



Conclusions from the Third High-Level Meeting on Connected and Automated Driving

Gothenburg, 18–19 June 2018

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Third High-Level Meeting on
CONNECTED AND
AUTOMATED DRIVING

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Preamble

Connected, cooperative and automated vehicles have the potential to impact and profoundly change mobility in our societies. The technological developments push the boundaries of what is possible to achieve and spur the creation of new mobility concepts and services.

The development towards connected, cooperative and automated mobility has the potential to make the transport system significantly more efficient, safer and more secure and can help lower emissions. It can also be a key enabler towards car-sharing and cooperative solutions. Moving on to a wider implementation, regulation and political agendas will have to support a sustainable development in order to reap these potential benefits.

Already today, the development of connected, cooperative and automated mobility poses questions about safety and security, socio-economic impacts, personal integrity and structural change that need to be addressed.

Decisionmakers in Europe have a responsibility to ensure coordination, cooperation and dialogue with stakeholders, in the process of creating and deploying these new mobility concepts. This may also ease a wide acceptance from the public.

European ministers, the representatives of the European Commission and the industry have previously met in Amsterdam and Frankfurt, and now meet in Gothenburg to discuss priority topics and next steps and concluded the following.

Vision

An integrated, cooperative, connected, automated and decarbonised mobility system that significantly contributes to a sustainable society. Building on the existing transport system, new technologies and concepts such as mobility as a service and enhanced sharing of transports, this mobility system facilitates and assists citizens in their daily lives, while promoting liveable cities and more efficient use of capacity.

A strategic, forward-looking discussion was held at the Gothenburg meeting: there was an agreement on the important role for connected and automated vehicles and systems in fulfilling the vision, while enhancing European competitiveness.

To achieve the vision, the focus must be on:

- The benefits for people, cities, regions and society at large including environmental benefits.
- Transport safety and security including data protection and cybersecurity.
- Technical leadership, jobs in the EU and sustainable business models
- The usage of the opportunities associated with digital technologies
- Close cooperation with cities, regions, road operators, public transport operators and other relevant stakeholders.

In view of this, Member States and the industry welcome that the Commission has proposed a vision and strategy on 17 May 2018 in the Communication on automated mobility, addressing a need already identified in the Amsterdam declaration.

Skills evolution and effects on labour markets

Background

The deployment of connected, cooperative and automated mobility technologies in commercial road traffic has structural effects on the transportation labour market. Automated driving may create new job opportunities but will also challenge the traditional role of drivers, change requirements for drivers, engineers and vehicle and system maintainers, and emphasise the need for adequate rules for driving. In the long run the

human tasks associated with driving will diminish and change, while other tasks will emerge.

There is need for a dialogue between stakeholders on how to manage this structural change, on new job opportunities as well as how to mitigate any adverse effects on the transport sector and how to make sure that the commercial transportation sector has access to labour with the skills required. There is also a need to discuss automation as a mean to serve social progress and to improve working conditions.

Furthermore, the developments towards automation pose new challenges for drivers of both commercial and private vehicles when it comes to education and training as well as what kind of competence will be in demand in the future. As many traditional driver's tasks will gradually be taken over by an automated driving system, the development can give rise to a need to discuss the driver and his or her role, both for private and commercial driving. It could also be necessary to adjust and amend existing rules on for example driving licenses, social legislation relating to road transports and other driver-related regulations, once the developments of automated systems will be more advanced.

Achievements up to date

The European Commission has carried out a comprehensive review of existing studies on the expected socio-economic impacts of automated and connected vehicles on the EU economy and jobs. The results of this review are published together with the EC Communication on “On the road to automated mobility: An EU strategy for mobility of the future”¹-

In a broader context, the European Commission, with its digital single market strategy, and Skills Agenda for Europe is putting priority on digital skills at all levels. In order to deliver sector-specific skills solutions, the Blueprint for Sectoral Cooperation on skills was launched as part of the Skills Agenda.

