Automotive meets Electronics 2021

Increased use of AI and Simulation

This year's "Automotive meets Electronics" took place on 10 and 11 March 2021 - virtually, of course, in view of the restrictions due to the Corona pandemic. In addition to exciting scientific presentations, the participants were offered to follow three keynotes and a panel discussion.

The structure of the conference was adapted to the online possibilities: For this reason, the technical papers were presented in the form of short talks on the subject. Questions could be asked in special breakout sessions. The conference took place on two consecutive afternoons, which proved to be positive for the online format.

Prof. Dieter Schramm from the University of Duisburg-Essen reported in his keynote on automated driving in the field of inland navigation, which has significantly more degrees of freedom compared to motorised road traffic and also has to take into account effects due to different water depths, for example the different radius of curves.

Dr. Berthold Hellenthal from Car.Software Org in Ingolstadt devoted his presentation to Volkswagen's transformation from a vehicle manufacturer to a software-oriented company in which added value is to be created through new services. This requires fundamental changes in the structure of information processing in the vehicle and in the supply chain, where the future roles of the partners have not yet been determined.

In the third keynote, Dr Wolfgang Schneider vividly presented the extent to which the legal framework for automated driving has changed in recent years.

Classic topics - new focal points

The technical presentations show that the classic topics, such as tractor calculation, have increasingly been supplemented by the use of AI algorithms. AI algorithms are also proving their worth in simulating the behaviour of wheel suspensions. A new focus is the transition towards enhanced simulation. The goal is to be able to describe the behaviour from the sensor to the control units to the entire system in order to shorten development times. The behaviour of the components and the overall system should then be able to be tested much more extensively in the simulation than is possible with hybrid systems. Troubleshooting will then also take place predominantly in virtual space. This also became clear in the panel discussion on "New development concepts using virtual technology".

The conference closed with the prospect of next year’s AmE when the participants hopefully would be able to meet again in person in Dortmund and also to experience the discussions as well as the exchange of information during the breaks.

Dr. Michael Wahl, Chairman of the AmE 2021