



Economic Commission for Europe**Inland Transport Committee****Global Forum for Road Traffic Safety****Group of Experts on drafting a new legal instrument on the use of automated vehicles in traffic****Fourth session**

Geneva, 1-2 September 2022

Report of the Group of Experts on drafting a new legal instrument on the use of automated vehicles in traffic on its fourth session**Contents**

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I. Attendance

1. The Group of Experts (GoE) on drafting a new Legal Instrument on the use of Automated Vehicles in traffic (LIAV) met on 1-2 September 2022 in Geneva.
2. The meeting was chaired by Ms. B. Rudolph (Germany).
3. Accredited experts from the following countries participated in the work in accordance with para. 10 of the Terms of Reference (ECE/TRANS/2021/6, Annex III): Australia, Austria, Belgium, Brazil, Canada, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Russian Federation, Slovenia, Spain, Sweden, Switzerland, Türkiye, the United Kingdom of Great Britain and Northern Ireland, and Zimbabwe.
4. Experts from the following non-governmental organizations (NGOs) and academia participated upon invitation by the Chair: the International Organization of Motor Vehicle Manufacturers (OICA), and the University of South Carolina.
5. The Chair opened the meeting, which was conducted in a hybrid format, due to the ongoing COVID-19 situation.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.1/GE.3/2022/4
Informal document No. 1

6. The Group of Experts considered the provisional agenda prepared for this session and adopted it (ECE/TRANS/WP.1/GE.3/2022/4).

III. Substantive activities (agenda item 2)

Documentation: ECE/TRANS/WP.1/GE.3/2022/6
ECE/TRANS/WP.1/GE.3/2022/7
ECE/TRANS/WP.1/GE.3/2022/8
Presentations Nos. 1, 2, 3, 4, 5 and 6

7. The Chair invited the expert from France to report on the informal meeting of the Group hosted by France on 5 July 2022. The expert introduced Presentation No. 2. He recalled that France had prepared a first analysis of the 1949 and 1968 Conventions on Road Traffic as an initial step for discussions, as the Group had decided during the last formal session that a new convention was the appropriate legal instrument to complement the 1949 and 1968 Conventions. He explained that the analysis focused on articles having relevance for Automated Driving Systems (ADS) and that comments were received after the informal meeting (see Presentation No. 3). He spoke about the potential scope of the new Convention and stressed in this context, the need to clearly differentiate between Advanced Driver Assistance Systems (ADAS) and ADS. He noted the time it took for drafting previous conventions on this matter and advocated for quicker progress, focusing on drafting the new Convention rather than papers and justifications.
8. The expert from OICA stressed the need to harmonize traffic rules and signage, in particular, as an increased level of harmonization would reduce the complexity related to the development of ADS.
9. The expert from Belgium, Vice-Chair of the Global Forum for Road Traffic Safety (WP.1) and Chair of the Group of Experts on Road Signs and Signals (GE.2), pointed out that GE.2 was already working on that matter and on recommendations to WP.1 for amendments to the Convention on Road Signs and Signals.
10. The secretariat introduced ECE/TRANS/WP.1/2022/8 using Presentation No. 4, providing information about activities of other Working Parties and relevant Groups of the Inland Transport Committee related to Automated Vehicles (AVs), as requested by the Group during the last session. He informed the Group about concrete developments at the Working

Party on Automated/Autonomous and Connected Vehicles (GRVA) and provided examples of interest to the Group. He provided information on the work done according to the guidance provided by the “Framework Document for Automated Vehicles” (FDAV) endorsed by the World Forum for Harmonization of Vehicle Regulations (WP.29), which is a global initiative to tackle automated and connected vehicles that includes a safety vision and key safety elements, amongst other things.

11. The expert from Sweden asked the Secretary about the perspective of WP.29 regarding the term “driver”, as he had received information that WP.29 was considering replacing it by the term “user”. He stated the importance of further discussions on this matter and pointed at the work done by the Informal Working Group on Functional Requirements for Automated Vehicles (FRAV).