Conclusions and actions to be taken

Member States recognise the need to promote the transformation of the industry and modernising skills and labour markets. Member States welcome

¹ Communication "On the road to automated mobility: An EU strategy for mobility of the future", COM(2018) 283 final, available at: https://ec.europa.eu/transport/sites/transport/files/3rd-mobility-pack/com20180283_en.pdf COM(2018) 283.

the proposal of the European Commission as stated in the communication on connected and automated mobility, to assess the consequences of automation for existing driving-related regulation on skills and competences with regard to connected and automated driving, for example social legislation relating to road transport (driving time and rest periods) etc. including how these regulations support accessibility and mobility.

Member States, the representatives of the European Commission and the industry recognise the need to work on definitions and interpretations of the driver and her or his role.

Member States, the representatives of the European Commission and the industry also acknowledge the need for drivers to be trained and/or informed about the capabilities and limitations of their vehicles systems and functions.

Public awareness and social interaction

Background

In the Frankfurt Action Plan Member States agreed to develop a working agenda with specific focus on user expectations and societal acceptance on an EU level. Amongst others the European Commission was 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 society.

Furthermore, the Member States, in close cooperation with the European Commission, agreed to establish a Task Force, chaired by Germany, to highlight resulting ethical issues and examine their relevance on a European level.

Achievements up to date

The Task Force on Ethical Aspects of Connected and Automated Driving (The Ethics Task Force) presented its recommendations at the meeting. These recommendations concern ethical implications of public acceptability and participation, dilemma-based situations, responsibility, cybersecurity and data protection, socio-economic implications and Human-Machine-Interaction aspects.

The European Commission has recently set up the European Artificial intelligence (AI) Alliance tasked to develop draft ethical guidelines for artificial intelligence, which will provide a horizontal approach on ethical issues for autonomous systems with relevance also for automated vehicles.²

In its Communication on automated mobility the European Commission announces a dedicated forum working with the European Group on Ethics in Science and New Technologies and the European AI Alliance.

Conclusions and actions to be taken

Member States agree that public awareness and acceptance are important when implementing connected and automated driving on public roads.

Member States welcome the report of the Ethics Task Force and invite the European Commission to provide further details of the dedicated Ethics Forum. Member States encourage the European Commission to establish the dedicated forum as soon as possible to facilitate discussions at European level on ethical aspects and on the recommendations from the Ethics Task Force. The dedicated forum should collaborate with the European Group on Ethics in Science and New Technologies³, the European Artificial Intelligence Alliance and the Ethics Task Force. The Ethics Task Force is to give an account of the further work and discussions on the recommendations to the next High-Level Meeting

Cross border testing and learning

Background

In previous meetings, in Amsterdam and in Frankfurt, Member States have called upon the European Commission to establish, in close cooperation with Member States and industry, a Task Force to work on European medium and long-term targets on cross-border testing. The need to address this issue in existing fora was underlined.

² Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Artificial Intelligence for Europe. Available at: <https://ec.europa.eu/digital-single-market/en/news/communication-artificial-intelligence-europe>.

³ The European Group on Ethics in Science and New Technologies is an advisory group of the European Commission established by Commission Decision (EU) 2016/835.

Following up on the meeting in Amsterdam, Member States and EEA countries signed in March 2017 a Letter of Intent on the cross-border testing of digital aspects of connected and automated driving. In the framework of the Letter of Intent, cooperation on cross-border corridors have been agreed between Member States.

Achievements up to date

The European Commission has undertaken work together with Member States in the European ITS Committee which was presented at the meeting.

Joint workshops have been held with the European ITS Committee and different stakeholders; including OEM's and their suppliers, as well as representatives of the telecommunication industry with discussions on use cases and functionalities to test and which technical and non-technical enablers are to be foreseen.

Tests characteristics such as scale of tests, type of tests and test results to share has been discussed.

Some insights from the work so far in the European ITS Committee:

- Distinguish between small-scale tests of techniques and tests in larger scale for studies on behavioural and system effects.
- Distinguish between the public need for data and conclusions from tests and the private industries' need for integrity and secrecy to maintain business competitiveness.
- Member States' experiences, resources and requirements for large-scale testing vary widely which needs to be addressed in the further work on cross-border testing.

