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TU Kaiserslautern and partners are testing 5G technologies for industrial production

The team led by Professor Dr. Hans Schotten from the Technical University Kaiserslautern (TUK) is researching how 5G technologies can be used in industry in the future. Therefore, they are working together with the German Research Center for Artificial Intelligence (DFKI), the SmartFactory KL association and other industry partners. The focus is on networking concepts for production and logistics. The work is taking place as part of the 5G research project "5G Kaiserslautern". It is part of the 5G research initiative of the Federal Ministry of Transport and Digital Infrastructure (BMVI).

In order to digitize industry, 5G technology is indispensable. It enables machines to have faster and more efficient networking and data transmission. The team led by Professor Dr. Hans Schotten from the Chair of Radio Communication and Navigation at TU Kaiserslautern is researching these 5G applications. Together with partners from research and industry, it is planning and investigating 5G technologies for various application scenarios. The participants have set up a 5G campus network in which they are testing different fields of applications.

One current project focuses on industrial production. In the demonstration facilities at DFKI in Kaiserslautern, the researchers, in cooperation with Smart Factory KL, are investigating a new technology standard, so-called Open RAN networks (Radio Access Network). These can act as interfaces for various components from different manufacturers.

The aim is to build a platform where 5G technology can be integrated and run reliably, regardless of the manufacturer of the hardware and software.

SmartFactory KL and the project partners are testing integration in production facilities of the future and compatibility (co-existence) with other radio and 5G networks, always in compliance with very strict industrial requirements.

"Industry is currently showing great interest in this technology because Open RAN networks make it relatively easy to integrate application-specific functions into the infrastructure, including artificial intelligence," explains Professor Dr. Hans Schotten. In the future, for example, such networks could be used in local networks in small and medium-sized enterprises to make production and intralogistics more efficient and sustainable.

In addition to TUK, DFKI and Smart Factory KL, the mobile network service provider and consulting expert for 5G and campus networks MUGLER as well as the two network equipment suppliers Druid Software and Airspan Networks are involved in the project. The work is funded by the BMVI.

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