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Working Party on Automated/Autonomous and Connected Vehicles

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Report of the Working Party on Automated/Autonomous and Connected Vehicles on its eighteenth session

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I. Attendance

1. The Working Party on Automated/Autonomous and Connected Vehicles (GRVA) met from 22 to 26 January 2024 in Geneva. The meeting was chaired by Mr. R. Damm (Germany). Accredited representatives from the following countries participated in the work, following Rule 1 of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (ECE/TRANS/WP.29/690/Rev.2): Australia, Canada, China, Czech Republic, Denmark, Finland, France, Germany, India, Italy, Japan, Luxembourg, Netherlands, Norway, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America and Zimbabwe. The European Commission also participated. The expert from the University of Warwick participated upon invitation by the Chair.

2. Representatives of the following non-governmental organizations (NGOs) and international organizations participated: the American Automotive Policy Council (AAPC), European Association for Electric Mobility (AVERE), European Agricultural Machinery Organization (CEMA), International Motor Vehicle Inspection Committee (CITA), European Association of Automotive Suppliers (CLEPA/MEMA/JAPIA), European Tyre and Rubber Manufacturers Association (ETRMA), International Council on Environmental Economics and Development (ICEED), European Garage Equipment Association (EGEA), European Association of Internal Combustion Engine Manufacturers (EUROMOT), European Tyre and Rim Technical Organisation (ETRTO), Federation of European Manufacturers of Friction Materials (FEMFM), Institute of Electrical and Electronics Engineers (IEEE), International Automobile Federation (FIA), International Motorcycle Manufacturers Association (IMMA), International Road Union (IRU), International Telecommunication Union (ITU), International Organization of Motor Vehicle Manufacturers (OICA), SAE International, Secure America Future Energy (SAFE) and World Bicycle Industry Association (WBIA).

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRVA/2024/1 and Add.1
Informal documents GRVA-18-01 and GRVA-18-02/Rev.1

3. GRVA considered the provisional agenda prepared for its eighteenth session (ECE/TRANS/WP.29/GRVA/2024/1 and Add.1). GRVA adopted it (without modifications), as reproduced in GRVA-18-02/Rev.1, which is a version that includes reference to all informal documents received until 22 January 2024 12.00 p.m. All informal documents submitted are listed in Annex I of this report. (Annex II provides the list of Informal Working Groups (IWG) reporting to GRVA.)

4. GRVA also agreed on the running order prepared for the session (GRVA-18-01).

III. Highlights of the November 2023 session of WP.29 (agenda item 2)

Documentation: (ECE/TRANS/WP.29/1175)
Informal document GRVA-18-03

5. The secretariat presented GRVA-18-03, with highlights from the WP.29 session in November 2023, which had relevance for GRVA. He referred to the session report ECE/TRANS/WP.29/1175 for more details. GRVA noted the report from the secretariat.

IV. Artificial Intelligence in vehicles (agenda item 3)

Documentation: (ECE/TRANS/WP.29/GRVA/2023/17)
ECE/TRANS/WP.29/2024/34
Informal documents (GRVA-17-04/Rev.2 and) GRVA-18-04

6. GRVA noted the purpose of ECE/TRANS/WP.29/2024/34, titled “draft resolution with guidance on Artificial Intelligence (AI) in the context of road vehicles” and tabled for potential adoption at the March 2024 session of WP.29 with potential amendments by an informal document prepared by GRVA at this session (ECE/TRANS/WP.29/1175, para. 25).

7. The representative of OICA, who provided the basis input for the document, called for suggestions and comments during the week to improve the document that could form the basis for a new Mutual Resolution, as proposed by the Secretary to the Working Party on General Safety (GRSG) provisions at the November 2023 session of WP.29.

8. The representative of Canada asked about the aim of the document. He also asked for clarity about the term Mutual Resolution and wondered between whom the resolution would be and what would be expected from the partners. He invited GRVA to reflect on what the document would mean if GRVA would reflect on it in e.g., five years. He inquired about the request from WP.29 to GRVA in that field. The representative of the United Kingdom of Great Britain and Northern Ireland felt that the document was confused in some parts and should be improved as it was providing no real benefits for the time being.