There are several promising on-going large-scale projects concerning cross-border testing, digital cross-border corridors and testing in dense built environments where Member States, industry and academia are cooperating. Within the Horizon 2020 framework programme, stakeholder workshops have been dedicated to large-scale testing on public roads and in cities. Member States, national and regional representatives as well as industry and academia have exchanged learnings, shared experiences and initiated

collaborations. In addition, further 5G cross-border corridors have been added during Digital Day 2 on 10 April 2018.

In the Communication on automated mobility: the European Commission has announced the introduction of a single EU wide platform for all relevant public and private stakeholders, to coordinate open road testing making the link with pre-deployment activities. The European Commission has also announced the intention to work with Member States on guidelines to ensure a harmonised approach for national ad-hoc vehicle safety assessments of automated vehicles. In addition, the European Commission will initiate work with Member States and stakeholders on a new approach for vehicle safety certification for automated vehicles.

Conclusions and actions to be taken

Member States welcome the preliminary findings of the European ITS Committee.

Member States recognise the importance of testing in a coordinated way and the need for a common testing regime, paving the road towards reciprocity and mutual recognition. It is essential to promote the realisation of relevant tests with highly and fully automated driving in a safe manner throughout Europe, to foster competitiveness.

Member States welcome the European Commission's proposal in the Communication "On the road to automated mobility", to put in place in 2018 one single EU wide platform grouping all relevant public and private stakeholders. Member States therefore invite the European Commission to continue its work on identifying common priorities (e.g. use cases, impacts to be assessed, methodologies to be shared). The purpose is to develop a common basis for policy making, including proposing harmonised recommendations for testing, taking into account the work done in GEAR 2030.

Member States, the representatives of the European Commission and the industry conclude on the importance of a more holistic and systemic perspective to achieve more functional and performance-based regulations when it comes to approval and testing of connected and automated vehicles.

Member States therefore welcome the initiatives announced by the European Commission to address issues related to vehicle approval and safety assessment of automated driving including an admittance and surveillance process for the software used for automated driving tasks.

Data access/use of data

Background

The High-Level Meeting in Amsterdam concluded that participating Member States and industry would begin work in a public-private task force to set initial steps for deployment of data-sharing for traffic safety related data in real life situations. This task force would report back during the subsequent meetings with concrete proposals for steps towards integrating data and data-sharing into the effective development of connected, cooperative and automated driving functions.

Following the High-Level Meeting in Amsterdam, the Netherlands, France, Spain and Germany took the initiative, together with the European Commission and the industry, to consider the role of road operators and the possibilities of data sharing in a reciprocal way. A priority for this work was finding and identifying a model for data exchange and data flow exclusively related to Safety Related Traffic Information (SRTI).

In the High-Level Meeting in Frankfurt the Data Task Force was requested to assess the expansion of the scope to traffic and mobility management by 2019.

Achievements up to date

The Public-private Data Task Force presented their work at the meeting. The Data Task Force focusses initially on Safety Related Traffic Information (SRTI) data exchange. The Data Task Force has invited Member States and industry partners to join the Data Task Force and to be involved with the proof of concept(s) to expand the potential SRTI exchange. Pilot projects are being prepared in cooperation with industry partners and Member States.

In the Communication on automated mobility the European Commission proposed actions related to access to in-vehicle data. In a wider context, the

European Commission adopted on 25 April 2018 the so-called data-package⁴.

Conclusions and actions to be taken

Member States take note of the European Commission's proposal to set up a single EU wide platform and encourage the European Commission to consider the existing and forthcoming work by the Data Task Force, as an input.

Member States, the European Commission, and industry should engage in broader discussions on data access and use of data for connected and automated driving. This should also be a topic at the next High Level Meeting.

Cybersecurity from a mobility perspective

Background

At the High Level Meeting in Frankfurt, Member States and representatives of the European Commission expressed support for "Guideline on data protection and cybersecurity" developed under the framework of the UNECE WP.29, as well as the activities of the C-ITS Platform on cybersecurity and strongly requested that these initiatives continue. Relevant guidelines should be reviewed and updated on a regular basis and reflect the latest developments.

