European Transport Safety Council

BRIEFING | EU Strategy for Automated Mobility

October 2018

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Context

On 17 May 2018 the European Commission adopted a strategy paper on automated driving[1]. The paper was published as part of the EC's third mobility package, which also includes new vehicle safety standards, updated rules on road infrastructure safety management and a strategic action plan on road safety.[2]

This short briefing reflects ETSC's first analysis of the paper with suggestions for areas that need further development.

This briefing builds on an earlier, wide-ranging ETSC publication that outlined the main areas that need to be addressed to ensure the safe rollout of automated driving in Europe.[3]

[1] European Commission (2018) On the road to automated mobility: An EU strategy for mobility of the future https://bit.ly/2Lysy0s
[2] European Commission (2018) Europe on the Move: Commission completes its agenda for safe, clean and connected mobility https://bit.ly/2Inli8J
[3] ETSC (2016) Prioritising the Safety Potential of Automated Driving in Europe http://etsc.eu/4t8Oi

Automation is not a silver bullet

> *"…as the latest accidents in the United States have shown, in order for automated mobility to gain societal acceptance only the highest safety and security standards will suffice."* (page 1)

We warmly welcome, and fully agree with the Commission's acknowledgement that when it comes to automated mobility, "only the highest safety and security standards will suffice". This must remain the guiding principle in the years to come.

Automated driving has the potential to significantly improve road safety.[4] However, recent collisions involving vehicles with automated technology on board demonstrate that automated driving may also pose new risks to road safety, and that the technology is not yet mature.

> *"Once the current teething problems have been properly addressed – and they must be, driverless vehicles could significantly improve road safety since human error is estimated to play a role in 94 per cent of accidents."* (page 1)

The Commission's strategy, in our view, is overly optimistic about the potential of automated driving to improve road safety. The above quote from the EC paper risks playing to the current hype about the technology.

A new report by the International Transport Forum of the OECD[5] addresses a critical misunderstanding of road safety crash data that has led to an oft-repeated myth about automated cars – that they will eradicate the 90% of fatal crashes attributed to human error. It points to a number of reasons for challenging this "untested and uncertain hypothesis". In particular, the report notes that many crashes that involve human error also involve other factors that may have still led to a crash even if the human had not committed an error in judgement or misperception.

Errors linked to poor roadway design (e.g. roads designed for lower speeds than legally allowed, confusing junction design, etc.) or faulty vehicle and interface design (confusing display or interfaces or visual obstruction) are often attributed to human causes when they are, in fact, design-induced errors. The authors point out that human error can also be non-driver-related errors, by pedestrians, cyclists and motorcyclists. Since they won't

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[4] ETSC (2016) Prioritising the Safety Potential of Automated Driving in Europe, http://etsc.eu/4t8Oi

[5] OECD / ITF (2018) Safer Roads with Automated Vehicles? https://bit.ly/2AS3ArG

be automated, their errors will probably not be eliminated by automation.

The authors do not deny the potential for automation to improve road safety, just point out that much will depend on the approach taken on regulation as well as the broader context, such as the application of the safe system approach to minimise the effects of crashes that still inevitably occur.

The "teething problems" of automated technology, as the Commission refers to them, have already resulted in deaths linked to overreliance on automated technologies[6] or a failure of a fully automated system to react to avoid a common collision scenario during testing on a public road.[7]

The European Union must aim for the highest standard of safety for automated vehicles, at least as good as the safest drivers on today's roads. There is no independent scientific evidence that shows automated cars are at that level today.

[6] US National Transport Safety Board (2017), Collision between a Car Operating with Automated Vehicle Control Systems and a Tractor-Semitrailer Truck Williston, FL May 7, 2016 NTSB/HAR-17-XX, https://go.usa.gov/xRMFc

[7] US National Transport Safety Board (2018), Preliminary Report Highway - Hwy18mh010, https://goo.gl/2C6ZCH

Focus on short-term measures that can save lives today

ETSC believes that policymakers should ensure the adoption of proven life-saving technologies that are available today.

