CONGIV
YOUR E2E NETWORK SPECIALIST

PROJEKTSTECKBRIEF

AUTONOMOUS FORKLIFT TRUCK FROM THE CLOUD, THANKS TO 5G

RESEARCH PROJECT ROBOT-IN-THE-CLOUD

CONGIV is conducting research together with the Technical University of Munich (TUM), KS Control and the BMW Group on cloud solutions for autonomously driving logistics vehicles in the production environment based on 5G networks.

The complex calculations and controls required for autonomous driving are provided from the cloud via 5G.

Within the project, 5G wireless technology in particular plays a key role in the deployment of the cloud-based logistics solution. This is because the new mobile communications standard enables the data to be processed securely and within of the predefined latency times are transmitted. This enables real-time networking of machines, plants up to complex industrial infrastructures.

By outsourcing the intelligence of the vehicles to the cloud, costly processors and hardware in the vehicles are saved. The permanently necessary software maintenance of an extensive vehicle fleet is moved centrally to the cloud and thus greatly simplified, cost-optimized and accelerated.

Initial situation

The Robot-in-the-Cloud project is investigating the extent to which data-intensive, latency-critical and safety-critical applications can be outsourced to the cloud using 5G technology. This is expected to optimize efficiency and scalability by moving the local intelligence of vehicles to the cloud, which can also open up additional use cases. The outsourcing of data-intensive, latency-critical and safety-critical functions to the cloud – such as camera-based navigation and detection or camera-based functional safety via the cloud – was not feasible with previous communication technologies due to the bandwidth offered, not guaranteed latency.

CONGIV is conducting research on autonomously driving logistics vehicles with TU Munich, KS Control and BMW.

Scope of services

CONGIV GmbH is responsible for the design, planning, construction and commissioning of the network and cloud infrastructure, including the associated implementation of the end-to-end application.

With the delivered solution, CONGIV ensures that IT requirements as well as all BMW security requirements for later use cases are taken into account. BMW security requirements for later use cases are taken into account. CONGIV also takes care of the continuous optimisation of the 5G network.

Added value

The Robot in the Cloud project impressively demonstrates these 5G application possibilities in the context of Industry 4.0," explains Bavarian Minister of Economic Affairs Hubert Aiwanger.

The project is funded by the Bavarian Ministry of Economic Affairs as part of the two-year research project "Robot in the Cloud".

We are also happy to implement your projects with our experienced and highly qualified employees successfully!

CONGIV is part of ROBUR

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As part of ROBUR, CONGIV offers even more: Approximately 3,000 colleagues work worldwide in the industry segments wind, water, energy and process industry. As a competent partner to our customers, they create integrated solutions ranging from planning and implementation to installation, operation and maintenance, relocation and dismantling. In this way, they support our customers in meeting the challenges of digital transformation and ecological change in industry.

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