

Audi and Ericsson take the next step in 5G production

Audi is taking the next step towards the production of the 5G. Together with 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.

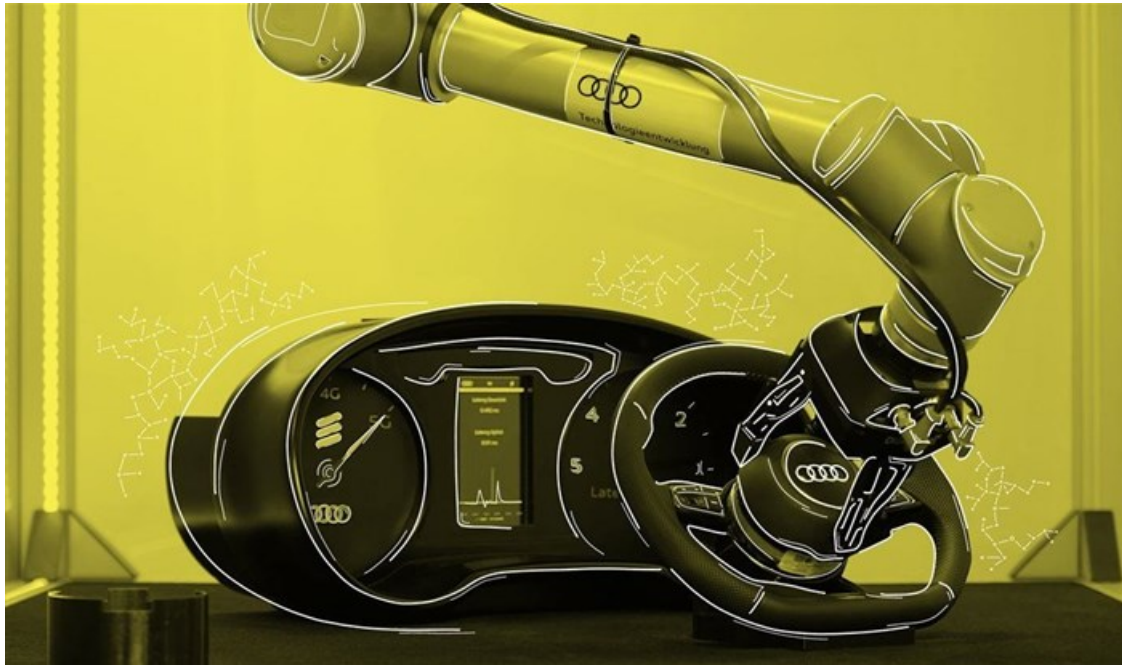


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Using 5G in production offers many opportunities. Seamless communication in real-time is a prerequisite in allowing wireless production robots and employees to work together smoothly in the future.

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, the 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, Audi and 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 recognise 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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