The EU has the exclusive authority to set minimum safety standards for all new vehicles sold on the EU market. The proposal revising the 2009 "General Safety Regulation", published alongside the automated mobility strategy, includes a set of new vehicle safety measures, including mandatory installation of new driver assistance technologies, as well as revised minimum crash testing standards and measures to protect pedestrians and cyclists. The measures are expected to come into force from 2020 onwards.

ETSC supports all of these measures, in particular those with the most potential to reduce death and injury such as Intelligent Speed Assistance (ISA) and Automated Emergency Braking (AEB). These technologies are widely available on the market but regulation is needed to make sure the benefits are extended to all new vehicles as standard.

According to analysis carried out for the European Commission by TRL, the UK transport research laboratory, the full array of proposed vehicle safety measures could prevent 24,794 deaths across all vehicle categories between 2022 and 2037.[8]

An investigation into the recent fatal collision between an Uber test vehicle and a pedestrian, found that the factory-installed Automated Emergency Braking on the Volvo XC-90 vehicle was switched off while Uber's self-driving test software was running. Had the system been activated, the death may have been avoided.[9]

Some of these Advanced Driver Assistance Systems (ADAS) may also pave the way for automation. ISA may, for example, provide the necessary incentives to put in place the required administrative infrastructure to ensure that speed limits (including dynamic speed limits) are correctly incorporated and updated in digital maps that later will be used by autonomous vehicles as well.

Connectivity is another branch of technology that will help prepare for automation while improving road safety in the short term. C-ITS services including in-vehicle (dynamic) speed limits, emergency electronic braking light, road works warning, weather conditions

[8] European Commission (2018) Cost-effectiveness analysis of policy options for the mandatory implementation of different sets of vehicle safety measures, page 13, https://bit.ly/2IN9ltl
[9] US Insurance Institute for Highway Safety (2018), Status report, Vol. 53, No. 4, Fatal Uber crash shows risks of testing on public roads, https://bit.ly/2OURFwr

(when linked to speed limits) and intersection safety services have all been identified by both the Commission and the C-ITS Platform as highly beneficial and should therefore be deployed quickly.[10]

ETSC therefore calls on the Commission to come forward with a legislative proposal mandating the deployment of the C-ITS services enhancing road safety.

[10] European Commission (2017) C-ITS Platform, Phase II Final Report, https://bit.ly/2ORWTZC

Current EU 'exemption' procedures are not transparent or robust enough for automated vehicles

> *"Existing EU legislation is to a large extent already suitable for the placing on the market of automated and connected vehicles."* (page 4)

A legislative framework dedicated to the approval of automated vehicles in the European Union does not yet exist. However, a procedure exists for ADAS and automated driving systems for which no EU rules are currently set out to be exempted from the current type approval rules and thus still be allowed on the road.[11] The new type approval framework extends this procedure to whole vehicles as well.[12]

ETSC is concerned over the total lack of transparency surrounding this exemption procedure. No information is made available regarding which manufacturer and system are concerned by the exemption, nor is it disclosed which test procedures have been applied and no public statement is made that explains in detail why the system is considered safe.

We are especially concerned as many exemptions are likely to be requested as more manufacturers begin offering new driver assistance systems and automated features. This highlights the need for a comprehensive review of the type approval procedures, particularly given the impeding advent of automated driving features that provide Level 3 and Level 4 support (see figure below), which would include the offering of hands-off driving.

ETSC would like to see the exemption process to be used as a short-term solution, pending a more comprehensive approach. This is because the current approach adds to the risk of different manufacturers offering very different systems and HMI with consequent user confusion.