Achievements up to date

The C-ITS Platform presented its final report in September 2017⁵. The C-ITS Platform concluded that there is a need for a regulation of C-ITS. A C-ITS security solution was identified as an enabler of C-ITS services in Europe by 2019.

The European Commission presented the on-going work in the preparations for a delegated act on C-ITS at the meeting.

⁴ Communication 2018(283))

⁵ C-ITS platform phase II Cooperative Intelligent Transport Systems towards Cooperative, Connected and Automated Mobility. Final Report September 2017.

A Certificate policy and an EU security policy document⁶ have been published for introducing C-ITS Day one services. The Commission is financially supporting a common Public Key Infrastructure (PKI) organisation for testing and validation purposes for connected, cooperative and automated mobility (CCAM).

The C-Roads Platform is a joint initiative of European States and road operators for piloting and implementing C-ITS services, in light of cross-border harmonisation and interoperability, with the main purpose to gain knowledge from pilot implementations. C-Roads Member States have committed themselves to implement the European security layer for C-ITS in transport which will be operative from 2019 onwards.

On 13 September 2017 the European Commission adopted a cybersecurity package including a proposal for a voluntary certification framework of information and communication technology (ICT) products and services.

The European Commission's communication on automated mobility includes proposals to include cybersecurity requirements as part of the EU legislation on vehicle approval and to implement a pilot on common EU-wide cybersecurity infrastructures and processes needed for secure and trustful communication between vehicles and infrastructure for road safety and traffic management related messages according to the published guidance on the certificate and security policy. The European Commission also proposes to issue a recommendation on the use of pioneer spectrum for 5G large-scale testing, cybersecurity and on a data governance framework that enables data sharing, in line with the initiatives of the 2018 Data Package, and with data protection and privacy legislation.

The UNECE WP.29 task force looking at cybersecurity and over-the-air software updates has made significant progress. Following a steer from WP.29, the task force is now developing its guidelines in the form of a draft regulatory paper. This draft paper, designed to introduce approval of vehicle cyber security and vehicle update processes, will be presented to WP.29 for discussion later this year.

⁶ C-ITS Platform Phase II Certificate Policy for Deployment and Operation of European Cooperative Intelligent Transport Systems (C-ITS) Release 1 June 2017.

Conclusions and actions to be taken

Member States and the industry take note of the proposals from the European Commission in the third mobility package as well as other on-going work regarding cybersecurity for example in the UNECE WP.29. Member States will actively take part in the processes regarding the work mentioned.

Communication between vehicles and infrastructure

Background

At the High Level meeting in Amsterdam Member States expressed their faith in the current voluntary commitment to be sufficient to ensure rapid deployment of communication between vehicles (V2V) and between vehicles and infrastructure and other sources (V2X).

The Member States recognised that the European industry is actively striving towards the goal and no mandatory regulation of this matter was needed in the EU. It was concluded, in Amsterdam, that close dialogue should be maintained with industry to assess whether the goal would be met by 2019, and to discuss progress in the following High Level Meetings.

Achievements up to date

The cooperation between Member States and industry in the respect of communication is currently done between platforms. Hereby cooperation between the Car2Car Communication Consortium (industry with focus on ITS-G5) and the C-Roads Platform (Member States) is established. A new C-Roads task force concerning hybrid communication has been established and a roadmap is planned to be presented in June 2018.

For the deployment of future 5G cellular communication networks, the 5G Action Plan sets a timeframe which was endorsed by the Telecommunication Ministers in December 2017 in Tallinn. On the basis of ongoing studies involving the European Conference of Postal and Telecommunications Administrations (CEPT) and the European Telecommunications Institute, the Commission gave a mandate to CEPT to study the coexistence of different radio technologies using the 5.9 GHz spectrum band.

Conclusions and actions to be taken

Member States take note of the Commission proposal in the third mobility package to include platooning requirements as part of the EU legislation on vehicle approval to ensure standardisation of data exchange across different brands and complement the draft delegated regulation on C-ITS. Member States will take part in the processes and assess the proposals mentioned.