12. The Secretary noted the current debates in various groups regarding these terms. He confirmed that discussions were ongoing.

13. The expert from Finland explained that, according to her understanding, there was no intention to revoke the term “driver” at WP.29, but rather to add it as a role to the term “user”.

14. The expert from France stressed that the Group should also aim at achieving global harmonization through the new Convention. He suggested that the Group exchange substantial information with WP.29 even at this quite early stage to avoid discrepancies and conflicting provisions emanating from two different frameworks that would have to be applied by the Contracting Parties.

15. The expert from OICA confirmed the answer provided by the Secretary. He stated that there was the tendency at WP.29 and GRVA to define the driver as human being and to distinguish between the “driver” and the “system”. He noted that each body could technically decide on its own definitions in a legal instrument, provided it is clear that these definitions only apply to the instrument(s) administered by the said body.

16. The secretariat introduced ECE/TRANS/WP.1/2022/7 using Presentation No. 5, providing information about the history of the Conventions related to road traffic and road traffic safety. She informed the Group about the geographical scope of the Conventions, the duration of drafting exercises, their entry into force as well as reasons and bases for drafting new legal instruments in the past.

17. The secretariat also provided a general overview of types of legal instruments within the United Nations as well as related actions (ECE/TRANS/WP.1/2022/6, Presentation No. 6). She presented, amongst others, definitions of the terms “treaty”, “agreement”, “charter”, “convention”, “declaration” and “protocol”, including examples of possible areas of application and their common use.

18. The Group welcomed the documents prepared by the secretariat and agreed to keep them as reference documents.

19. The expert from Sweden suggested some guiding principles for the drafting of the new Convention, by introducing Presentation No. 1. He stated that there was already a lot of research done, which could be used as a basis for drafting. He invited the Group to agree on the goal of the new Convention, as this would bring guidance for determining the relevant content. He asked if other Contracting Parties already knew what they wanted to achieve with the new Convention and invited them to share their knowledge and views with the Group.

20. Several delegations mentioned ethical questions related to ADS. The Chair confirmed, upon request, that Germany had examined ethical questions regarding ADS in the past and that an extract of the report was available at the following link: https://www.bmvi.de/SharedDocs/EN/publications/report-ethics-commission-automated-and-connected-driving.pdf?__blob=publicationFile. She invited all experts to share their knowledge and written material regarding this topic with the Group.

21. The expert from Poland drew the attention of the Group to the publication “Ethics of connected and automated vehicles” from the European Commission, available at the following link: <https://op.europa.eu/en/publication-detail/-/publication/89624e2c-f98c-11ea-b44f-01aa75cd71a1/language-en>. He pointed out that recommendation number 4 advised to “consider revision of traffic rules to promote safety of Connected and Automated Vehicles

(CAVs) and investigate exceptions to non-compliance with existing rules by CAVs”. He stated that this was an important aspect considering the increasing mixed traffic of conventional and automated vehicles in the future.

22. The expert from the United Kingdom of Great Britain and Northern Ireland informed the Group that his country was currently consulting on the aspiration for the level of safety of self-driving vehicles, published in the government response of August 2022. He stated that the current ambition was to require the behaviour of AVs to be at least as safe as a careful and competent driver, as most accidents happened when drivers were not driving carefully.

23. The expert from France introduced his second presentation (Presentation No. 3) by sharing conclusions made by France on the informal meeting on 5 July 2022, and by providing the comments received from Contracting Parties on the input he had prepared for the informal meeting. He suggested that the Group review these comments as they could help to identify the scope of the future Convention. He highlighted some of the comments received, calling for the Convention to work well in practice and to be open for future technological developments. He suggested that the Group produce tangible outcomes and start drafting.

24. The expert from the Netherlands clarified that her comment listed in Presentation No. 3, regarding the periodical review of the Convention, meant to suggest a review of the draft Convention by other authorities before its finalisation.

25. The expert from Finland addressed a comment, also listed in Presentation No. 3, regarding the term “driver” and justified the need to define a new role, that of the “user in charge”.

