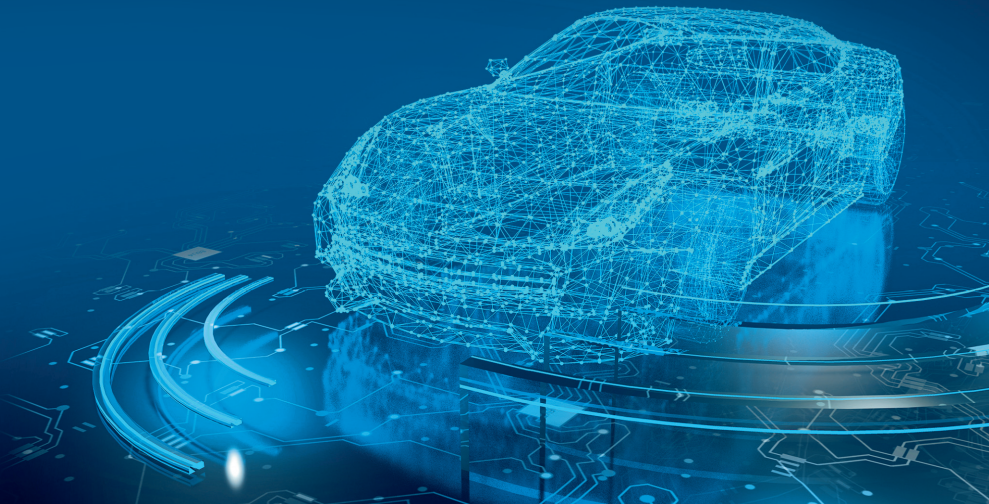




The
Federal Government

“Action plan automated and connected driving”

from the 2nd High Level Structural Dialogue
on 14th-15th September 2017 in Frankfurt/M.



Mobility is facing the greatest challenges we have seen in decades – with increasing globalisation, massive traffic growth, growing mobility needs and ambitious climate change goals.

New technologies provide us with the historic opportunity to meet these challenges successfully and make transport considerably safer, cleaner and more efficient. Among these technologies are new drivetrain technologies such as electric mobility, transport connectivity, car sharing models and, in particular, automated driving.

All these developments have been initiated and we are making every effort to put them on the roads as fast as possible.

Within the framework of the 2nd High Level Structural Dialogue, we, the EU- and EFTA Member States, the European Commission and associations of the automotive and telecom industry, have clearly focused on automated and connected driving and have developed an action plan to further advance the technology at European level.



Cross-border cooperation on testing

Conclusions from the meeting in Amsterdam on February 15th (2 from 6 bullet points): *“Agrees to have a common approach on evaluating projects and exchanging project results both on a technical level and in terms of societal impacts and benefits... Agrees that testing should be truly cross-border to ensure interoperability and that for this purpose we should make clever use of existing projects and the TEN-T corridors ...”*

What has been achieved:

Across the EU, at least 12 Member States have facilitated the testing of automated vehicles (SAE Level 3 and higher) on public roads. In parallel, technological developments have rapidly progressed meaning automated vehicles across different use cases (passenger cars, efficient freight transport operations and shared mobility services in urban areas, etc.) are ready to be tested and piloted. Tests on motorways (e.g. Digital Motorway Test Bed on the A9 motorway in Bavaria) and in some cities are already taking place (e.g. Braunschweig, London, Paris, Strasbourg, Trikala, Helsinki, Gothenburg). Moreover there are several on-going cross-border testing projects in the Scandinavian Member States (e.g. Aurora and NordicWay in Finland and Sweden) and the French-German digital testbed between Metz and Merzig respectively.

Several Horizon 2020 projects on “Automated Road Transport” will focus on large-scale and cross-border demonstrations to test highly automated driving systems.

