Press Release

TÜV SÜD at the IAA Mobility 2021 6 September 2021

New mobility. Sustainability. Trust –

How TÜV SÜD is shaping the mobility of tomorrow

Munich. The mobility sector is developing by leaps and bounds, with changing market conditions and new technologies setting the rapid pace. The solutions in this fast-advancing industry have future-facing names like ‘new mobility’, ‘new powertrain’ and ‘new mobility concepts’. But what does all this mean for periodic technical inspections of vehicles? What form should sustainable mobility take in the future? What answers are available for cyber security concerns? And how will mobility data be managed? These are all questions that will be answered by Patrick Fruth, CEO of TÜV SÜD’s Mobility Division, at the TÜV SÜD press conference at the IAA Mobility 2021 on 6 September. As an internationally operating testing, inspection and certification organisation (TIC), TÜV SÜD is unquestionably one of the key players in the new mobility. The IAA Mobility 2021 will take place in Munich from 7 to 12 September. TÜV SÜD can be found at Stand C20 in Hall B3.

“The ‘new mobility’ opens up an enormous wealth of opportunities. Innovative technologies will enable us to achieve genuine sustainability in mobility while minimising emissions and significantly enhancing safety. Examples of this new approach are the Green Deal and Vision Zero – a safe world in which traffic injuries and fatalities are a thing of the past. By providing independent, impartial expertise, TÜV SÜD ensures this will work smoothly and all these goals can be reached”, says Patrick Fruth. Relevant topics in the field include vehicle roadworthiness tests (also known as periodic technical inspections or PTIs), cyber security, software updates and data storage. Testing, inspection and certification organisations are joining forces to establish a common stance concerning their tasks within this mobility transition. They are drawing up requirements on aspects including legal framework conditions – an area that covers discrimination-free access to vehicle data, software security and ways of shaping the roadworthiness tests of tomorrow. The overarching topics

addressed are integrated and independent testing of modern vehicles, digitalisation and connectivity, and the general theme of protection of people and the environment.

By adopting this line of action, TICs will continue to ensure implementation of statutory and societal goals in environmental, transport and safety policy. Their demands in this process include discrimination-free access to vehicle data and a system for holding mobility data in trust, for example in a neutral trust centre. In Fruth's view, cyber security takes priority. "Safety-relevant vehicle data have a crucially important role to play for TICs and for safeguarding vehicle inspections, particularly as c2c and c2x communication becomes more widespread. When the OBD interface is discontinued, TICs must be able to rely on access to data vehicle at any time, perhaps through a neutral trust centre."

PTI 4.0

A closer examination of the technologies behind the new mobility reveals that roadworthiness tests, or PTIs, will change as they are aligned to new technologies and circumstances. In general terms, the main task in the future will be to monitor automated driving systems, including dynamic functional testing of automated and connected driving systems as well as functional testing of sensor systems and safety-relevant vehicle functions. Monitoring of software will likewise play a key role, with up-to-dateness and simulation-based checks of software both forming part of PTI services in the future. As with today's vehicles, these elements will safeguard the vehicle's functional safety throughout its life and also ensure compliance with all required limit values at all times, thus contributing to sustainability. This applies particularly to exhaust emissions testing for NOx and particulate matter, but also – as set out in the new Euro 7 regulation – emissions of ammonia, methane and formaldehyde or non-exhaust particulate caused by tyre and brake wear. The periodic technical inspection must guarantee the safety of alternative drive systems like BEVs and FCEVs as well as the vehicle's automated driving functions. These safety aspects include the safety of battery cells in addition to testing of all hydrogen lines and the fuel cell itself. Patrick Fruth comments, "Just before the IAA, TÜV SÜD was selected for participation in a Germany-wide funding project, Wasserstoff-Technologie-Anwenderzentrum (Hydrogen Technology User Center/WTAZ) – the only independent impartial testing and certification organisation to be chosen."

Sustainability

Increased sustainability is one of the great expectations confronting the new mobility. The experts are involved in a wide range of projects in which they monitor the eco-friendly operation of vehicles. Where alternative drive technologies are concerned, TÜV SÜD is the only provider of testing services to offer a global network of testing laboratories for large-scale drive batteries.

TÜV SÜD is among Europe's leading providers of certification for charging stations and has long been an advocate of globally uniform high-level safety standards for electric vehicles. The company is also working on a range of processes to improve the carbon footprint of battery electric vehicles (BEVs).

