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Press Release

Kick-Off event at IRT: Official launch of the 5G TODAY Broadcasting field trial

First 5G field trial for broadcast transmission starts operations in Bavaria

Munich, May 9th, 2019: The 5G TODAY project officially launched its unique field trial for 5G Broadcasting. The project partners Bavarian Broadcasting Corporation (Bayerischer Rundfunk, BR), the Broadcast Technology Institute IRT, Kathrein, Rohde & Schwarz as well as Telefónica Germany are jointly testing broadcasting options for future 5G technology. The new large-area 5G field trial in the Bavarian alpine region is covered by two high-performance transmitters located in Ismaning and on the top of the Wendelstein mountain. Both operate with 100 kilowatts effective output power (technically: ERP). With the help of the high transmission towers and the high power of the transmitters (High-Power-High-Tower-Concept, HPHT), the large-area broadcasting of TV programs can be tested based on the new broadcast mode FeMBMS (Further evolved Multimedia Broadcast Multicast Service). The FeMBMS broadcast mode allows far-reaching and inexpensive distribution of popular content across large coverage areas with a radius of up to 60 kilometres.

Dr. Florian Herrmann, head of the Bavarian State Chancellery and Minister of State for Federal and European Affairs and Media, started the operation of the transmitters from a tablet in front of 160 guests from the telecommunications and media industry, who are participating in an accompanying two-day conference at IRT. "With this milestone, we are creating an impulse for the Bavarian media landscape, once again highlighting the innovative strength of Bavaria as a whole", said Herrmann.

The 5G TODAY project is intended to lay the foundation for the efficient transmission of broadcasting content in the 5G networks of the future. It has been supported by the Bavarian Research Foundation since 2017. "I am delighted that today we can launch the world's first large-scale test network for 5G broadcasting", says Ulrich Wilhelm, Director General of Bayerischer Rundfunk and currently Chairman of ARD.

"We must design our future digital communications infrastructures in such a way that everyone can continue to benefit from the diversity of media content. I welcome the fact that Bavaria is playing a pioneering role in setting standards and in shaping our digital world in this sense."

What has been lacking so far in the distribution of broadcasting content is an efficient and direct way of reaching users with live and linear content on mobile devices without additional costs for them. That is why BR together with IRT and three industry leaders launched the 5G TODAY project in 2017. The project will test how 5G broadcasting can be used to create an overlay infrastructure that can simultaneously serve millions of future 5G mobile devices. The aim is neither to burden the regular mobile networks nor to incur additional costs for citizens.

The technical project partners were also very pleased with the progressing project: "With its expertise in mobile communication and broadcasting technology, Kathrein can contribute its know-how from both areas. These synergies are highly valuable for us when testing various services in 5G TODAY", emphasizes Anton Kathrein, CEO of the Kathrein Group. At the transmitter in Ismaning, an antenna system from Kathrein, which is designed for the distribution of broadcast signals to mobile devices, was integrated into the test field.



HPHT transmitters from Rohde & Schwarz are used for the 5G radio transmission. "With this forward-looking concept, broadcasters can enjoy the same advantages in the distribution of video content over 5G networks as they do in classic broadcasting, such as high video quality, short latency times and long range. With our high-performance transmitters, we make a decisive contribution to the operation of the field trial", emphasizes Peter Riedel, COO of Rohde & Schwarz. The two test transmitters are operated as a Single Frequency Network (SFN) in channel 56/57 (750-760 MHz).

Telefónica Germany is making the appropriate frequencies available for this purpose: "We are supporting the 5G TODAY project in coordinating the spectrum used in the 700 MHz band. It is important for us to learn more about long-range propagation in the 700 MHz band and the application of very large radio cells", says Gerald Huber, Senior Manager 5G Projects at Telefónica Germany.

After the successful launch, Michael Hagemeyer, Managing Director of IRT, expressed his satisfaction: "With this field trial covering Munich and the Bavarian alpine region, we now have a unique and true pioneer project – even if it will still take a few more years for commercial terminal devices to become available and before public operation will be possible. The test will provide important insights for our research." IRT is coordinating the project and is developing a prototype FeMBMS receiver based on a Software-defined Radio (SDR) solution. In the future, this technology could be integrated into smartphones, tablets and TV sets for the reliable reception of live and linear content over 5G. The test receiver for the start event is kindly provided by the Institute for Communications Technology of the Technische Universität Braunschweig.

The test operation of 5G TODAY will run from now on until autumn 2019, after which the results and further exploitation of the findings will be evaluated. The project ends on October 31st, 2019.

Photo: Kick-Off event at IRT: Official launch of the 5G TODAY Broadcasting field trial

From left to right: Prof. Dr. Dr. h.c. Arndt Bode (Bavarian Research Foundation), Uwe Löwenstein (Telefónica), Anton Kathrein (Kathrein-Group), Ulrich Wilhelm (ARD-Chairman, BR), Dr. Florian Herrmann (Bavarian State Chancellery and Minister of State for Federal and European Affairs and Media), Thomas Janner (Rohde & Schwarz), Manfred Reitmeier (Rohde & Schwarz), Michael Hagemeyer (IRT), Prof. Dr. Ulrich Reimers (IfN, Technische Universität Braunschweig)

About 5G TODAY:

As part of the Bavarian research project 5G TODAY, an LTE/5G field trial for broadcasting has been planned in the Bavarian Oberland since 2017. Led by IRT, the project partners Kathrein and Rohde & Schwarz are investigating the large-scale TV transmission in FeMBMS (Further evolved Multimedia Broadcast Multicast Service) broadcasting mode. The project is supported by the associated partners Bayerischer Rundfunk (BR) and Telefónica. The aim of the research work is to enable the efficient distribution of broadcast signals combined with attractive services in the network of the future. Two high-power high-tower transmitters with 100 kW ERP from Rohde & Schwarz are installed at sites of Bayerischer Rundfunk in Munich-Ismaning and on the Wendelstein mountain (1828 m high). Kathrein antennas will be integrated and specially optimized for mobile radio reception. The two test transmitters are operated as a single frequency network (SFN) on channel 56/57 (750-760 MHz). The frequencies for the test transmitters are provided by Telefónica. The 5G TODAY research project is

funded by the Bavarian Research Foundation over a period of 28 months. Further information can be found at <http://www.5g-today.com>.

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