Automated Driving: The Importance of Up-To-Date Driver Training

SIMUSAFE Workshop Brussels, 16 May 2019

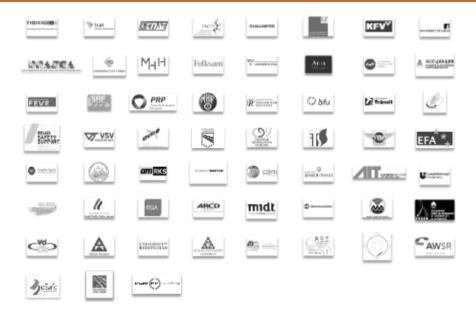
> Antonio Avenoso Executive Director



E T S C

- ✓ A science based approach to road safety
- ✓ Secretariat in Brussels
- ✓ 60 member organisations from across Europe
- More than 200 experts contributing to ETSC's work
- ✓ The European Commission, Member Organisations, Member States and corporate sponsors are funding our work

ETSC NETWORK



ETSC ACTIVITIES



Monitoring EU transport safety policy



Road Safety Performance Index (PIN)

















CHANGE IN ROAD DEATHS (%) 2010-2018

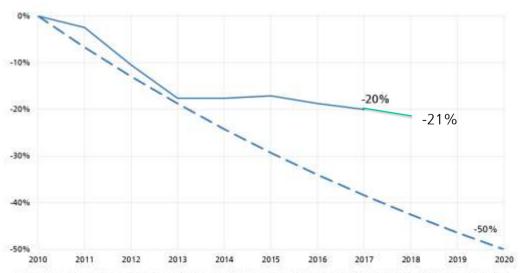


Figure: Reduction in the number of mad deaths since 2010 (blue line) plotted against the EU target for 2020 (blue dotted line)

25,100

people died in road traffic in the EU in 2018*

* Provisional figures European Commission

135,000

seriously injured in road traffic in the EU in 2018 according to MAIS3+ definition

*MAIS3+ estimates by the European Commission

GENERAL SAFETY REGULATION

- Agreement on the new General Safety Regulation
- A regulation as important for saving lives as the seatbelt
- Focus on advanced driver assist systems to help prevent collisions and/or reduce the severity of collisions.



GENERAL SAFETY REGULATION

PAVING THE WAY FOR AUTOMATED DRIVING

ISA is a building block for future autonomous driving. Respecting speed limits is a prerequisite for vehicle automation.

Also AEBS, LKAS, and EDR prepare vehicles for the future.

But also...

GENERAL SAFETY REGULATION

... PAVING THE WAY FOR AUTOMATED DRIVING

Article 11

Specific requirements relating to automated vehicles

- In addition to the other requirements of this Regulation and of the delegated acts adopted pursuant to it that are applicable to vehicles of the respective categories, automated vehicles shall comply with the requirements set out in the delegated acts adopted under paragraph 2 relation to:
- systems to replace the driver's control of the vehicle, inclining steering, accelerating and braking.
- systems to provide the velocie with real-time information on the state of the velocie and the unrounding sets;
- (c) driver readiness monitoring systems
- (d) event (accident) data recorders for automated vehicles.
- (e) homeosisel format for the exchange of data for instance for multi-board vehicle platoering.
- 2. In order to ensure the safe operation of automated vehicles on public roads, the Commissions is empowered to adopt delegated acts in accordance with Article 12 to lay down requirements earling to the systems and other items listed in points (a) to (e) of paragraph 1 of this Article, and to lay down detailed rules concerning the specific test procedures and technical requirements for the type-approval of automated vehicles with regard to those requirements.

But rules are far away from adoption!

EXEMPTION PROCEDURE GUIDELINES

8. INFORMATION PROVISION TO AUTOMATED VEHICLE USERS

xx. Vehicle manufacturers shall inform automated vehicle users of the following points using easy-to-understand materials, etc., and take measures to make them understand about them:

- Operational conditions of the system, scope of OD, functional limitations.
- Means to deactivate the automated driving mode.
- Driver's tasks (such as the need for the driver to take over driving when the system cannot continue driving for level 3 vehicles)
- Possible action to take other than driving according to the performance of the system and its operation status (for level 3 vehicles)
- Information related to indications by HMI (whether or not the automated driving system is operating, etc.).
- User behaviour to adopted in case of urgency.
- · Behaviours of the vehicle when a problem has occurred to the system
- Need to conduct proper maintenance (inspection) and software update of in-use automated vehicles.

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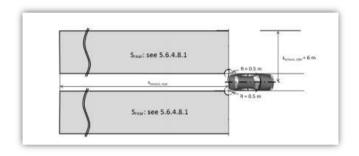
and below them.

DRIVER OVERESTIMATION: LANE CHANGE ASSIST

Driver Overestimation

Example: UN(ECE) Regulation 79 - Lane Change Assist

• Only required to check at the rear of the vehicle



AUTOMATED DRIVING



LETTER TO THE EUROPEAN COMMISSION



 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 as driver?

LETTER TO THE EUROPEAN COMMISSION



How will the Commission ensure that <u>all</u> 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.

EU Automated Driving Strategy

"Finally, the Commission will assess the consequences of automation for some existing EU legislation concerning drivers, such as Directive 2006/126/EC on driving licence, the Directive 2003/59/EC on professional drivers training or Directive 2002/15/EC on driving time."



CONCLUSIONS

- Despite the lack of a robust framework, partially automated vehicles could be on Europe's road rather sooner than later due to the exemption procedure;
- Overreliance and lack of understanding of the limitations of systems are a major concern and have already led to fatal collisions;
- Not yet clear how the driver will be addressed and supported in the future legislative framework.

RECOMMENDATIONS

At EU Level:

- Amend the Driving Licence Directive (2006/126/EC) to include specific training and licencing on semi and full automation and how to use the technology including disengaging and re-engaging.
 - Should be updated regularly as the technology develops.
- Adapt driver training, including the development of a curriculum, 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.

RECOMMENDATIONS

At Member State Level:

- Develop driver training so that drivers are able
 - to use semi-automated vehicles, and
 - to switch from automated to non-automated mode.
- Consider adapting driver licence systems that take into account the level of automation of the vehicles driven.

THANK YOU!



Antonio Avenoso Executive Director