Automotive meets Electronics 2021 – Follow-up-report

The 11th AmE in the Congress Centre of the Westfalenhallen Dortmund was characterised by contributions on Advanced Driver Assistance Systems, but also by hardware-oriented topics of communication and energy distribution.

The conference started with a vision of the future, a presentation of David Grabowski who described a future journey from Geneva to Dornbirn from the perspective of the Swiss Federal Railways. Guided by a central coordination service, multimodal transport was shown with the interaction of the various requirements and possible incidents. A convincing scenario, but one that will probably only be realisable in the distant future.

The following contributions focused on solving problems in the present. Alexander Hugenroth described that not only the driver’s environment, but also the driver can be observed in order to determine what he is concentrating on. In this way, it would be possible to feed him with targeted information. He emphasised that it is of course important to arrange the distances between vehicles while driving in such a way that no "accordion effect" occurs which we all know well from traffic jams. Parthib Khound presented an algorithm that leads to stable distances and could thus solve the problem. Christoph Schmittner's contribution focused on describing how one could deal with system errors in autonomous driving.

Another technical focus was put on communication networks such as CAN and Ethernet. A larger part was taken up by efficient algorithms, e.g. for precise traffic-dependent route planning, for optimal recuperation (Andreas Heimrath) or the generation of test cases to reduce test drives (Nico Weber).

Gernot Spiegelberg opened the second day of the event with a polarising keynote. He presented a scenario about future mobility that described a fundamental rethinking of the value chain based on the thesis "Mobility as a Service". His keynote triggered a very vivid panel discussion.

The topics of sensors and sensor simulation as well as power electronics and their impact on the vehicle (electromagnetic compatibility) were also discussed. The best contribution was awarded to Nico Weber from Opel Automotive - his presentation title was "A simulation-based, statistical approach for the derivation of concrete scenarios for the release of highly automated driving functions".

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