9. The representative of OICA explained that the document would provide important recommendations and recalled that it was already tabled for adoption by WP.29 in March 2024.

10. The representative of Norway felt that the document was helpful and valuable. The representative of the Netherlands welcomed the useful definitions. He made the European delegations aware that the document should not be in contradiction with the European Union Act on AI. The representative of IEEE stated that the document was good. She mentioned that a few aspects could be improved and volunteered to prepare input for the twentieth session of GRVA. The representative of Germany supported the document. The representative of the European Commission suggested to modify the title of the document and to restructure it.

11. The representative of OICA presented the informal document GRVA-18-04 aimed to amend ECE/TRANS/WP.29/2024/34 that included minor editorial modifications based on the input received during the week.

12. GRVA requested the secretariat to submit informal document GRVA-18-04 to WP.29 as amendment to ECE/TRANS/WP.29/2024/34, for consideration during the WP.29 session in March 2024.

V. Automated/autonomous and connected vehicles (agenda item 4)

A. Deliverables of the Informal Working Group on Functional Requirements for Automated and Autonomous Vehicles

13. The representative of the United States of America, Co-Chair of the Informal Working Group on Functional Requirements for Automated and Autonomous Vehicles (FRAV), provided an oral status report on the activities of the group. He recalled that GRVA had approved the guidelines and recommendations for ADS safety requirements prepared by FRAV (GRVA-17-33) during its September 2023 session. Therefore, FRAV had fulfilled its mandate under its terms of reference. He added that, since that time, FRAV has collaborated with the Validation Methods for Automated Driving (VMAD) informal working group on integrated guidelines and recommendations for ADS safety requirements and assessments and that FRAV anticipated continuing to collaborate per the FRAV/VMAD planning for the joint guidelines through to the May GRVA session.

B. Deliverables of the Informal Working Group on Validation Methods for Automated Driving

Documentation: Informal document GRVA-18-45

14. The representative of Japan, Co-Chair of the IWG on VMAD, provided an update (GRVA-18-45) on the work of the group, containing an overview of the expected deliverables until June 2024, details on the activities of the group since September 2023, and also an outlook as follows: VMAD would now be a part of the Integration Group and VMAD subgroups' meetings could still be held as necessary.

C. Deliverables of the Integration Group

Documentation: Informal documents GRVA-18-40 and GRVA-18-50

15. The representative of the Netherlands, Co-Chair of the IWG on VMAD, presented the status report of the FRAV/VMAD integration group (GRVA-18-40). He reported that the Integration Group finalized the first complete draft of the Integration Document consisting of eight sections in total, and ten annexes (GRVA-18-50). He clarified that Annex 10 of this document identified topics for further consideration during the next phase of work (as per the AC.2 deliberations and outcomes) and that this annex could be updated until the May GRVA session.

16. The representative of France asked for more details about Annex 10. GRVA noted that further progress could be achieved until May 2024 and that the remaining open issues would be for the next phase.

17. The representative of OICA noted with satisfaction the good progress achieved. The representative of the United States of America confirmed that Annex 10 was containing open issues to be address soon. The representative of Canada took stoke of the work achieved during the last years. He commended the immense collaborative efforts (except for one single meeting).

18. GRVA agreed with the suggestion of the Netherland to submit GRVA-18-50 as official document for consideration by WP.29 in June 2024.

D. Deliverables of the Informal Working Group on Event Data Recorder / Data Storage Systems for Automated Driving

Documentation: Informal document GRVA-18-25

19. The representative of Japan, Co-Chair of the IWG on Event Data Recorder (EDR) / Data Storage Systems for Automated Driving (DSSAD), presented a status report (GRVA-18-25) detailing the progress achieved by the group to date.

