentrally distributed plants and components will have to be integrated into the existing infrastructure in the future. This will lead to a fundamental change in the supply structures, away from centrally based to decentralised, cellular supply structures that are regionally based and have to provide a high degree of flexibility.

Energy transition and digitisation bring fundamental change

The project partners want to actively support this process in three project phases and develop solutions by 2028. The research questions will be handled by an interdisciplinary team consisting of experts in thermal energy technology, electrical energy technology and telecommunications engineering. Dr Tryfonidou from the German Federal Ministry for Economic Affairs emphasised the importance of digitisation for energy technology and explained how information networking will also play a key role in the coming 7th Energy Research Programme. Mr Mayer-Kahlen from Ericsson referred to the possibilities offered by 5G wireless technologies for energy technology. He pointed out that short latency periods and the linking of a large number of end-use devices are what made the energy transition possible in the first place.

National 5G Energy Hub project

Afterwards Professor Dirk Müller (RWTH Aachen) and Project Director Joachim Seifert (TU Dresden) explained the main focal points of the project. The project is divided into three phases. The first phase of the project (2018-2020), which is starting now, will develop the basic technologies and software building blocks for using 5G energy technology, including thermal and electrical sensors, a gateway system and central backend structures. In

addition, control algorithms will be developed which enable bidirectional control of decentralised power generation and consumption systems. The planned open source platform for 5G technologies in the building sector and upstream energy distribution systems is intended to be useable for companies.

The second part of the project (2020-2024) is concerned with the transfer to products and services. In particular, medium-sized companies shall be provided with help in their efforts to digitise company-specific products and services. In the subsequent field test phase (2025-2028), further applications will be processed and the technology will be tested in real laboratories.

This news item has already been published on the ENERGIEWENDEBAUEN website.

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