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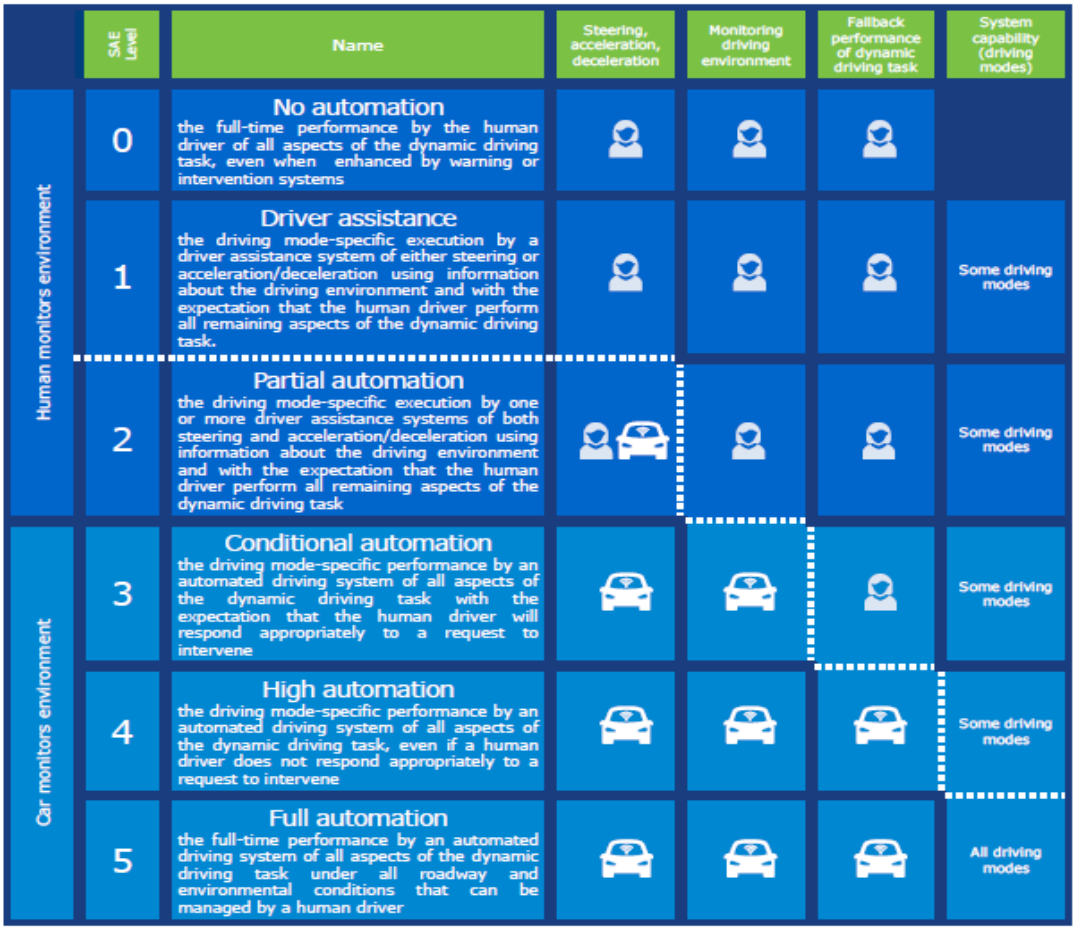
[11] Directive 2007/46/EC establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, Article 20, https://bit.ly/2M3mQrz

[12] Regulation (EU) 2018/858 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, Article 39, http://bit.ly/2P1bWQt

In the meantime, ETSC calls for all aspects of the exemption procedure to be made more transparent. The Commission Implementing Decision on the exemption should therefore be made more transparent by publicly listing the manufacturer and system concerned and by setting out the full details of the testing regime that has been applied. This would allow consumers to know which systems are type approved despite not having been checked against established EU safety requirements and test procedures.

ETSC furthermore calls on the Commission to improve the transparency of the exemption procedure in the Technical Committee – Motor Vehicles (TCMV) by ensuring that draft Commission Implementing Decisions are publicly available from the start of discussions, that the minutes of TCMV meetings are more detailed, and that the Commission Implementing Decision is accompanied by a document in which the TCMV explains why they consider the system to be safe.[13]



Source: Adapted from SAE Standard J3016 (SAE, 2014).

Figure: SAE Levels of Automation 0-5

[13] ETSC (2018) Letter to the European Commission regarding the lack of transparency concerning the exemption procedure for new vehicle technologies. http://etsc.eu/uf3G3

Dangers of overestimating driver assistance systems

"New risks such as overreliance on, and misuse of, technology should be addressed". (page 8)

The "lane change assist" system recently approved via the exemption procedure is exemplary of a more general concern: the safety risks resulting from driver overestimation of the abilities and limitations of advanced driver assist and semi-automated systems installed in their vehicles.

