

The Virtual Chassis – 11th chassis.tech plus 2020

chassis.tech plus, more formally known as the International Munich Chassis Symposium, was held not in Bavaria but online for the first time this year. More than 200 participants were able to put together their own program to suit their individual preferences from the four strands of the virtual event. Q&A sessions and chat forums gave the attendees the opportunity to interact live with one another.



MORE THAN 200 ONLINE PARTICIPANTS

The event was a complete success. The first virtual chassis.tech plus held in 2020 had more than 200 attendees. As a result of the Covid-19 pandemic, the eleventh staging of the event (June 23 and 24, 2020) had to be relocated from the Hotel Bayerischer Hof to the worldwide web. The keynote speeches and the more than 42 presentations started after a slight delay and a few wobbly pictures of the kind that everyone is familiar with from video conferences.

The Scientific Director of the symposium, Prof. Peter E. Pfeffer from Munich University of Applied Sciences, and Dr. Alexander Heintzel, Editor in Chief of the ATZ-MTZ Group, welcomed all the international participants live online. ATZlive and its partner TÜV Süd organized chassis.tech plus together again. In the seven keynote speeches Schaeffler, Volkswagen, Showa and Toyota, together with Kempten University of Applied Sciences, TÜV Süd and Ford R&A Europe, presented the latest developments in the field of chassis engineering.

EXPERIENCES FROM DISABILITY VEHICLES

In his plenary lecture, Dr. Keiwan Kashi from Schaeffler Technologies discussed x-by-wire systems for Intelligent Connected Vehicles (ICVs), which include people movers, robo-taxis, city buses and shuttles and also goods delivery vehicles. In the future, there will be highly automated versions of all of these vehicles on SAE levels 4 and 5 traveling on our city streets. The central problems involved in automating ICVs are currently the poor reliability of the sensors,



The online exhibition with stands from AVL, Dassault Systèmes, Showa, Springer Professional, TÜV Süd and UACJ and an information feature from ZF complemented the virtual event, participants could provide themselves with a lot of information

One of the seven keynotes: Masato Fujiyama (right) from Toyota during the Q&A with conference leader Pfeffer after his speech about the chassis of the Yaris



The 200 participants had the opportunity to ask the ATZlive team questions at the information desk in the virtual reception area



the lack of test data and the limited decision-making performance of the control units. For this reason, it makes sense to take advantage of the technologies developed for disability vehicles and this is an area where Schaeffler Paravan has 15 years' experience. The cars have covered one billion km in everyday use and therefore plenty of measurement data is available. The SpaceDrive II is a solution designed for people with disabilities that is already available and that can make the process of implementing automated driving functions easier.

AVOID DISAPPOINTING CUSTOMERS OVER AUTOMATED DRIVING

During short interviews that were broadcast live and recorded for later viewing, Pfeffer put the initial enthusiasm about the trend for automated driving into perspective. It has since become clear, including partly in engineering circles, that a lot of work is still needed on the AD functions in areas such as type approval and testing processes. More realistic estimates are needed in order to avoid disappointing customers.

The discussion with Stefan Resch from the symposium partner TÜV Süd covered the subject of functional integration. The behavior of electric cars is the

result of a variety of systems. For example, although the cars are equipped with conventional friction brakes, these are not used as often because the drive system generally slows the car down by means of regenerative braking. However, the friction brakes must remain fully functional for use in emergencies.

Prof. Bernhard Schick from Kempten University of Applied Sciences spoke about the subject of motion control in vehicles. This is a factor that will become more and more important as the level of automation increases because the occurrence of phenomena, such as travel sickness, will need to be prevented. During a benchmark test with a level-2 car it became clear that the best candidates were sports cars which have precise steering and very good stabilization concerning travel sickness. All three experts were interviewed by Dr. Alexander Heintzel, Editor in Chief of the ATZ-MTZ Group.

DESIGNING CARS DIFFERENTLY FOR MEN AND WOMEN

Yousuke Sekino, the COO of the Japanese automotive industry supplier Showa, sees the chassis as a key element in the design of cars in the future. "Without the chassis you have no grip and so the chassis will

QUOTES



Keiwan Kashi, Schaeffler Technologies:
"Our Space Drive system is the drive-by-wire construction kit for all people movers and robo-taxis."



Stefan Resch, TÜV Süd:
"Fine-tuning the orchestra of chassis actuators is becoming an increasingly important factor."



Peter E. Pfeffer:
"Our cars start up much more quickly than the computers in our virtual conference."

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continue to be important," he explained to the symposium participants in his keynote speech live from Japan.

However, Sekino believes that autonomous cars will be designed very differently. As cars have until now mainly been developed by men, "the seat position, angle of vision, steering wheel size and operating forces are all ideal for men." However, these factors are currently changing in favor of women. "Ergonomics, driver assistance systems and control elements have all reached levels where the physiognomy of the adult person driving the car is irrelevant." This trend is likely to continue.

Despite the fact that this virtual event proved to be such a success, as explained at the start of this article, many of the speakers, interviewees and participants expressed a strong wish to be able to meet in person again next year in Munich and to enjoy German beer and pretzels at the 12th chassis.tech plus on June 29 and 30, 2021 in Bayerischer Hof.

Michael Reichenbach