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Safety validation and roadworthiness testing

These topics involve the definition of a comprehensive set of methodologies and tools aiming to verify whether vehicles comply with regulatory and technological requirements. These methodologies and tools should address the whole vehicle lifecycle. Exhaustive (safety) validation and trustful roadworthiness testing of increasingly complex systems are key elements to both guarantee and promote the successful deployment of safe, socially accepted automated road transport on our roads.

Challenges

- It is necessary to develop a commonly agreed Initial release validation followed by the inclusion of updates and PTI (full vehicle lifecycle)
- It must consider component, vehicle and system level: include technology, users and infrastructure
- In-house verification/validation methodologies, protocols and tools are required even before type approva

Research Needs

- Promote standardisation initiatives for new protocols, methodologies or tools according to the target user of them
- Encourage the technical R&D efforts that technically support a European level certification scheme for automation.
- Investigations on what can be tested in simulation and what should be tested on real roads together with guidelines to validate the simulation models

Statements

- Automotive industry faces an enormous effort to realise the safety validation of AD. A coordinated approach on safety validation is needed . Sharing scenarios is critical for safety and cost reduction purposes
- Without virtual testing, it is not possible to achieve safety validation. Virtual testing not sufficient : Testing in a real-life environment is necessary
- Your test cases can never be complete. The scenarios will dynamically change with the increasing number of AD functions on the road
- We need to define initial safety release procedures first before we can handle updates in the functionality

Expected Impact

- Europe's leadership may be compromised if a proper regulatory framework is not in place
- This we consider to be critical in order to reduce the number of road fatalities and to harvest the economic and environmental benefits of automation
- A European level approach to verification and validation would speed up the development process and reduce the time to market of new automated functions

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