Let's Talk
Innovation

Users, interested parties, and
product experts met at the 8th
dSPACE User Conference for
an insightful exchange of
information

The auditorium.

The e-bike with serial drive by IAI GmbH.
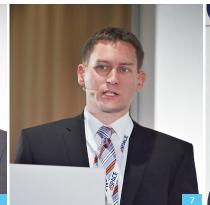
Anwenderkonferenz 2016

In dialog.

How can you validate radar sensors in a closed loop? How can you drive millions of test kilometers in early development stages? The 8th dSPACE User Conference was an exciting and informative platform for discussing these and similar questions to current development trends. Approximately 250 participants met on November 15 and 16, 2016, at the NH München Ost Conference Center to exchange technical information. On the first day, the customers gave intriguing insights into their ongoing projects, methods, and development processes. The second day of the conference provided a combination of interesting seminars by dSPACE

experts on topics such as ISO 26262, e-mobility, ADAS, and automotive networks. But the presentations were not the only source of inspiration for the conference participants. The lively discussions afterwards were just as useful. The seminars in particular provided a great opportunity to share experiences. There were lively discussions on the ISO-26262-compliant validation of ECUs with HIL simulators and informative QA sessions on the future validation of autonomous vehicles. The participants had the opportunity to closely examine and try out the current test and development tools in the exhibition that took place at the same time. This included the latest developments, such as a me-

chatronic radar test bench, a steering test bench, an ADAS prototyping system with many different interfaces and computation power for environment sensors, as well as a platform for cluster simulation, which can be used to drive millions of virtual test kilometers. The first conference day ended with a dinner event at the "dSPACE Alm". Here, the participants had the opportunity to continue their discussions in a casual atmosphere and a cozy, typically Bavarian environment. dSPACE would like to thank all participants and the exhibitors MathWorks, BTC Embedded Systems, MES, DMecS, and IAI. We are already looking forward to the 9th dSPACE User Conference! ∎

Speakers:

1. **Dr. Stefan Schmerler, Daimler AG**
Dr. Schmerler presented the E/E test processes and methods at Mercedes-Benz. By using a combination of virtual and real ECUs with dSPACE Simulators and offline simulators, the company drastically accelerated the validation process and laid the groundwork for digital test drives.

2. **Dr. Maximilian Miegler, AUDI AG**
Dr. Miegler talked about "Developing and mastering highly networked vehicle functions step by step". His "barrier-free" simulation solution that includes everything from purely virtual tests to HIL tests to complete setups is a particularly efficient solution.

3. **Daniel Frechen, Volkswagen AG**
Mr. Frechen presented the use of a chassis HIL for maneuver-based function development. With a high-quality vehicle dynamics simulation on a dSPACE Simulator, evaluating networked vehicle functions and their effectiveness is more cost-effective and can be done earlier than in a real test drive and on the existing test benches.

4. **Sascha Getos, BMW AG**
Mr. Getos presented a practical example for the virtual validation of ECU software with dSPACE VEOS®. He configured the system via remote access and showed how to set breakpoints and reach them after a certain threshold value.

5. **Dr. Thomas Herpel, Automotive Safety Technologies GmbH**
Dr. Herpel talked about testing functions for vehicle safety on the basis of real data and simulation data. A SCALEXIO® system is used with simulated driving scenarios and data replay to evaluate pre-crash scenarios and in-crash events.

6. **Ralf Arens, CLAAS Selbstfahrende Erntemaschinen GmbH**
Mr. Arens presented a central test management solution based on dSPACE SYNECT®, which can be accessed by all German CLAAS locations. In 2016, this solution was used to manage 20,000 test cases.

7. **Thomas Hackemüller, Ford-Werke GmbH**
Mr. Hackemüller introduced a test system for validating camera-based driver assistance systems. The ECUs can be tested with a SCALEXIO simulator and faults can be inserted to test the vehicle behavior.

8. **Jan Peelaerts, EUTOMATION & SCANSYS Sprl**
Mr. Peelaerts told the participants how the company redesigned a load test bench for continuously variable transmissions in only 13 weeks. With dSPACE hardware and software it was possible to develop a high-performance controller.

9. **Serge Klein, RWTH Aachen**
Mr. Klein presented a combination of a simulator (SCALEXIO) and an engine test bench, which was used to test the combustion engine on the basis of driving maneuvers (engine-in-the-loop). Benchmark measurements between the reference vehicle and the test bench showed large agreement.

10. **Oliver Graßmann, Ford-Werke GmbH**
Mr. Graßmann talked about in-house function development according to ISO 26262. The methods and processes are implemented with a tool chain that is based on TargetLink®, BTC Embedded Tester, and MES MXAM.

11. **Holger Jakobs, WABCO GmbH**
Mr. Jakobs presented the model-based development process of his company. To comply with ISO 26262 and AUTOSAR, WABCO uses the production code generator TargetLink®.

12. **Benjamin Freudenberg, Technische Universität Berlin**
In his presentation titled "Modulation, controller synthesis and network synchronization of multilevel inverters", Mr. Freudenberg showed the participants typical problems of power electronics. He was able to develop his solutions with MicroLabBox.

The presentations of the 8th User Conference in German:

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