With the “Letter of Intent on the testing and large scale demonstrations of Connected and Automated Driving” the “Rome Process” has been initiated with emphasis on cross-border testing assessing the operability and potential synergies among various automation functionalities and connectivity technologies including complementarity with existing

technology, and harmonized rules on data access and liability. The C-ITS Platform and GEAR2030 will present their final reports in September and October 2017 respectively. The C-Roads platform of the European Member States has contracted cooperation with the automotive industry (e.g. MoU between C-Roads and CAR 2 CAR Communication Consortium). Finally, the automotive and telecommunication industry have extended their joint work together establishing EATA, the European Automotive and Telecom Alliance, and have developed within this framework a concrete project proposal in cooperation with and supported by Germany, the Netherlands, Spain, Belgium and France.

However, even if clear progress has been made there are still numerous open issues to be resolved. These concern specific issues as e.g. the scalability of results from different testbeds but also the need to maximize the added value of ongoing testing in Member States through a more coordinated approach and an enhanced exchange of knowledge between the different test environments.

Conclusions and actions to be taken:

Considering what has been achieved cross-border testing should rely on a strategical concept in line with existing activities. This implies that first of all mid-term and long-term functional objectives of cross-border tests need to be further elaborated.

To address connected and automated driving (CAD) functionalities in a large variety of traffic situations and for different use cases future cross-border tests have to be performed beyond the TEN-T-corridors on all categories of roads.

The European Commission and Member States should continue to support large scale and cross-border testing in Europe, as they are particularly beneficial for developing cooperation between the different actors involved and for achieving public acceptance.

Following, the recent “Letter of Intent on the testing and large scale demonstrations of Connected and Automated Driving” the Member States and the European Commission reiterate the need for close cooperation between public authorities and industry to progress in the field of CAD.

Therefore, Member States in close cooperation with the European Commission and industry should review ongoing demonstration and testing activities regarding their potential. New ones are to be established, whenever appropriate. Finally a common European methodological approach for testing, validation and impact assessment which addresses at least safety, efficiency, interoperability, sustainability and acceptance (trust) as functional objectives of common interest should be developed.

The common European approach should at least include the following elements:

- identifying prioritized common transport use cases, and a clear but also holistic vision of CAD as part of our future mobility system,
- developing shared objectives and a European strategy for testing by identifying prioritized common use cases, functionalities, impacts and driving and road environments,
- developing criteria for the operationalization of interoperability (based on international standards) and further requirements of common interest to ensure availability and replicability of network infrastructures (including their resilience and security),
- addressing (jointly industry and public authorities) spectrum use matters,
- identifying and allocation of responsibilities of industries and Member States,

- mapping of the various formats of testing of CAD functions on various road categories and testing environments, as well as cross border corridors,
- establishing in a phased approach a European map of test areas envisaged for large-scale experimentation (and in view of pre-deployment) of CAD across Europe,
- implementing a framework for the exchange of knowledge, experience and data including a coordinated evaluation structure, and
- identifying and developing long term European targets on the deployment of CAD functions for existing and new use cases.

For the development of this European methodological approach the Member States call upon the Commission to establish in close cooperation with Member States and industry a Task Force to work on the above mentioned thematic fields. As a first work item this Task Force is to work on European medium and long-term targets on cross-border testing thereby taking into account the aspects mentioned before. The European Commission should address this issue in existing fora as, for example, the European ITS Committee. First results of this work should be presented at the next High Level Structural Dialogue hosted by Sweden.



Public awareness/ social impact/ ethical issues

Conclusion from the meeting in Amsterdam on February 15th: *“Give attention to societal expectations and concerns as well issues related to driver education and training.”*

What has been achieved:

Several new Horizon 2020 projects will work on issues related to user and societal acceptance of Connected and Automated Driving (CAD). One research topic of the Horizon 2020 call on “Automated Road Transport” (2018-2020) will focus on the assessments of impacts, benefits and costs of connected, cooperative and automated road-related driving systems. Another Horizon 2020 call on “5G for cooperative, connected and automated driving” (2018) will target longer term use cases including societal impacts. Moreover, the new call of Horizon 2020 on “Mobility for Growth” (2018-2020) will include a research topic on behaviour and acceptance of connected, cooperative and automated transport.