20. He announced that the guidance document under preparation would be delivered on time in June 2024.

21. GRVA endorsed the status report.

E. UN Regulation No. 157

Documentation: ECE/TRANS/WP.29/GRVA/2024/3
Informal document GRVA-18-05

22. The representative of France presented a proposal for amendments to UN Regulation No. 157, proposing to align the reference to UN Regulation No. 10 (Electromagnetic Compatibility (EMC)) with the text adopted in other regulations and clarifying the testing conditions for Automated Lane Keeping Systems (ALKS).

23. The secretariat summarized the discussion on a related topic at the October 2023 session of the Working Party on Lighting and Light-Signalling (GRE) regarding the

development of a new series of amendments to UN Regulation No. 10, which would also cover ADS, and which seemed to require further work until final completion.

24. The expert from Germany explained that the progress made since the last session of GRE and highlighted the finalization of working paper IWG-EMC-41-02/Rev.1, aimed to be adopted by GRE at its next session.

25. The representative of France proposed to resume discussion on ECE/TRANS/WP.29/GRVA/2024/3 at the September 2024 session of GRVA to take into account the work done by GRE on this topic.

26. The representative of OICA introduced informal document GRVA-18-05, aimed to amend the provisions related to the automatic re-instatement of the ALKS at the “initiation of each engine start / run cycle (running / off cycle) in a consistency with the similar provision already adopted for Advanced Emergency Braking System (AEBS) in UN Regulation No. 152.

27. The representative of the United Kingdom of Great Britain and Northern Ireland inquired whether the wording could be more technology neutral and maybe aligned with provisions available in the Mutual Resolution 2, containing vehicle propulsion system definitions.

28. GRVA agreed to further discuss this point when reviewing a similar proposal (GRVA-18-06) under agenda item 6(b).

F. Coordination of work on automation between working parties (GRs)

1. Fitness of UN GTRs and UN Regulations for ADS

Documentation: (ECE/TRANS/WP.29/GRVA/2023/18)
ECE/TRANS/WP.29/GRVA/2024/8
ECE/TRANS/WP.29/GRVA/2024/9
ECE/TRANS/WP.29/GRVA/2024/10
Informal documents GRVA-18-30, GRVA-18-31, GRVA-18-32,
GRVA-18-33 and GRVA-18-44

29. The representative of France, Co-Chair of the Task Force on the Fitness for ADS UN Regulations and UN Global Technical Regulations (TF on FADS), presented the status report of the Group (GRVA-18-44), recalling the context of the activities, explaining the recent actions, and inquiring about GRVA’s priorities. He detailed the content of the three official documents submitted by the group (ECE/TRANS/WP.29/GRVA/2024/8, /9 and /10) as well as their respective amendments GRVA-18-30, GRVA-18-31 and GRVA-18-32. He introduced informal document GRVA-18-33, containing questions and answers prepared by the group for further details.

30. The representative of Japan inquired why the group proposed to exclude driverless vehicles from the scope of UN Regulations Nos. 13, 13-H and 79 and if this would mean that braking and steering would not be regulated for these vehicles.

31. The representative of the United Kingdom of Great Britain and Northern Ireland asked for clarifications on the proposed timeline.

32. The representative of France referred to GRVA-18-33 (chapter 2) to address the inquiry by Japan. He explained that the task force was envisaging to produce informal documents until January 2025, proposing new series of amendments to UN Regulation No. 13, 13-H and 79 covering driverless vehicles.

33. GRVA adopted ECE/TRANS/WP.29/GRVA/2024/8, amended by GRVA-18-30 (see ECE/TRANS/WP.29/2024/56) and requested the secretariat to submit it as draft Supplement 22 to the 11 series of amendments, draft Supplement 4 to the 12 series of amendments and draft Supplement 2 to the 13 series of amendments to UN Regulation No. 13 for consideration and vote by WP.29 and Administrative Committee of the 1958 Agreement (AC.1) at their June 2024 sessions.

