Press release

ViL test stand will be further developed for widespread use

Korean Transportation Safety Authority Develops Test Methods for Driver Assistance Systems with Dürr and dSPACE

Gimcheon/Püttlingen/Paderborn, April 20, 2023. The South Korean Transportation Safety Authority (KOTSA) relies on innovative German technology when it comes to test methods for driver assistance systems. In cooperation with the simulation and validation specialist dSPACE and the machinery and equipment manufacturer Dürr, the authority is developing new test methods and standards to check the functionality of modern driver assistance systems during periodic main inspections. To this end, a memorandum of understanding was signed during a festive act in the city of Gimcheon. The city and the province of Gyeongsangbuk-do will be supporting this project with a budget of 4.3 million euros until 2026.

Advanced driver assistance systems (ADAS) help drivers by providing a variety of functions such as lane departure warning, adaptive cruise control, and emergency braking assist. They help reduce the risk of accidents and collisions, thereby increasing road safety. The question of how to ensure the reliability of ADAS in the long term with the help of test methods is the subject of lively discussion among vehicle monitoring authorities. At the conference of the International Motor Vehicle Inspection Committee (CITA) – the global umbrella organization of motor vehicle inspection organizations and their suppliers – the Korean authority KOTSA presented its successes in ADAS functional testing using its first vehicle-in-the-loop (VIL) test setup. The VIL setup consists of Dürr's patented x-road curve chassis dynamometer, on which the test vehicle can be accelerated, braked, and steered, as well as the DARTS radar target simulator, ASM simulation software, and the AURELION visualization tool from dSPACE. This enables KOTSA to create a virtual environment, especially for the camera and radar sensors installed in the test vehicle, to represent a wide variety of inspection scenarios. These scenarios include critical situations such as vehicles ahead braking suddenly or cutting in directly in front of your own vehicle. To pass the test, the test vehicle must respond to new situations in the VIL simulation in real time and, if necessary, trigger the emergency brake assistant, for example.

In a new project which will run until 2026, the simulation and validation experts at dSPACE and the test engineering specialists at Dürr are now taking the next step with KOTSA. Together, the existing initial VIL setup is to be further developed for widespread use in test benches throughout South Korea. In parallel, KOTSA plans to initiate the corresponding adjustments to the Korean inspection regulations. Internationally, the South Korean road safety authority is thus one of the pioneers in the field of ADAS function testing, which is not yet a mandatory part of the main inspections in any country in the world.

"With this procedure, test organizations and technical services worldwide have the possibility to generate reproducible and, above all, reliable test results. The test bench is a scalable starting point for testing future highly automated vehicles," says Ahmet Karaduman, Consultant and Project Manager of ADAS vehicle-in-the-loop projects at dSPACE.

Kai Künne, Product Manager for Autonomous Vehicle Testing at Dürr subsidiary Dürr Assembly Products, adds: "Thanks to the cooperation with dSPACE, we are increasing safety for all users of automated driving functions with our innovative test bench concept. At the same time, we want to boost confidence in the autonomous vehicles of the future."

For the first time, manufacturers, inspection service providers, and inspection authorities can use this approach to perform automatic, reproducible, and traceable tests under controlled conditions at a test site. This alternative to the currently very costly and difficult-to-repeat vehicle tests on closed-off test tracks enables efficient recurring main inspections for driver assistance systems.

Ein Bild, das Fahrzeug, Auto, draußen, Landfahrzeug enthält.

Automatisch generierte Beschreibung

In cooperation with dSPACE and Dürr, the South Korean Transportation Safety Authority (KOTSA) is developing new test methods and standards to check the functionality of modern driver assistance systems during periodic main inspections.

**About Dürr**

The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation, digitalization and energy efficiency. Its products, systems and services enable highly efficient and sustainable manufacturing processes in different industries. The Dürr Group primarily supplies the automotive industry, producers of furniture and timber houses as well as the chemical, pharmaceutical, medical devices and electrical engineering sectors. It generated sales of €4.3 billion in 2022. The company has about 19,000 employees and 123 business locations in 32 countries. The Dürr Group operates in the market with the brands Dürr, Schenck and HOMAG and with five divisions:

* Paint and Final Assembly Systems: paint shops as well as final assembly, testing and filling technology for the automotive industry, assembly and test systems for medical devices
* Application Technology: robot technologies for the automated application of paint, sealants and adhesives
* Clean Technology Systems: air pollution control, coating systems for battery electrodes and noise abatement systems
* Measuring and Process Systems: balancing equipment and diagnostic technology
* Woodworking Machinery and Systems: machinery and equipment for the woodworking industry

**About dSPACE**

dSPACE is a leading provider of simulation and validation solutions worldwide for developing networked, autonomous, and electrically powered vehicles. The company's range of end-to-end solutions are used particularly by automotive manufacturers and their suppliers to test the software and hardware components in their new vehicles long before a new model is allowed on the road. Not only is dSPACE a sought-after partner in vehicle development, engineers also rely on our know-how at dSPACE when it comes to aerospace and industrial automation. Our portfolio ranges from end-to-end solutions for simulation and validation to engineering and consulting services as well as training and support. With more than 2,200 employees worldwide, dSPACE is headquartered in Paderborn, Germany; has three project centers in Germany; and serves customers through its regional companies in the USA, the UK, France, Japan, China, Croatia, Korea, and India.

Contact Contact

Dürr Systems AG Dürr Assembly Products GmbH

Kristin Roth Kai Künne

Marketing Product Management End of Line

Tel.: +49 7142 78-4854 Tel.: +49 6898 692-5503

E-mail: [kristin.roth@durr.com](mailto:kristin.roth@durr.com) E-mail: kai.kuenne@durr.com

[www.durr.com](http://www.durr.com) [www.durr.com](http://www.durr.com)