Beyond Horizon 2020, national projects on issues related to user and societal acceptance of CAD have been launched. In Germany an independent “Ethics Committee” presented their result on 20th of June 2017. The report covers 20 guidelines for the approval of automated vehicles under ethical aspects. The German Federal Government acknowledged this report and has adopted an action plan on the development of ethical rules for self-driving computers.

Conclusions and actions to be taken:

On a societal level CAD is likely to have impacts in terms of security, safety, accessibility, employment, emissions reduction and time management while travelling on our roads. These impacts will inevitably influence user

expectations as well as societal acceptance of CAD technologies. The goal achieved by measures of societal communication creates an environment of trust not only among the general public, but also among all stakeholders involved, by making sure that positive benefits of CAD become visible on our roads and in our mobility systems.

Member States agree to develop working agenda with special focus on user expectations and societal acceptance on an EU level. Within this working agenda the following elements should be addressed:

- establishing active societal dialogue, involving trade and consumer associations as information intermediaries; of all stakeholders; involving authorities, industry and civil society,
- assessing of perceptions and attitudes of all types of road users towards automation,
- promoting realistic expectations about CAD and awareness of data security and data protection issues by giving answers arising from fears, concerns and unresolved questions on a societal level,
- discussing issues linked to the access and use of data generated by connected and automated vehicles,
- involving all types of road users,
- informing about real-life use cases of CAD (incl. real-life experience),
- considering driver education (incl. professional drivers) and traffic education,

- discussing ethical issues in an objective manner,
- addressing social inclusion – show CAD can offer new opportunities to the elderly and people with reduced mobility and provide their inclusion in society.

The European Commission is invited to set up an EU-wide campaign to promote the development of necessary knowledge and realistic expectations among the population thereby creating an atmosphere of trust in the society. In this spirit the EU-funded projects in the area of CAD should ensure a close involvement of the public.

In times of digitalization and self-learning systems new ethical issues are arising from the human-machine-interaction. Connected and automated driving is a recent innovation where this interaction becomes clearly visible. To achieve broadly based societal acceptance it needs to be examined under which framework conditions the development process should or must be supported from an ethical point of view. Member States in close cooperation with the European Commission agree to establish a Task Force chaired by Germany to highlight resulting ethical issues and examine their relevance on a European level.



Data access/Use of data

Conclusion from the meeting in Amsterdam on February 15th: *“the participating Member States and the industry will start a dedicated public – private task force that will set the first steps to deploy data-sharing for traffic safety related data in real life situations (local hazard warning, incident management, infrastructure maintenance and traffic management). The Netherlands, France, Spain and Germany will take the initiative together with the EC and the industry. The task force will look into the role of road operators and the possibilities of data sharing in a reciprocal way.”*

What has been achieved:

The public-private Data Task Force was set up in May 2017. Two meetings have been organized so far with the participation of European Commission, ACEA, service providers and telecommunication industry. The Task Force is working on how to share safety related traffic data by setting specific goals, principles and constraints at a strategic level for all participating Member States and industry. This will help to ensure an appropriate level of coordination, considering the willingness of all parties to share data in line with their obligations pursuant to Delegated Regulation 886/2013.

Goals, principles and constraints have already been defined, as well as some criteria regarding data selection and quality and relationships between use cases and data.

The ongoing work is now focusing on finding and identifying a model, supported by public sector and industry, for data exchange and data flow exclusively related to Safety Related Traffic Information (SRTI). This model could be the basis for a homogenous scenario applicable in the European Union

The Data Task Force intends to start a Pilot Project with regard to one or more SRTI use cases, as a proof of concept, to validate and test general principles of data sharing, access and use. The pilot stimulates the generation

of SRTI from independent and cross-sourced event triggers and their shared use.