As a system designed to assist the driver, lane change assist systems are only required to verify whether it is safe to conduct a lane change by checking to the rear of the vehicle. The system expects the driver to have checked in front and to the side.

While this is in line with the philosophy of 'level 2' on the scale of (vehicle) automation, which states that the driver remains responsible for monitoring the driving environment, we question whether all drivers are aware that the system is a driver assist system and not an automated driving function.

There is a significant risk of drivers initiating lane changes without having checked in front and to the side of their vehicles as they may have expected the system to have done this. The lack of clarity for consumers about which areas the system is checking and which ones the drivers are supposed to check therefore poses serious risks.

Drivers' overreliance and lack of understanding of the limitations of level 2 systems have already contributed to fatal collisions.

ETSC therefore asked the Commission the following questions[14]:

1. Has the Commission examined the perception by drivers of the abilities and limitations of different ADAS technologies and what safety risks are posed by driver overestimations?

2. What regulatory measures has the Commission taken or will it take to ensure that drivers of vehicles with advanced driver assist systems on-board are properly informed about the systems' abilities and limitations as well as their responsibilities

[14] ETSC (2018) Letter to the European Commission - Safety Concerns over Driver Overreliance on Lane Change Assist Systems, http://etsc.eu/49gC6

as driver?

3. How will the Commission ensure that all potential drivers are informed about the systems' abilities and limitations, and not merely the purchaser of the vehicle i.e. when taking delivery of a new vehicle? Other drivers may include other family members, rental car drivers, second-hand purchasers etc.

ETSC welcomes that the Commission acknowledges that "new risks such overreliance on, and misuse of, technology should be addressed", however regrets that the Commission does not set out in its automated mobility strategy how it envisages to address these risks.

In order to minimise the risk of (accidental) overreliance by drivers, it is also very important that human machine interfaces (HMI) are clear and harmonised across makes and models – a point that will be elaborated on in a next chapter.

A comprehensive regulatory approach for the type approval of automated vehicles is needed

"…the Commission will start working on the development of a new approach for certifying the safety of automated vehicles." (page 8)

Given the previously mentioned shortcomings of the exemption procedure currently used, ETSC calls on the European Commission to come forward with a comprehensive approach to the type approval of automated vehicles and vehicles with automated driving technologies on board.

ETSC welcomes that the Commission indicates that it will start work on a new approach for certifying the safety of automated vehicles.

ETSC agrees that their deployment can only take place once the safety of both occupants and other road users can be guaranteed.

ETSC also welcomes that the proposal revising the General Safety Regulation[15] for motor vehicles already includes a provision that would allow the Commission to set out detailed rules concerning the specific test procedures and technical requirements for the type approval of automated vehicles.

These detailed rules should ensure that all new safety functions of automated vehicles are covered, to the extent that an automated vehicle will pass a comprehensive test equivalent to a 'driving test' and be shown to be equivalent to a level at least as high as the best human drivers on the road.

This should take into account high risk scenarios for both occupants as well as all road users outside the vehicle. While drivers are currently tested for their eyesight, so too should automated vehicle's sensors be subject to stringent tests, including in challenging weather conditions. The type approval regime should also ensure that automated vehicles comply with all specific obligations and safety considerations of the traffic law in different

[15] European Commission (2018) Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/… and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009, https://bit.ly/2JbVNZL

Member States.

The regulatory framework should furthermore ensure that automated vehicles are regularly tested to evaluate their safety performance, within the framework of regular roadworthiness tests, linked to reporting, some of which could be based on self-diagnosis. Type approval and roadworthiness requirements should account for (over-the-air) software updates, ensuring that they do not pose a risk to safety, including during the update process.

ETSC also welcomes the Commission's intention to assess the consequences of automation for the legislation on driving licences and professional driver training, and underlines that training on both advanced driver assist systems and automated driving technologies should be included.