26. The expert from Germany proposed to consider remote driving in this discussion.

27. The expert from Malta mentioned the case when, in the future, a vehicle could have several users, with none of them being in control of the vehicle. He suggested to rather consider the question who has control of the vehicle, and who has the possibility of gaining control of the vehicle.

28. The expert from the United Kingdom of Great Britain and Northern Ireland suggested to distinguish between vehicles having no controls inside of the vehicle, and vehicles, where there is still someone inside the vehicle with at least some remaining driver responsibilities, e.g., responding to a request from the system to take over the Dynamic Driving Task (DDT). He proposed to start looking at roles and responsibilities before defining terminologies.

29. The expert from OICA distinguished “Automated Vehicle” from “automated driving mode”. He suggested, with respect to the comment in the presentation regarding seatbelts, to consider the speed of an ADS when drafting provisions regarding conditions under which a seatbelt should be mandatory. He reacted on a comment in the presentation related to external signalling specific to vehicles with the automated driving mode engaged by asking about the safety benefits of such light-signalling devices, especially as AVs are required to behave normally and to follow the respective traffic rules.

30. The expert from France answered to OICA that fastened seatbelts should be one of the prerequisites for the activation of an ADS to ensure safety. He acknowledged the existence of exemptions for conventional vehicles, e.g. for busses used in urban conditions. He wished that manufacturers would be more proactive and did not concentrate on potential exemptions. He explained that the purpose of light-signalling devices regarding the status of an ADS was to allow law enforcement authorities to verify whether a driver engaged in activities other than driving does so lawfully or not.

31. The expert from the United Kingdom of Great Britain and Northern Ireland informed the Group about domestic legislative activities aimed at providing an indication to enforcement authorities whether a vehicle could drive itself or not. He also mentioned an amendment of their highway code to clarify driver roles and responsibilities in respective vehicles. He informed the Group that external visible signals had not been requested and stated that discussions should involve WP.29, also regarding alternative approaches for such signalling.

32. The Secretary informed the Group about ongoing discussions in different working groups under WP.29 and the agreed process to guide WP.29 subsidiary bodies regarding the signalling of vehicles equipped with an ADS, when the ADS is switched on. He reported that WP.29 had decided, at its November 2021 session, that GRVA should discuss the need of such signalling first, then report back on its deliberations at the November 2022 WP.29 session and that, if these systems were deemed necessary, work would continue in the Working Party on Lighting and Light Signalling (GRE). The Group requested the secretariat to provide an update on the status of discussions under WP.29 at its December 2022 session.
33. The expert from Canada emphasized the need for a thorough assessment of safety implications of AVs. She stated that Canada had a reservation regarding the way forward of the Group without having this assessment done and suggested that it should take place alongside of the ongoing discussions.
34. The expert from France suggested that the Group should distinguish the use of vehicles when defining roles and responsibilities. He acknowledged that they would differ, e.g. between autonomous shuttle busses and individual AVs. He explained that humans “using” automated shuttles would not necessarily be “users” (with responsibilities) as understood in this discussion.
35. The expert from Malta pointed out that the scope of the Convention should include all kinds of vehicles and wondered whether the Group could report to WP.1 that it only considered parts of the issue.
36. Thanking the experts for the open and fruitful discussion so far, the Chair asked the Group if there were volunteers regarding the initial drafting exercise of a new Convention, aimed at putting together a skeleton of the new Convention, as requested by the Chair of WP.1, the Group’s parent body, during the last session.
37. The experts from Finland and the Netherlands volunteered for the drafting activities and offered to be the main points of contact for other volunteers. They suggested that the new Convention could be based on the structures of the 1949 and 1968 Conventions but stressed that work should not be duplicated. The expert from the Netherlands suggested to include both in-vehicle and remote driving in the new Convention.
38. The experts from Malta, Poland, Sweden and the United Kingdom of Great Britain and Northern Ireland volunteered to join the drafting activities. The experts from France, Germany and Luxembourg expressed their interest in participating in drafting and announced that they would confirm their participation after the session. The experts from Belgium, Greece, OICA, Portugal and the University of South Carolina stated that they would be pleased to answer any requests for support or clarification.
39. The expert from the University of South Carolina stated that the structures of the current Conventions may not be suitable. He suggested that the new legal instrument could be more precise in who or what it is speaking to or about. He suggested to consider adding a preamble to define common and clear goals as well as the purpose of the new legal instrument. The expert from Sweden supported this idea.
40. The expert from Greece raised the question how the new legal instrument could complement the Conventions of 1949 and 1968. He pointed out that the new Convention needed to be flexible, allowing it to take into account future developments. He further called for the new Convention to be easily amendable.
41. The Group discussed the potential scope of a new Convention.
42. The expert from Belgium, Vice-Chair of WP.1, asked the experts about the envisaged levels of automation they would wish to include in the scope. Separately, he expressed his concerns about the idea to complement the 1949 and 1968 Conventions on Road Traffic with only one legal instrument, as the articles and wording of these Conventions were different. He therefore envisaged the possibility to develop two legal instruments to address this technical difficulty.
43. The experts from France and Germany proposed to create an exhaustive legal framework on automation, covering all levels of ADS and excluding Advanced Driver Assistance Systems (ADAS), as these systems needed constant monitoring. The expert from