Impact on road operators, transport operators and traffic management

Background

The Conclusions from the High Level meeting in Amsterdam recognised that connected and automated driving will have a significant impact on cities, road operators and traffic management. At High Level meeting in Frankfurt Member States asked the national road authorities' organisation, CEDR, to jointly assess this impact and to provide the High Level Meetings with scenarios and concrete suggestions to maximize the benefits and mitigate negative impact. Particular attention would be given to possible critical issues as well as potential to achieve overall climate and transport policy objectives

Achievements up to date

CEDR has outlined a draft roadmap on connected and automated driving, in which it has defined actions to be further elaborated together with representatives from the European Commission and Member States. Within the CEDR group on connected and automated driving, three task forces have been established with the aim to work with experts from Member States and relevant industry partners on infrastructure, data exchange and transport system impact.

Conclusions and actions to be taken

Member States, the representatives from the European Commission and the industry conclude on the need for further cooperation on requirements on road infrastructure regarding the deployment of connected and automated driving.

Member States recognise the need to assess the use of digital technologies to enhance efficiency, safety and environmental requirements in sensitive areas such as digitally enforced speed limits and information on traffic signals.

International conventions and regulation

Background

In the Frankfurt Action Plan Member States agreed, in close cooperation with the European Commission, to consolidate their endeavours in their activities in the international bodies, especially those of the UNECE WP. 1 and WP 29, with the aim of speedily creating the necessary regulatory framework for automated and autonomous driving in public road traffic.

Achievements up to date

The UNECE Inland Transport Committee's annual session in February 2018 encouraged ITS activities in all inland transport modes, including in automated driving. Closer cooperation between WP.1 and WP.29 was requested, including through joint sessions in the future.

WP.1 is currently working on guidance to integrate highly and fully automated vehicles in road traffic. The guidance is intended to take the form of a resolution, that would apply to Contracting Parties of both the 1949 Geneva, and the 1968 Vienna Conventions on Road Traffic.

The development of technologies to assist drivers of road vehicles with the driving task is advancing rapidly and the global regulatory community has recognised the need to develop appropriate safety standards and investigate a testing regime that provides the necessary assessments and reassurance prior to allowing volume produced vehicles into the marketplace.

Conclusions and actions to be taken

Member States reiterate the agreement from Frankfurt to, in close cooperation with the European Commission, continue to consolidate their endeavours in their activities in the international bodies, especially those of the UNECE WP. 1 and WP. 29, with the aim of speedily creating the necessary regulatory framework for automated and autonomous driving in public road traffic.

As an outcome of WP.1 work on the subject, a resolution on the deployment of highly and fully automated vehicles in road traffic is expected in September 2018. This can offer guidance for Contracting Parties to the 1949 Convention on Road Traffic done at Geneva on 19 September 1949 and the Convention on Road Traffic done at Vienna on 8 November 1968,

on the safe deployment of automated vehicles. Member States welcome the important work made so far to prepare the draft.

Member States highlight the urgent need for rapid progress of the work on technical regulations under the framework of UNECE WP.29. In this context Member States recognize the need to accelerate the work on Level 3 and 4 functions but also on a horizontal regulation regarding higher levels of automated functionality, including delivering the recommendation by the Inland Transport Committee for a “dedicated group” on this topic.

Future High Level meetings

Background

The Declaration of Amsterdam was adopted during the Dutch Presidency of the EU in spring 2016 in Amsterdam, with the objective of working together for more coordinated EU efforts concerning connected and automated driving. This goal is to be achieved through close cooperation between Member States, the European Commission and the industry to promote development in the area of connected and automated driving.

Achievements up to date

The first High Level structured dialogue was held in Amsterdam in February 2017 and the second was held Frankfurt in September 2017. The third High Level meeting in Gothenburg on the 18–19 June 2018, concludes the process so far.

Conclusions and actions to be taken

Member States, the representatives of the European Commission and the industry conclude that, depending on what is on the agenda, the future High Level meetings on connected and automated driving could be either on ministerial level for exchange at political level, or on expert level including Directors Generals to support the necessary regular exchange of knowledge and discussion of technical, social and legal issues in some more detail.

Austria will host the 4th High Level meeting on 28/29 November 2018 in Vienna, with a specific focus on expert discussions.

