

Preview ATZextra Automotive Engineering Partners 2022

RANKING

Ranking Automotive Engineering Partners 2022

Overview of the top 50 development service and tool providers.

INTERVIEW

Gerhard Reiff, KST Motor Testing: "We position ourselves very flexibly"

Today, drive development is more complex than ever due to the multitude of different drive technologies. Prof. Dr. Gerhard Reiff, CEO of KST Motorenversuch, spoke to ATZextra about the opportunities offered by e-drives, fuel cells and hydrogen, as well as the resulting challenges in testing.

SIMULATION

Cross-domain simulation methodology for complex functions in networked system architectures

As the degree of networking of control units in the vehicle increases, so do the requirements in the development process. A new development environment from Bosch Engineering now makes it possible to carry out cross-domain software simulations detached from the hardware. New functions can thus be developed and applied quickly and efficiently, even if no physical prototype vehicles are available or if their validation and verification requires safety-critical scenarios that cannot easily be implemented in reality.

Guest commentary:

Dr. Jakub Vidner, Head of BC Vehicle Testing, Kistler

Dates

Advertising deadline: 05/11/2022

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BATTERIES

BMS tests on HiL system with cell controller simulation

Automotive supplier ElringKlinger is further expanding its testing expertise for battery management systems and is using Micronova's hardware-in-the-loop system for this purpose. The article presents the requirements for this system in more detail.

MEASUREMENT AND TESTING TECHNOLOGY

Calibration of ground truth reference systems for the validation of ADAS/AD systems

In order to generate a ground truth validation data set, the precise calibration of all sensors of the reference system to each other and to the vehicle coordinate system is required. AVL shows how a plug-and-play solution for the validation of ADAS/AD systems in real traffic can be realised with the help of the Dynamic Ground Truth reference system, an automated calibration and a Big Data platform.

ACOUSTICS

Sound design in vehicle development
Sound design has gained in importance in recent years. A decisive reason for this is the expansion of electromobility as well as the legal requirements for acoustic warning systems, which has consequences for the entire vehicle architecture. Vehicle manufacturers and their development partners must therefore take a holistic approach to the topic of sound in order to meet the new challenges. Ferchau describes which factors are decisive for a harmonious sound and considers the entire transmission chain.

SIMULATION AND TEST

Simulating the development and production of material assemblies
Automobile manufacturers are challenged to offer novel mobility solutions that contribute to achieving CO2 neutrality. Weight reduction is an essential, predefined factor in this context, which also increases the range of electric vehicles. ESI's end-to-end simulation tool supports Nissan and Ford in the cost-efficient suitability testing of materials, combinations and joining techniques right through to production.

METHODS

Model-based Systems Engineering - Opportunity for Systemic Change
Model-based systems engineering in combination with function orientation offers the basis for a systemic change in the automotive industry compared to the approaches used today. Starting from system design via the digital twin and industrialisation to organisational development, this is the key to sustainable and continuous transformation, as FEV explains.

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