In the context of the actions launched under the Communication on “Building a European Data Economy” a cross-European public survey was performed and closed in April 2017 where about a fifth of the responses concerned CAD, notably topics related to data access and liability. The above input is currently being evaluated and may provide input to possible new legislative or other policy actions under the data economy initiative.

To secure vehicle data exchange with infrastructure and other vehicles Member States and industry representatives consensually agreed on the need for a common certificate policy for C-ITS. A crucial milestone was met by the C-ITS platform in June 2017 with the agreement on the first version of the common certificate policy by all involved public and private actors.

Conclusions and actions to be taken:

Automated and connected vehicles produce huge amounts of data and an even larger amount of information can be gathered from road infrastructure. These real-life traffic data can be analyzed to enhance the rapid growth and development of smart road technologies and automated driving systems, which are to be considered as important pillars of an intelligent mobility with data sovereignty as an issue of conflicting interests. However, if there is sufficient guarantee of data protection and cybersecurity we advocate making the benefits of mobility data in terms of road safety and conditions widely accessible for society as a whole.

The principles of data avoidance and data economy need to be balanced between the requirements of data protection, cybersecurity, road safety and the competitiveness in global value-added chains. The implementation of different modes of CAD therefore requires reasonable solutions in the areas of processing and exploitation of data. The need for strong cooperation also exists

for the definition of common security policies to ensure interoperability among the European C-ITS stations. In this context the goals of data protection and promotion of innovations do not necessarily contradict each other but may jointly create an added value. In the context of CAD we need data protection allowing for innovations.

Therefore the Ministers and EU Commissioners support the work on a “Guideline on data protection and cybersecurity” started at UNECE WP.29 as well as the activities of the C-ITS Platform on those topics and strongly request to continue these initiatives. In particular, relevant guidelines should be reviewed and updated on a regular basis and always reflect the latest developments. Member States and the European Commission will actively follow this process and incorporate the results into EU policy and regulation.

Regarding data-sharing there is a strong need for cooperation between all actors of the mobility and road safety ecosystem, from traffic authorities to the automotive and telecommunications industry and from mobility service providers to citizens. This cooperation should be based on the framework set in current European legislation, in order to ensure a synchronized approach for data exchange within the European Union so as to foster the introduction of CAD that will significantly contribute to achieving the goals of the European Transport Policy in terms of efficiency and safety, especially the ambition of zero fatalities in road transport by 2050. Hence, the Data Task Force is requested to continue its work and to assess the expansion of the scope to traffic and mobility management information by 2019.

The European Commission and the Data Task Force are requested to work jointly in order to explore the feasibility for a collaborative pan-European solution, considering the results of the Pilot Project as well as the provisions of ITS Directive and its delegated acts, especially those related to national access points. The final goal should be a common architecture of a coherent system for providing and sharing data from all relevant categories within each Member State that ultimately would allow for cross-border exchanges to foster pan-European solutions.

International standardization/UNECE

Conclusions and actions to be taken:

Member States agree, in close cooperation with the European Commission, to consolidate their endeavours in their activities in the international bodies, especially those of the UNECE, with the aim of speedily creating the necessary regulatory framework for automated and autonomous driving in public road traffic. Alongside a broad-based interpretation of the Geneva and Vienna Conventions on Road Traffic with regard to Level 3 and Level 4 automated driving functions, this involves, in particular, amending them to include the necessary requirements governing the operation of driverless vehicles in road traffic (Level 5). In addition, particular importance attaches to the adoption of detailed technical provisions governing the licensing of vehicles with functions of higher levels of automation. Rules governing Level 3 automated driving functions for motorways and near motorway standard roads should be developed as quickly as possible. In parallel, the discussions on a horizontal regime for automated driving functions up to and including Level 5 must be intensified.

In this regard, we should take road infrastructure aspects into account.



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