France recommended to consider existing material, including the Resolution on the Deployment of Highly and Fully Automated Vehicles in Road Traffic from 2018, available at the following link: https://unece.org/DAM/trans/main/wp1/wp1doc/WP1_Resolution_Brochure_EN_web.pdf.

44. The expert from Greece expressed concerns about the wording “automation” and proposed to use “Automated Driving Systems” instead. He suggested to review the definitions or to develop new ones, to have a clear understanding and common view within the Group.

45. The expert from the United Kingdom of Great Britain and Northern Ireland stated that the Resolution from 2018 only considered highly and fully automated vehicles, as it was the assumption that the driver would need to constantly monitor the driving environment in a vehicle equipped with conditional automation. He explained that while WP.29 had drafted UN Regulation No. 157 on Automated Lane Keeping System (ALKS), it was clarified that the driver did not need to monitor the driving environment while ALKS is engaged and performs the DDT. He suggested to only include such conditional automation in the new Convention where the driver is not responsible to continuously monitor the road.

46. The expert from Finland stated that a majority preferred to have only two levels of automation and suggested to differentiate between an ADS and assistance systems, where the driver has the full responsibility. She stated that monitoring was an important aspect and that if the ADS could not deal with all situations, the human would still be the one to monitor the system and the environment continuously, as time for the transition of control would not be sufficient to ensure safety.

47. The experts from Belgium and the Netherlands supported the statement made by the expert from Finland regarding the importance of monitoring. The expert from Belgium stated that conditional automation should not be within the scope of the Convention, but that he would not oppose in case the Group agreed on including it.

48. The expert from France pointed out that automated driving systems such as ALKS were regulated by WP.29. He suggested to remain in consistency with what had already been agreed on and added that the Group should consider including all ADS that had been duly homologated in the scope of the new Convention. He suggested that initial drafts could include a definition of ADAS, to clarify the distinction between ADAS and ADS.

49. The experts from Germany and Malta supported the idea from the expert from France.

50. The expert from Portugal suggested not to use the levels of automation defined by SAE International but rather to focus on defining the human roles when using systems of said levels.

51. The experts from Finland, OICA, Sweden and the United Kingdom of Great Britain and Northern Ireland supported the comment not to use the levels of automation defined by SAE International.

52. According to the expert from Finland, the Informal Group of Experts on Automated Driving (IGEAD) had discussed that some level 3 systems could be classified as ADAS and some others as ADS. She noted that UN Regulation No. 157 was explicit regarding expectations to the ADS performance of the DDT (good enough so that drivers do not have to serve as a backup) but reported on various interpretations of these provisions. She suggested to consult WP.29 experts on this matter. She proposed that the Group focus on the requirements for ADS regarding human behaviour and what is required of humans.

