Date
27/09/2017

# Recommendations for the amendment of the General Safety Regulation (EC) No 661/2009

In order to improve road safety and environmental protection in Europe, procedures for placing vehicles on the market must be effective, transparent and clearly defined, as well as uniform in application.

VdTÜV e.V. (Association of Technical Inspection Agencies) and DEKRA e.V. welcome the initiative to revise the necessary safety regulations for placing new vehicles on the market (General Safety Regulation (EC) No. 661/2009). The potential of the regulation to improve road safety, and thus significantly reduce the number of traffic fatalities and serious injuries, will depend, however, on whether the safety regulations efficiently ensure that all vehicles placed on the market comply with the legal and normative requirements in all EU Member States.

## Legal classification

The basis of the type-approval procedure is the EU Directive 2007/46/EC on the type-approval for motor vehicles and their trailers. It is supplemented by Regulation (EC) No 661/2009 of the European Parliament and of the Council, as amended by Regulations (EU) No 407/2011, 523/2012 and 2015/166 (the "General Safety Regulation" or the GSR), which regulates the type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units. This Regulation sets out the requirements regarding vehicle safety, mandatory implementing measures and vehicle types to which all regulations apply. The introduction of the GSR in 2009 simplified the existing rules by replacing existing EC directives with UNECE regulations. According to the GSR, mandatory Europe-wide introduction of additional advanced driver assistance systems was only to be carried out once the system requirements in the relevant UNECE working groups had been conclusively defined, in order to ensure the greatest possible benefit for road safety. Furthermore, Regulation (EC) No 78/2009 on the type-approval of motor vehicles with regard to the protection of pedestrians and other vulnerable road users (the "Pedestrian Safety Regulation") amended Directive 2003/102/EC with more advanced provisions reflecting the state of the art in science and technology. The amendments to the regulations include passive safety requirements to reduce the risk of critical injury in the event of a collision between a vehicle and a person.

In order to further simplify the rules, the existing legal separation between the EU type-approval directive and the General Safety Regulation should be overcome. From the point of view of the technical services, this separation has not proven itself in practice. In the course of the amendment of the EU type-approval framework directive to an EU regulation, the GSR should be included as an integral part of the implementation of an EU type-approval procedure.

Road Safety

In our opinion, realising the ambitious aim of Vision Zero – achieving zero traffic deaths in Europe by 2050 and further reducing the number of accident deaths by 2020 by 50% compared to the current numbers – will require a wide range of measures, starting with transport infrastructure and traffic psychology approaches. The future technical development will play a key role, especially active protection systems such as car-to-car and car-to-X communication, environment sensors and pedestrian detection. Ultimately, however, only a networked approach to active and passive protection systems will ensure that Vision Zero becomes more than a vision. As a consequence of an ageing society and an extended working life, individual mobility will become increasingly important up until old age. One of the challenges will lie in developing measures to meet both the mobility needs of the individual and road safety needs of society.

The introduction of further mandatory safety regulations to amend EU Regulation 661/2009 should be based on a technical and scientific impact assessment. However, this impact assessment should not only be based on the parameters of a cost-benefit calculation, but above all on the new systems and measures that have the greatest potential to improve road safety.

The formulation of the regulation for placing vehicles on the market must also take into account the functionality of advanced driver assistance systems and future automated driving systems over the entire life cycle. These systems can help to avoid human error and traffic accidents, as well as to optimise fuel/energy consumption and traffic flow. However, new accident and breakdown risks will also arise, e.g. through remote manipulation of on-board systems (cyber-attacks) or through compatibility conflicts. In view of these new complexities and requirement profiles for road safety, the type-approval procedures for the independent evaluation of these vehicle systems must be adapted to account for the increasing digital automation in the vehicle and must take effect earlier in the development process of the vehicle model. The basis for this – as well as for the later periodic technical inspection (PTI) – is direct access to the relevant vehicle and system data. These data, including their updates, are absolutely necessary both in procedures for testing safety-relevant systems (driver assistance systems, sensors etc.) and for

the independent evaluation of the safety and engine control electronics. Furthermore, the regulation must formulate requirements for the construction of the vehicle to allow for testing of safety-related components at a later time as part of the PTI by means of visual inspection and performance testing without disassembling vehicle parts.

Data protection and IT security

In modern vehicles, each tyre must be equipped with a corresponding tyre pressure sensor in accordance with General Safety Regulation (EC) No 661/2009 Article 9 (2). The technical purpose of this is the early detection of over-inflation or under-inflation while the vehicle is travelling, e.g. to avoid accidents due to acute pressure loss at top speeds by warning the driver immediately and simultaneously allowing the vehicle's steering system to respond to the reduced air pressure in one of the vehicle tyres. Data are transmitted to the vehicle via a wireless communication interface based on radio waves (e.g. Bluetooth). For more precise calculations, temperature differences in the external environment and data from motion sensors are also considered. The history of the tyre pressure sensor data is usually stored in the vehicle's control units and can be read out relatively easily from the transmitted data by external organisations. Similar forms of data collection in the vehicle are found in the car seats, which are equipped with weight sensors in order to provide a warning signal if a seat belt is not fastened. The extension of a seat belt or the adjustments of seat and backrest positions also allow conclusions to be drawn about the occupants. The long-term recording of these data can disclose an abundance of additional information which is of a sensitive nature in terms of data protection laws, so that a high protection requirement must be derived both for such data and for security as a whole. Significant progress can still be made in this area in the future through improved system design and the consideration of IT security and data protection mechanisms in the vehicle.

Vehicle type-approval and technical checks carried out as part of the periodic inspection must be linked within Regulation 661/2009 in such a way that the general construction requirements not only ensure compliance with security and data protection, but also enable the monitoring of these requirements in the required technical tests. Data protection and cyber security must be taken into account in the development process of the automobile right from the start and throughout the entire product life cycle. The increasing prevalence of information technology in modern vehicles means that vehicle manufacturers are required to ensure secure system updates for the vehicles on a regular basis.

Event data recorder

The mandatory installation of an event data recorder ('black box') in all vehicles from 2020 onwards can be an additional building block for more road safety in Europe. The device is intended to reconstruct a possible sequence of events during an accident. Like the flight recorder in aviation, the data memory registers all important vehicle data by means of sensors. It records transverse and longitudinal accelerations, rotations and braking manoeuvres, but also whether and when the driver signalled, turned on the light or switched off the ignition. It also stores information about the surroundings of the vehicle before an accident. Regarding the transmission of the stored data, it should also be clearly regulated that they can be transmitted to the holder and to third parties only by court order. The data memory must therefore also be protected against unauthorised access and manipulation and access to the data must be identifiable. A 'trust centre' should be established as a trustee for analysing the data to clarify traffic accidents, which provides and interprets appropriate data for police authorities, municipalities as third parties, and vehicle manufacturers or independent assessment centres.

Alcohol interlock systems

VdTÜV and DEKRA are, in principle, in favour of the introduction of alcohol-sensitive immobilisers (alcohol interlocks). However, it should be noted that the appropriate group of people who could benefit from their implementation must not become conspicuous with an overly high blood alcohol concentration since it is unsuitable for the use of alcohol interlocks. Furthermore, the system is only useful if it is accompanied by a psychological rehabilitation programme, which has also been recommended by the Federal Highway Research Institute (BASt) in Germany and in numerous international studies.