ETSC furthermore welcomes the Commission's proposal for automated vehicles to be fitted with data recorders that clarify whether the vehicle's automated driving system or the driver was driving the vehicle during an accident. ETSC furthermore encourages the wider use of in-vehicle 'Event Data Recorders' devices, which record vehicle situational information before and during any collision and allow for additional useful information to be collected. This additional information could include speed as well as vehicle manoeuvres, which cannot be reliably identified by the usual police investigation.[16]

ETSC underlines that exceptions must be introduced into national privacy rules to allow accident investigators to understand what the contributions were of driver and vehicle technology, while researchers need to be protected against litigation claims.

[16] ETSC (2016) Prioritising the Safety Potential of Automated Driving in Europe http://etsc.eu/4t8Oi

The importance of the Human Machine Interface (HMI)

For the foreseeable future, a wide variety of non-driverless vehicles with differing levels of automation functionality will be on the road. While true driverless vehicles have almost no requirements to be actively operated by a human, these non-driverless vehicles require both driver and vehicle to collaborate in order to deliver safe and comfortable driving. The main communication means for this collaboration is the Human Machine Interface (HMI).

The importance of a clear and understandable HMI in vehicles with automated functionalities was set out by Carsten and Martens:

> *"Drivers of vehicles with automated functions may not understand that these systems cannot work in all conditions. Therefore there is a fundamental need for the HMI to help the human to understand the capabilities of the automated functions as these functions vary over time. The role of the HMI is to make humans understand what is expected of them in terms of monitoring and active intervention. (…) Misunderstanding between the vehicle and the human about what the other party will do has the potential to result in false expectations on the part of the system about what the human will notice, as well as over-reliance by the human on system capability and consequent disaster, as evidenced by the fatal crash of a Tesla in Florida in May 2016. At the opposite end of the spectrum, if users have too little trust in system capabilities, they may decide not to buy or use systems that could potentially be helpful and safety-enhancing."*[17]

While the communication between vehicle and driver is of particular importance for vehicles with automated functions of level 2, 3 and some of 4, communication between the vehicle and other road users is of importance for vehicles with level 4 and particularly level 5 functions.

Clear internal and external HMI therefore needs to be developed, notably for information, warning and intervention strategies, in order to maximise clear communication and safety as well as minimise possible distraction, especially at lower levels of automation.[18]

Interaction schemes should furthermore be standardised, as there is a risk of confusion by drivers and road users if the designs of human machine interfaces differ substantially

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[17] Carsten, O., & Martens, M. H. (2018). How can humans understand their automated cars? HMI principles, problems and solutions. *Cognition, technology and work*. https://bit.ly/2vNpabe

[18] ETSC (2016) Prioritising the Safety Potential of Automated Driving in Europe http://etsc.eu/4t8Oi

across vehicle makes and models.[19]

If a driver does not regain control despite warnings given by the vehicle system (level 2, 3 or 4), then the system has to ensure a minimum safe level of performance.[20] Drivers should furthermore be only allowed to activate such systems on roads where there is a high possibility of the system functionality well, for example through geofencing or by using advanced sensors to detect if the required conditions are met.[21]

ETSC welcomes that the Commission "will follow the guiding principles for human-machine interface proposed by GEAR 2030[22]" when implementing new rules regarding vehicle safety legislation.[23]

ETSC recommends that the EU supports independent research to identify the best solutions for the design of clear internal and external HMI as well as research into the safety implications of driver dis-engagement and re-engagement during automated driving.[24] These solutions can then subsequently be incorporated into EU-wide standards, whether through formal legislation or informal agreements on their use.

ETSC furthermore reiterates the call that driver training, including the development of a curriculum, should be adapted so that drivers can gain a working knowledge of when and how to use automation features and understand the basics, advantages and limits of the technology.[25]

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[19] Ibid.
[20] Ibid.
[21] Carsten, O., & Martens, M. H. (2018). How can humans understand their automated cars? HMI principles, problems and solutions. *Cognition, technology and work*. https://bit.ly/2vNpabe
[22] European Commission (2017), GEAR 2030 High Level Group Final Report, Annex 3, https://bit.ly/2MudUaH
[23] European Commission (2018) On the road to automated mobility: An EU strategy for mobility of the future https://bit.ly/2Lysy0s
[24] ETSC (2016) Prioritising the Safety Potential of Automated Driving in Europe http://etsc.eu/4t8Oi
[25] Ibid.

