

Preview ATZextra Automated Driving 2022

INTERVIEW

"The exciting thing about MaaS is the diversity of providers"

Mobility-as-a-Service (MaaS) aims to bring together different mobility services for efficient use. To do this, they need to be digitally networked and integrated into a corresponding platform. In an interview, the head of the Mobility Ecosystems Team at Fraunhofer IAO explains how individual MaaS solutions are to be assessed, what cities should pay attention to when designing mobility concepts and what role the automation of driving plays in this.

DEVELOPMENT | SIMULATION AND TEST

Integrated development methods increase efficiency of test coverage. The amount of testing required is increasing sharply, not least due to driver assistance systems and autonomous driving functions. IPG shows how simulation makes it possible to carry out tests in almost any number of scenarios in a safe, reproducible and automated manner. IPG Automotive

STANDARDISATION

Taxonomies for networked, cooperative and automated mobility. Taxonomies create a common basis for action for infrastructural mobility support. The aim is to expand the operating conditions in which systems of automated driving vehicles should function. The BAST provides an overview of already established and standardised classifications on the vehicle side, presents new approaches on the infrastructure side and shows how automation is represented from the user's point of view. Federal Highway Research Institute (BAST)

METHODS

Model-based development methodology for highly automated driving functions. Driving functions from SAE level 3 onwards can take over vehicle control autonomously from the driving person under defined boundary conditions. However, due to the increasing complexity, the demands on the performance of the sensor technology, the control functions and the required computing capacity are rising. In order to be able to better analyse these, FEV has expanded model-based systems engineering to include a scenario-based approach. In this way, the increased system complexity can be mastered and verification and validation criteria for automated SAE L3 and L4 driving functions can be derived. FEV Europe

FUNCTIONAL SAFETY

On the road to autonomous driving with the Safety Driver. People's desire for mobility is a key driver for the use of autonomous driving vehicles. As part of pilot projects for driverless automation, safety drivers need an interface for interaction. IAV presents an integrative system approach for this interface in the chassis to enable testing and maturity assessment of autonomous driving functions on test sites as well as public roads. IAV

DEEP LEARNING

Deep-learning-based 3-D object recognition - data, training and validation. Deep-learning algorithms and neural networks are an important component of automated driving functions of future autonomous vehicles. As part of the "3-D-CamLiFusion" research project, Bertrandt has developed 3-D object recognition using deep-learning-based fusion of camera and lidar data. The project covers the entire deep learning workflow. Bertrandt

Influence of diversity of training data in deep learning lane assistants. Alten is developing an artificial intelligence-based lane assistant aimed at urban use without speed limits. In a virtual environment, the system functions in diverse weather situations with simultaneously varying lighting conditions. The connection between this adaptability and the diversity of training data is investigated by designing several test cases with associated test data. Alten SW, Esslingen University of Applied Sciences

Guest commentary
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LIABILITY

Autonomous vehicles are changing the insurance world for good. Electric, autonomous and shared vehicles are beginning to change the way we live, work and get around in our increasingly urban environment. Baloise has also been considering for some time which new risks need to be insured and how, and what opportunities this opens up for product design. Baloise Group

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