TÜV SÜD is also developing SOH (state of health) tests with the ability to determine the condition – and thus the value – of a vehicle battery. The aim is to boost remarketing of BEVs and help to grow the still relatively limited market for used electric vehicles. The SOH tests are currently being trialled in an initial pilot. The longer a battery can be used, the better its life cycle assessment; this also applies to potential further use of the battery, repurposing it after its life as a vehicle component. Here too, TÜV SÜD's SOH tests can deliver reliable details of the battery condition.

Hydrogen drives likewise have a key role to play in achieving climate goals. They span not only the fuel cell technology used in FCEVs, but also the injection of hydrogen into the intake manifold of diesel vehicles for the purpose of reducing carbon emissions. TÜV SÜD's experts accompany the development of hydrogen technology for vehicles from the outset by providing impartial safety assessments, individual approvals for test vehicles and type approval.

At TÜV SÜD's Mobility and Drive Center in Heimsheim, Germany, vehicles with a variety of drive technologies – BEVs, PHEVs, FCEVs, petrol and diesel – are put through their paces to gain type approval for international markets. Manufacturing processes are also monitored in conformity of production tests (COP). The Mobility and Drive Center network also has facilities in Pfungstadt, Germany, and in the Czech city of Roztoky.

Trust

Trust, safety and certainty are deeply entwined in TÜV SÜD's DNA, The testing service provider has championed the safety of both vehicles and technologies for over 150 years. However, the new mobility now also requires monitoring of the human-machine interface including control systems, verification of the security of car-to-car (c2c) and car-to-infrastructure (c2x) communication, and software management. eCall is one feature already undergoing analysis as part of vehicle roadworthiness tests.

And trust, safety and certainty are also the preconditions that are essential if the new mobility is to become part of our lives any time soon. As well as the technology involved, the treatment and management of mobility data is a critical issue. In future these data will form the basis of algorithms that calculate the most sustainable route for users to get from A to B. However, they are naturally of great interest to all stakeholders in the mobility process – i.e. insurance companies, fleet operators and

mobility service providers, as well as national financial authorities and legal bodies. Given this, TÜV SÜD's legal entities act as impartial trustees to manage the data. The data are collected in a neutral 'trust centre' and released on request to authorised third parties such as mobility service providers, workshops and garages, OEMs and insurance providers. As Patrick Fruth explains, "Vehicle-holders can thus monitor their own mobility data as required and make their own decisions about who can access the data."

Digitisation – better today than tomorrow

Standardised processes, speedier throughput and lower costs all help to increase sustainability at car dealerships and thus represent important keys to success for manufacturers and retailers alike. With an extensive network of qualified damage assessors and digital control tools, TÜV SÜD can create expert reports as needed. Tangible value added is provided by local damage assessors offering a comprehensive service portfolio and taking care of all steps in the process. Using the online damage management platform, Blue Button, customers can access damage reports with a single click. As a partner of industry, TÜV SÜD offers its customers a broad range of digital services. Further examples include BlueNOW!, a pre-assessment service for cases such as lease returns; Photo Fairy, an image tool for professional photos of used cars; and DVS, a fully automated drive-through solution which documents the conditions of vehicles of all kinds from passenger cars to heavy trucks. TÜV SÜD is working on increasing the use of artificial intelligence to step up process automation and scalability. Taken together, all these applications support digital control of the vehicle inventory as well as shorter turnaround times for used cars.

Service centre customers also benefit from TÜV SÜD's purposeful digitisation strategy; the company has offered a 24/7 online appointment service for booking periodic technical inspection slots for many years, and introduced ePayment – a contactless online payment system – on 1 September, to simplify payment for its customers.

The new mobility can be seen in these aspects of automated driving, sustainability in e-mobility, emission laboratories and, last but not least, trust – the PTI of the future. At the IAA 2021, TÜV SÜD will present its multifaceted expertise across aspects of future mobility. "As an international testing and inspection organisation and partner of the mobility industry, we are involved in all future-facing topics of central importance", emphasises Patrick Fruth. The IAA continues to be one of the leading motor shows worldwide and this year features a new concept; our presence there underlines our position as one of the leaders in this sector."

For more information, visit https://www.tuvsud.com/iaa2021 (only available in German).

Note for editorial teams: This press release and the photo of Patrick Fruth can be downloaded in print-ready resolution from www.tuvsud.com/newsroom.

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