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Vodafone launches Hungary's first live and permanent 5G station in Zalaegerszeg

On the occasion of the opening ceremony of the Zala ZONE Automotive Proving Ground, on the test track Vodafone launched Hungary's first live and permanent 5G base station connected to its network and using its own licensed frequency. Participants at the event could try out a remotely controlled car steered from the remote driver's seat next to the course, via a 5G connection.

On the occasion of the opening of the Zala ZONE Automotive Proving Ground, Vodafone launched the country's first permanent, live 5G base station connected to its network and using its own licensed frequency, thus supporting the testing of future vehicles.

It was in May 2016 that the Government of Hungary decided to build the vehicle test track in Zalaegerszeg, with a view to boosting domestic research and development capacities. The test track is unique in the sense that it not only facilitates traditional automotive dynamism tests, but also caters for the validation assessment of self-driving and electric vehicles, thus offering a comprehensive, multi-layered test environment for future vehicles and communication technologies, from prototype testing to the development of mass-produced items.

Thanks to Vodafone, at the opening ceremony of the Zala ZONE Automotive Proving Ground, participants could be among the firsts to experience remote driving, seen as one of the key milestones on the path leading to autonomous driving. The connection between the BMW i3 electric car and the remote driver's seat was set up on Vodafone's live 5G connection allowing the vehicle to be steered remotely, in real time. The camera located in the car streamed the view visible from the vehicle to the remote driver's seat positioned next to the course in real time, in HD quality. Parallel with this, instructions to the vehicle were also conveyed via 5G with minimal latency, meaning that the driving experience for the driver was almost the same as what they would have experienced sitting in the actual driver's seat.

'The proliferation of digitalisation accelerates industrial development in front of our very eyes, offering huge potential for economic growth. It is, however, important to make sure that the innovations of technological development reach as many people as possible, benefitting everyone. The 4th industrial revolution, happening as we speak, is driven by the telecommunications sector, and Vodafone, one of its major players, is committed to creating a safer and more sustainable future for everyone through the services and technology solutions it offers.' – explained Amanda Nelson, Chairwoman and CEO of Vodafone Hungary. – 'I am very pleased that we are able to present a technology in Zalaegerszeg that is built upon the network of

the future, and will benefit Hungarian businesses, the Hungarian industry and most importantly, the Hungarian people.'

The live 5G station launched by Vodafone operates using a non-standalone standard, meaning that it is working hand in hand with an existing 4G station. The 5G station runs on Vodafone's own licensed frequency spectrum suitable for the provision of commercial services, which uses hardware and software tools that can be considered permanent. Hungary's first live and permanent 5G station could be deployed close to 1 year ahead of its expected launch because out of active mobile operators, currently only Vodafone has its own 5G frequency range suitable for offering commercial services.

"The new generation mobile network opens up possibilities that will, in turn, revolutionise our lives. The remote driving technology presented in Zalaegerszeg, combined with a reliable and sufficiently high-performance 5G mobile network facilitates, in principle, the controlling of any vehicle, including trucks or cranes. The expectation is that in the future numerous tasks will be possible to perform in a tele operated way, whether it's about remote surgeries or the remote construction and maintenance of vehicles and construction industry bases. At the same time, the possibility of remote controlling also results in significant advancement for industrial machinery and drones" – said Dr. Gergő J. Budai, Director of External Affairs and Deputy Chairman of the Board of Vodafone Hungary.

"The theoretical maximum download speed of 5G networks will be able to exceed speeds of 1 gigabit/second. We used active antenna technology for setting up the Zalaegerszeg 5G station, which combines beamforming with MIMO technology to boost both speed and capacity" – described Ahmed Elsayed, Technology Director of Vodafone Hungary. "These innovations on one hand boost the receiver's signal strength and, ultimately, data transmission speeds, and on the other hand multiply the capacity of a mobile connection without the need for larger radio bandwidth."

Further information:

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About Vodafone

Vodafone Group is one of the world's largest telecommunications companies and provides a range of services including voice, messaging, data and fixed communications. Vodafone Group has mobile operations in 25 countries, partners with mobile networks in 42 more, and fixed broadband operations in 19 markets. As of 31 December 2018, Vodafone Group had 700 million mobile customers and 21 million fixed broadband customers, including India and all customers in Vodafone's joint ventures and associates. For more information, please visit: www.vodafone.com. Vodafone Hungary Zrt. launched its Hungarian operation on 30 November 1999.

Vodafone Hungary is an integrated technology provider, with a portfolio covering mobile communication, mobile Internet and broadband data services for retail and business users alike.