34. GRVA adopted ECE/TRANS/WP.29/GRVA/2024/9, amended by GRVA-18-31 (see ECE/TRANS/WP.29/2024/59) and requested the secretariat to submit it as draft Supplement 5 to the 01 series of amendments to UN Regulation No. 13-H for consideration and vote by WP.29 and AC.1 at their June 2024 sessions.

35. GRVA adopted ECE/TRANS/WP.29/GRVA/2024/10, amended by GRVA-18-32 without the text marked in red (see ECE/TRANS/WP.29/2024/61) and requested the secretariat to submit it as draft Supplement 11 to the 03 series of amendments and Supplement 6 to the 04 series of amendments to UN Regulation No. 79 for consideration and vote by WP.29 and AC.1 at their June 2024 sessions.

36. GRVA agreed to keep GRVA-18-33 on the agenda for the next session and recommended its distribution to the WP.29 subsidiary bodies, as proposed by Germany.

2. Vehicle subcategories for ADS

Documentation: (ECE/TRANS/WP.29/GRVA/2023/28)

37. The representative of the United Kingdom of Great Britain and Northern Ireland informed GRVA on the recent activities related to ADS subcategories. He recalled the WP.29 decision to establish a task force, co-chaired by the United Kingdom of Great Britain and Northern Ireland and Germany. He highlighted that the kick-off meeting took place in January 2024, and was opened by the Chairs of GRSG and GRVA. He reported on the outcome of that kick off meeting.

G. Other business

Documentation: Informal documents GRVA-18-26/Rev.1, GRVA-18-41/Rev.2 and GRVA-18-42/Rev.2, GRVA-18-47, GRVA-18-48, GRVA-18-49 and GRVA-18-52

1. Implementation of WP.29 decisions on the work organization on the development of an ADS regulation

38. The Chair introduced GRVA-18-41 and GRVA-18-42, containing the proposal for GRVA workshops for the regulatory approach for Automated Driving Systems (GRVA workshops on ADS) and the proposal for terms of reference for the IWG on ADS, respectively. GRVA provided input on both documents.

39. Several delegations provided comments. GRVA commented the text related to the need to take research into account. GRVA noted that it was a good principle, as science was always producing new data and information. But GRVA also noted that lack of evidence and additional data should not stop the group and its activities. GRVA discussed that “performance-based requirements” should be understood as a broad concept that would not prevent considering concepts such as “the safety case”. GRVA discussed the leadership of these activities and agreed to establish a bureau composed of the volunteers including representatives of Canada, China, European Commission, United Kingdom, Japan, and United States of America. The representatives of China, Canada, European Commission, and United States of America agreed to sponsor the development of a United Nations Global Technical Regulation (UN GTR). The representatives of OICA, SAE International, AAPC and the Japan Automobile Standards Internationalization Center (JASIC) offered to support the IWG on ADS as members of its secretariat. GRVA noted that experts from contracting parties could support the secretariat for preparing the GRVA workshops.

40. GRVA adopted GRVA-18-41/Rev.2 and GRVA-18-42/Rev.2, as reproduced in Annexes III and IV.

41. GRVA recalled that the procedure under the 1998 Agreement would require to table a request for authorization to develop a UN GTR on ADS to move forward with this activity.

2. Exchange of views on scenarios

42. The expert from France presented views on scenario-based design, validation, and homologation (GRVA-18-47), a presentation already made at the last session of the IWG on VMAD in December 2023, justifying the use of scenarios for the validation of ADS and introducing Adscene (an industry scenario library for Advanced Driver Assistance System (ADAS) and ADS design, validation, and homologation).

43. The representative of France presented views on a possible approach for coordinating scenario libraries for safety assessment (GRVA-18-48).

44. The expert from the University of Warwick presented a scenario catalogue for ADS approval in the United Kingdom of Great Britain and Northern Ireland, called Safety Pool Scenario Database (GRVA-18-52).

