

Experience revolutionary control concepts live - fka offers a glimpse into the future of automated driving

At this year's Aachen Colloquium on Vehicle and Engine Technology, fka is presenting a revolutionary look into the automotive future with its "Surf & Curve" concept. The focus is on the interaction between driver and vehicle. In this way, fka offers concrete solutions for the challenges of automated driving.

Aachen, 08. October 2018

Increasing connectivity and growing levels of automation are main drivers for future developments. They substantially change both vehicles and the driving experience as part of future mobility. This also affects business models. fka's extensive and outstanding experience helps to meet future requirements with creative ideas and innovations. By combining our full vehicle competence with interdisciplinary partners, we provide holistic solutions.

Visitors to the fka booth will be able to experience live how easy the interaction between driver and vehicle can look despite the complexity of automated functions. The "Surf & Curve" concept, developed jointly with the supplier BCS Automotive Interface Solutions, takes a look into the future and offers revolutionary operating concepts. They create completely new possibilities for interaction between driver and vehicle during manual driving, but also provide answers to the challenge of automated driving.

Although the Surf & Curve vehicle model looks futuristic: behind all ideas for the interaction of man and technology (Human-Machine-Interaction, HMI) are already tested solutions, which in the next step will be brought prototypically onto the road.

The user is always at the centre of the development of the entire project. Therefore, the development was not only carried out with experts, but also with representative groups of probands. For this purpose, a static and a highly dynamic driving simulator were used as well as driving on the test track. The aim was to ensure that the vehicle was operated as intuitively, clearly and safely as possible.

The vehicle model, called Mock-Up, includes Drive Sticks with an innovative touch-mouse-hover concept, a Periscope as a mirror replacement system with a head position-dependent display, a Comfort Control Panel as the central control element for seating and climate comfort, an innovative climate actuator with infrared radiator and pelleting elements, an active Turning Seat as an connecting element between manual and automated driving, an infrared sensor based system for determining the driver's position, comfort automation and physiological monitoring, an entertainment system that can be operated by touch and is available depending on the situation, and the Guidance Display as a further development of a conventional instrument cluster..

Unique to the Surf & Curve project is the large number of operating concepts integrated in this mock-up, which can be experienced directly on the booth through the consistent integration of actuators and driving simulation.

On the colloquium test track visitors can experience the fka Virtual Reality (VR) Test System HyPER XiL live. The system consists of a coupling of various state-of-the-art simulation tools such as CarMaker and Vissim. In addition, a VR pedestrian simulator and the fka test vehicle can be interactively integrated in real time, so that each of the elements environment, vehicle, driver, pedestrian and surrounding traffic are available either virtually or actually in the test environment.

Another fka exhibit awaits visitors directly in front of the congress center: the concept car SpeedE. The electrically driven vehicle combines a steer-by-wire system facilitating up to 90° steering angle with an innovative control concept: the driver uses so-called side sticks instead of a steering wheel to direct the vehicle – an already established means of control in aviation. Thanks to its architecture and open interfaces, SpeedE forms an ideal platform to quickly integrate and test new developments also in the areas drivetrain, thermal management and automated driving. This year the SpeedE shows the integration of a redundant control system for course tracking. The next step is to equip the vehicle with various sensor principles in order to enable safe automated driving.

About fka

For more than 35 years, fka has been an innovative engineering service provider for research and development tasks for the automotive industry and its suppliers. We are research facility, provider of creative ideas, and driver of innovation. Our holistic approach and unique infrastructure for simulation, testing and evaluation allows us to see the big picture and be your specialist for details at the same time. We deliver our worldwide customers with the full range of engineering services including conception and simulation, as well as design and engineering of prototypes, and their experimental testing. Working together in interdisciplinary teams is a key aspect of our success. We also cooperate closely with experts from vehicle design, electrical engineering and IT specialists and thanks to our subsidiary are present in Silicon Valley since 2015.

Following our motto “creating ideas & driving innovations” we create a safe, efficient and exciting future mobility for our customers.

www.fka.de

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