53. The expert from the United Kingdom of Great Britain and Northern Ireland referred to UN Regulation No. 157 (ALKS) annexed to the 1958 Agreement (XI-B-16) and stated that this system provided a predictable and safe process for a driver to respond to a transition demand and to take over safely, and he explained that the system was still under control of the vehicle during this period. He stated that said Regulation went beyond the definition of a level 3 system, demonstrating why the levels of automation were not helpful in that context.

54. The expert from Luxembourg recalled that the monitoring performed by a driver could be related to the driving environment or the system itself. He suggested that the new

Convention should apply in situations when the driver has no obligation, neither to monitor the system nor to monitor the driving environment.

55. The expert from OICA referred to the report of the seventy-fifth session of WP.1 in 2017 (para. 23), stating that WP.1 affirms that the 1949 and the 1968 Convention on Road Traffic apply to all driving situations, except those where the vehicle is moved by vehicle systems without any role of the driver. He suggested that the key criteria for defining the scope of the new legal instrument should be the mode of operation rather than the ADS or the vehicle itself. He informed the Group that the industry was envisaging first AVs to be on the market in the end of 2025, the time frame still to be discussed and confirmed.

56. The expert from Belgium, Vice-Chair of WP.1, proposed as a way forward for defining the scope of the future Convention to first include all kinds of levels of automation, define the roles and responsibilities of the driver for each one, and then to decide what content to be included in the new Convention.

57. The experts from Finland, France, Luxembourg, Malta, Sweden and the United Kingdom of Great Britain and Northern Ireland supported the idea from the expert from Belgium.

58. The expert from Finland stressed that despite considering all levels of automation at a first stage, the new Convention should only deal with systems that could perform the DDT.

59. The expert from Sweden pointed out that the new Convention should only include the roles and responsibilities when the ADS is engaged. He supported the idea from the expert from OICA to consider the mode of operation.

60. The expert from the United Kingdom of Great Britain and Northern Ireland proposed to discuss that “responsibilities” are related to the DDT. He suggested to focus on safety (as the primary functionality of the ADS should be to behave safely). He added that more could be added at a later stage, recalling the need to keep flexible for future developments. He referred to the comment addressing road signs and signals in Presentation No. 3 and stated that an ADS should be able to recognise relevant road signs and signals within its operational design domain.

61. The expert from the University of South Carolina referred to Presentation No. 1 and suggested as a principle for drafting to focus on the broader goals and to define them in the new legal instrument.

IV. Other business (agenda item 3)

62. The Group agreed that drafting volunteers would meet independently and that the experts from Finland and from the Netherlands would support that process as main points of contact. The Group decided that they would present the progress made, as well as potential text, to the Group at its next formal session in December 2022.

63. The Group agreed to issue a standing invitation to the experts from OICA and from the University of South Carolina to the sessions of WP.1/GE.3 until the end of its first term.

V. Adoption of the list of decisions (agenda item 4)

Documentation: Decisions for silence procedure

64. The Secretary briefly presented the draft list of decisions concerning agenda items 1 to 3, based on his notes during the session.

65. The expert from Finland asked for clarification regarding the drafting activities and if it was about preparing a first skeleton of the Convention.

66. The Chair clarified that the wording used was aimed at providing sufficient flexibility for the drafting activities, and that it should only provide guidance.

67. The Group reviewed the document, endorsed it and requested the secretariat to prepare the session report on its basis. The Group discussed items 5 and 6, as follows.

VI. Adoption of the report of the third session (agenda item 5)

Documentation: ECE/TRANS/WP.1/GE.3/2022/5

68. The Chair consulted the Group on the adoption of the report of the third session. The Group of Experts adopted the report, noting the possibility to come back to its French and/or Russian version.

VII. Next session (agenda item 6)

69. The Secretary informed the Group that the next session of the Group is scheduled to take place on 12 December 2022.

70. The Group noted that this one-day meeting would be conducted in a hybrid format, with two hours each in the morning and in the afternoon.