Passive safety of automated vehicles will remain crucial

Passive safety measures on vehicles are there for when a collision occurs. Collision avoidance technology will reduce the number of collisions but it will not eliminate them all.

In the cases where collision avoidance systems are able to reduce the impact speed, they will complement but not replace the need for measures that protect both the occupants of the vehicle as well as other road users.

ETSC argues that both passive and active vehicle safety features have an important role in reducing the number as well as the severity of collisions. This remains as true for automated vehicles as it is for conventional vehicles.

Automotive manufacturers argue that current driver assistance technologies such as Automated Emergency Braking "reduce the need for additional passive safety measures". They also go on to argue that, in the context of large-scale introduction of automated vehicles,"reduction in the passive safety of vehicles….should not be ignored and needs to be considered." [26]

ETSC strongly disagrees with this view. While large scale use of automated vehicles may indeed have the potential to reduce or mitigate collisions, reducing passive safety requirements will have the adverse effect of increasing the risk of fatality and the severity of injuries in the case of a collision.

It should not be forgotten that for the foreseeable future non-automated, semi-automated and fully automated vehicles are expected to share the road. For example, a fully automated vehicle that would adhere perfectly to all traffic rules may still be involved in a collision with other vehicles due to no fault of its own, highlighting that passive safety is and remains of vital importance.

In this context, ETSC reiterates that research should be conducted looking at the transitional phase of mixed automated and semi-automated vehicles, as well as their interaction with vulnerable road users, and welcomes that the Commission will ensure that mixed traffic conditions and interaction will be fully taken into account when

[26] ACEA (2018) Position Paper – General Safety Regulation Revision, https://bit.ly/2ATwMP4

preparing legislation.[27]

Driverless pods

While automated driving functions are expected to be gradually introduced into conventional passenger cars, non-conventional driverless vehicles such as pods and shuttles are already being used for tests on public roads in European cities.

As these vehicles do not fall within the established vehicle categories because there is no driver's seat present in the vehicle, passengers of these vehicles do not benefit from the level of passive safety enjoyed by occupants of conventional vehicles.

While there is little risk during tests with vehicles traveling at very low speeds in areas with no to little interaction with other motorised vehicles, this would be different when these vehicles travel at higher speeds in mixed traffic conditions.

ETSC therefore calls on the Commission to ensure that the safety for both occupants of these vehicles as well as other road users is identical to that of conventional non-driverless vehicles.

[27] European Commission (2018) On the road to automated mobility: An EU strategy for mobility of the future https://bit.ly/2Lysy0s

European vehicle safety standards and the role of the UNECE

Over the last two decades, there has been considerable political pressure to regulate technical standards for vehicles at the global level. Many new technical standards that apply in the European Union are now developed, with EC and EU Member State participation, at the global forum of the United Nations Economic Commission for Europe (UNECE), based in Geneva.

The benefits are reduced barriers to trade, and lower costs for the car industry. The main weaknesses include limited oversight by both co-legislators of the process, as well as very limited public scrutiny and participation. NGOs, including ETSC, struggle to find the necessary resources needed to follow the multitude of highly technical meetings that take place both in Geneva and around the world. Media scrutiny of the process is virtually non-existent.

The UNECE is currently developing rules covering an array of automated vehicle technologies, as well as testing requirements and potential modifications to agreed common standards on road traffic laws under the Vienna convention to allow for automated driving.

ETSC believes that, ideally, vehicle safety technical regulations for the European Union should be developed at the EU-level, as an EU-first approach would be better tuned to the road safety needs of the EU and potentially deliver regulations faster with more rapid updates to reflect the evolution of technology.

A bespoke EU road safety agency, staffed with technical, legal and road safety experts, would be the ideal solution as is the case in the United States (NHTSA – The National Highway Traffic Safety Administration).

But if the EU continues with the current approach to establish the technical rules at UNECE level, then ETSC proposes the following safeguards:

- Enable the European Parliament to participate in the UNECE regulatory process and ensure that all its Members are sufficiently informed to properly scrutinise both the progress of development as well as the content of the technical rules

- As a minimum therefore, the European Commission should present annual reports to the European Parliament (and Council) on progress on technical

regulations at the UNECE.

