

SPS 2019, Hall 11

Siemens and Qualcomm Technologies set up the first private standalone 5G network in an industrial environment

- **Sustainable technological cooperation for the future of industrial wireless communication**
- **Joint Proof of Concept in a real industrial environment using the 3.7-3.8 GHz band**
- **Researching the capabilities of 5G standalone networks for industrial applications**

Siemens and Qualcomm Technologies, Inc. have implemented the first private 5G standalone (SA) network in a real industrial environment using the 3.7-3.8GHz band. Both companies have joined forces in this project: Siemens is providing the actual industrial test conditions and end devices such as Simatic control systems and IO devices and Qualcomm Technologies is supplying the 5G test network and the relevant test equipment. The 5G network was installed in Siemens' Automotive Showroom and Test Center in Nuremberg. Automated guided vehicles are (AGV) displayed here which are primarily used in the automotive industry. New manufacturing options and methods are also developed, tested and presented before they are put into action on customer sites. This allows Siemens' customers, such as automated guided vehicle manufacturers, to see the products interact live.

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The Automotive Showroom and Test Center enables Siemens and Qualcomm Technologies to test all the different technologies in a standalone 5G network under actual operating conditions and to come up with solutions for the industrial applications of the future. Siemens provided the actual industrial setup including Simatic control systems and IO devices.

“Industrial 5G is the gateway to an all-encompassing, wireless network for production, maintenance, and logistics. High data rates, ultra-reliable transmission, and extremely low latencies will allow significant increases in efficiency and flexibility in industrial added value,” says Eckard Eberle, CEO Process Automation at Siemens. “We are therefore extremely pleased to have this collaboration with Qualcomm Technologies so that we can drive forward the development and technical implementation of private 5G networks in the industrial sector. Our decades of experience in industrial communication and our industry expertise combined with Qualcomm Technologies’ know-how are paving the way for wireless networks in the factory of the future.”

“This project will provide invaluable real-world learnings that both companies can apply to future deployments and marks an important key milestone as 5G moves into industrial automation,” said Enrico Salvatori, Senior Vice President & President, Qualcomm Europe Inc. “Combining our 5G connectivity capabilities with Siemens’ deep industry know-how will help us deploy technologies, refine solutions, and work to make the smart industrial future a reality.”

The German Federal Network Agency has reserved a total bandwidth of 100 MHz from 3.7 GHz to 3.8 GHz for use on local industrial sites. German companies are thus able to rent part of this bandwidth on an annual basis and to make exclusive use of it on their own operating sites in a private 5G network whilst also providing optimum data protection. Siemens is using this principle to evaluate and test

industrial protocols such as OPC UA and Profinet in its Automotive Showroom and Test Center together with wireless communication via 5G.

Siemens and Qualcomm Technologies have a longstanding collaboration focused on technological cooperation in wireless communication technologies. Amongst other things, this has resulted in the development of the Siemens Scalance portfolio for industrial wireless communication. With Qualcomm Technologies' expertise in 5G technology, this collaboration continues to evolve seamlessly, leading to the first standalone private 5G network in an industrial environment. This allows solutions to be tested and developed which industry will be able to use with the up-and-coming Release 16 of the 5G standard.

This press release and further information on Siemens at the SPS 2019, please see www.siemens.com/press/sps2019

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Joint Press release
Siemens and Qualcomm

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. The company is active around the globe, focusing on the areas of power generation and distribution, intelligent infrastructure for buildings and distributed energy systems, and automation and digitalization in the process and manufacturing industries. Through the separately managed company Siemens Mobility, a leading supplier of smart mobility solutions for rail and road transport, Siemens is shaping the world market for passenger and freight services. Due to its majority stakes in the publicly listed companies Siemens Healthineers AG and Siemens Gamesa Renewable Energy, Siemens is also a world-leading supplier of medical technology and digital healthcare services as well as environmentally friendly solutions for onshore and offshore wind power generation. In fiscal 2019, which ended on September 30, 2019, Siemens generated revenue of €86.8 billion and net income of €5.6 billion. At the end of September 2019, the company had around 385,000 employees worldwide. Further information is available on the Internet at www.siemens.com.

Qualcomm invents breakthrough technologies that transform how the world connects, computes and communicates. When we connected the phone to the Internet, the mobile revolution was born. Today, our inventions are the foundation for life-changing products, experiences, and industries. As we lead the world to 5G, we envision this next big change in cellular technology spurring a new era of intelligent, connected devices and enabling new opportunities in connected cars, remote delivery of health care services, and the IoT — including smart cities, smart homes, and wearables. Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, all of our engineering, research and development functions, and all of our products and services businesses, including, the QCT semiconductor business. For more information, visit Qualcomm's [website](#), [OnQ blog](#), [Twitter](#) and [Facebook](#) pages.

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