



Audi Middle East Communications

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5G in production: Audi and Ericsson take the next step together

- **Audi and Ericsson present a further pilot project for 5G in production**
- **One of the first wireless automation application with a focus on personal safety**
- **Low end-to-end latency enables humans and machines to work together safely**

Ingolstadt/Stockholm, February 20, 2020 – Audi is taking the next step towards the production of the 5G: Together with the Swedish network provider Ericsson, Audi is presenting a new pilot project in human-robot interaction. One of the first case to be shown will be an automation application connected via 5G with a focus on personal safety.

Using 5G in production offers many opportunities: Seamless communication in real time is a pre-requisite in allowing wireless production robots and employees to work together smoothly in the future. Unlike other wireless technologies, 5G is more reliable, reacts more robustly to high usage levels and is therefore particularly suitable for connecting sensors, machines and devices operated by human beings. Together with Audi, Ericsson is now presenting a further example of how to use 5G in automobile production: An industrial robot installs an airbag module into the steering wheel of an Audi.

The robot cell is protected by safety sensors. As soon as a human hand breaks through the cell's light curtain, the robot stops automatically. The high-frequency (fieldbus) communication required for this is facilitated by the very low latency time, i.e. an end-to-end delay of roughly one millisecond. Thanks to 5G technology, interaction between humans and machine is now possible wirelessly as well. "5G combines all points in our production environment and this leads to enormous improvements in flexibility and connectivity and shows how humans and robots can work together safely," says Arjen Kreis, Head of Planning Body Shop Automation Technology, Audi Neckarsulm.

"As part of our project with Ericsson, which we announced in 2018, we are testing the possibility of 5G technology for industrial applications in the smart factory in the Audi Production Lab. These projects will teach us more about how wireless networks can be used optimally in a smart factory," says Dr. Henning Löser, Head of the Audi Production Lab, in which industrial application scenarios for automobile production are tested and developed

further using 5G. Together with Ericsson, Audi places a central focus here on particularly latency-critical use, such as interaction with an industrial robot.

Since 2018, the premium automobile manufacturer Audi and the Swedish telecommunications corporation Ericsson have been testing the use of 5G wireless and network technology for the production of vehicles. The partnership between the automobile manufacturer and the 5G innovation leader makes it possible to recognize the potential of wireless communication in production at an early stage. "5G offers the extremely low latency that meets the performance requirements of industrial automation," declares Marie Hogan, Head of Mobile Broadband & IoT at Ericsson. "Highly developed applications and system-critical IoT networking combined with the advantages of greater flexibility, mobility and efficiency for the purpose of production automation are thus becoming possible for the very first time. 'Cutting the cables' is the actual turning point in the Industry 4.0 era."

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The Audi Group, with its brands Audi, Ducati and Lamborghini, is one of the most successful manufacturers of automobiles and motorcycles in the premium segment. It is present in more than 100 markets worldwide and produces at 18 locations in 13 countries. 100 percent subsidiaries of AUDI AG include Audi Sport GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant'Agata Bolognese, Italy) and Ducati Motor Holding S.p.A. (Bologna, Italy).

In 2019, the Audi Group delivered to customers about 1.845 million automobiles of the Audi brand. In the 2018 fiscal year, AUDI AG achieved total revenue of €59.2 billion and an operating profit before special items of €4.7 billion. At present, approximately 90,000 people work for the company all over the world, more than 60,000 of them in Germany. Audi focuses on sustainable products and technologies for the future of mobility.

AUDI AG's commitment to the region was confirmed through the foundation of its fully owned subsidiary in 2005. The current Middle East model range comprises the Audi A3 and S3, A4 and S4, the A5/S5 Coupe and Sportback, RS5 Sportback, the A6, S6, A7, S7, A8, A8 L and S8, the Audi Q3, Q3 Sportback, Q5 & SQ5, Q7 and Q8.