- In addition, the European Commission should present the progress on technical regulations at UNECE during the meetings of the relevant European Parliament's Committee preceding the World Forum's meetings in March, June, November.

- All relevant EU legislation should include a mechanism with a built-in deadline to ensure that if progress is not made fast enough at UNECE level, the EC is obliged to revert to developing an EU standard.

Infrastructure

Many semi-automated or fully-automated technologies will rely on road infrastructure being readable for their application. The infrastructure performance (visibility, state of repair) regarding traffic signs, signals and road markings to support higher levels of safe and reliable automated driving have to be recognised. This will involve common standards and harmonisation. In a joint 2013 report[28] "Roads that cars can read" EuroRAP and Euro NCAP deplored the fact that inadequate maintenance and differences in road markings and traffic signs are a major obstacle to the effective use of technology already in vehicles such as lane departure warning and traffic sign recognition. Authorities already have certain obligations under the EU's ITS Directive. Inadequate maintenance can affect drivers ability to read road signs and markings as well.

The proposed revision of the Infrastructure Safety Management Directive [29] would require the Commission to develop "general performance requirements to facilitate the recognition of road markings and road signs".

The Commission explains that this is a measure designed to ensure a coherent travel experience for road users, to contribute to the roll-out of connected and autonomous mobility systems. The Commission points out that an additional benefit is that making road signs and road markings easy to recognize will also help the ageing population. Another point ETSC would support, as this would also be of help for the whole of the population.

ETSC supports this proposal but would call for "minimum performance standards" as opposed to "general performance requirements". Minimum standards should lead to EU Member States adopting the standards of the best performers rather than an average which could be the result of "general performance requirements".

A fail-safe/fault tolerant architecture is furthermore required to guarantee as nearly as is practicable that automated vehicles operate in a safe state in any event or under adverse conditions. This is true for both digital and road infrastructure and both will require investments for upgrades and maintenance. ETSC would recommend starting with preparing certified sections of roads which meet minimum performance standards for automated and semi-automated vehicles.

Motorway infrastructure may also have to be adapted as well to allow for the

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[28] EuroRap and EuroNCAP (2013) Roads that cars can read https://goo.gl/pbhkGL
[29] European Commission (2018) Proposal for a Directive amending Directive 2008/96/EC on road infrastructure safety management https://goo.gl/EkRnsh

requirements of automated traffic. For example, there may be the need for arrangements to enable drivers to re-engage in the driving task before leaving the motorway.

Recommendations

To the Members of the European Parliament:

- Ensure the adoption of life-saving technologies already available on the market, by supporting the Commission's proposal revising the General Safety Regulation for motor vehicles;
- Accelerate the deployment of connectivity to help prepare for automation and improve road safety in the short term, by calling for a Commission proposal mandating the deployment of those C-ITS services enhancing road safety;
- Participate in the UNECE regulatory process to ensure the timely progress and content of technical vehicle regulations;

To the European Commission:

- In the short term, improve the transparency of the exemption procedure for the approval of new vehicle technologies;
- Examine the risks posed by drivers' overreliance and lack of understanding of the capabilities and limitations of level 2 systems, and ensure that all drivers are well informed;
- Present a comprehensive approach to the type approval and market surveillance of automated/autonomous vehicles as well as vehicles with automated driving technologies on board. This approach should ensure that an automated vehicle will pass a comprehensive test equivalent to a 'driving test' and show that it performs at a level at least as high as the best human drivers on the road;
- Support independent research to identify the best solutions for the design of clear internal and external HMI as well as research into the safety implications of driver dis-engagement and re-engagement during automated driving;
- Establish a bespoke EU road safety agency, staffed with technical, legal and road safety experts, that could develop technical vehicle safety regulations;
- Enable the European Parliament to participate in the UNECE regulatory process and ensure that all its Members are sufficiently informed to properly scrutinise both the progress of development as well as the content of the technical rules.

FOR FURTHER INFORMATION

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The European Transport Safety Council (ETSC) is a Brussels-based independent non-profit making organisation dedicated to reducing the numbers of deaths and injuries in transport in Europe.