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## European Data Cloud for the Mobility of the Future

The “GAIA-X 4KI” project, part of the European “GAIA-X” project, offers a glimpse into the future. A consortium of industry and research with 16 partners is developing concrete services for the automotive industry in the European computing cloud with the help of artificial intelligence (AI). The aim is to make connected and automated driving safer.

Huge amounts of data are generated when planning, building and operating vehicles. The team in GAIA-X 4 AI uses AI methods to utilize this data efficiently and securely. To do this, our researchers from “High Performance Computing” bring together data and infrastructure, hardware and software. To achieve this, they use “containers” in which they pack the applications and move them between the respective environments like in a marshalling yard. The challenge: to get the containers on the track in such a way that the available computing resources are used optimally. This results in complex mathematical optimization tasks that can only be solved efficiently by considering the entire system of hardware, software and application algorithms. In addition, the users should be able to use their containers not only on their own premises, but also on a platform that is accessible to everyone, without any major effort.

### Test Track for Mobility of Tomorrow

In the GAIA-X 4 KI project, the Offenburg University of Applied Sciences, the German Aerospace Center (DLR), and the ITWM team are each building a demonstrator. According to project leader Dr. Dominik Straßel, their special feature is: “Normally, data is uploaded to a cloud and processed there; but downloading the result is expensive. That’s why we’re taking a different approach: We calculate directly where the data is, i.e. at the project partners’ locations. This not only saves money, but also energy.” The researchers are focusing on use cases from the automotive industry, aiming to bring automated and connected driving into practice. The German Federal Ministry of Economics and Climate Protection (BMWK) is supporting the project financially.

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