45. The representative of the United Kingdom of Great Britain and Northern Ireland presented views on the need for a UNECE scenario catalogue, highlighting potential benefits and suggesting a way forward. He proposed to organize a GRVA workshop on this topic. The representative of France supported this idea and offered to support its organization. The representative of Canada also supported it. The representative of CLEPA welcomed it too.

46. The representative of ITU presented views on a scenario catalogue for Automated Driving Systems (GRVA-18-26/Rev.1). He recalled the context of this discussion, provided observations on the potential Information Technology (IT) related challenges, and offered an IT decision approach for determining whether to create a new WP.29 catalogue.

47. The representative of SAFE explained that existing regulations under GRVA already worked based on scenarios catalogues. He strongly supported that an analysis be conducted.

48. The representative of the European Commission agreed on the need for a scenario catalogue. She recalled the discussions under Subgroup 3 of the IWG on VMAD. She mentioned that such a tool could assist decision makers. She mentioned different scenario categories of relevance, normal conditions, critical conditions, and failure conditions. She advised GRVA to look at what other sectors do in that field and mentioned as an example the scenario catalogue of the International Atomic Energy Agency. She acknowledged that such activities would have a cost and would require a group of experts to deal with this topic.

49. The representative of the Russian Federation noted the interesting presentations, supplementing each other. He stated the need for such a catalogue, available for all.

50. The representative of China, Vice-Chair of GRVA, mentioned that this would be an important task, if deemed necessary and feasible. She suggested to organize a workshop to discuss it.

51. GRVA agreed to organize a workshop on 6-7 May 2024 in Paris (France) and envisaged to consider consolidating the documents presented at the session.

VI. Connected vehicles (agenda item 5)

A. Cyber security, software updates and over-the-air issues

Documentation: ECE/TRANS/WP.29/GRVA/2024/4
ECE/TRANS/WP.29/GRVA/2024/5
Informal documents GRVA-18-20, GRVA-18-21, GRVA-18-27,
GRVA-18-30, GRVA-18-34/Rev.1, GRVA-18-36, GRVA-18-37 and
GRVA-18-43

1. Inclusion of the vehicle categories L, S, R and T in the scope of UN Regulation No. 155

52. The representative of France introduced the proposal to insert all vehicles of Category L in the scope of UN Regulation (ECE/TRANS/WP.29/GRVA/2024/4) as well as the corresponding amendment to the interpretation document (ECE/TRANS/WP.29/GRVA/2024/5). The experts from Japan and Spain supported the two documents.

53. GRVA adopted ECE/TRANS/WP.29/GRVA/2024/4 and requested the secretariat to submit it as draft Supplement 3 to UN Regulation No. 155 for consideration and vote by WP.29 and AC.1 at their June 2024 sessions. The representative of IMMA welcomed this adoption.

54. GRVA also requested the secretariat to submit ECE/TRANS/WP.29/GRVA/2024/5 for consideration and adoption by WP.29 in June 2024.

55. The representative of CEMA recalled their position (GRVA-18-20) regarding the inclusion of the vehicle categories R, S and T in the scope of UN Regulation No. 155, preferring them to be covered by the European Cyber Resilience Act. He mentioned the comparison between both regulations (GRVA-18-21). The representatives of the European Commission, Italy and Spain supported CEMA's position. The representative of CLEPA called on for harmonization and warned against the potential regulatory fragmentation. The representative of the United Kingdom of Great Britain and Northern Ireland recalled that GRVA was an international forum, he noted the standardization work ongoing and asked to keep this item on the agenda. The representative of Italy expressed a strong opinion to remove this item from the agenda. The representative of Luxembourg preferred to keep it. The representative of EC proposed to keep it for the longer-term purposes. The representative of the United States of America expressed concerns that GRVA discussed a European Union issue. She recalled that GRVA was tasked to deal with global regulation and was concerned about the precedent this discussion created. She advised to discuss it under another section of the agenda.

56. GRVA agreed to keep this item on the agenda and to continue the discussion based on documents, if any.

2. Report from the IWG on CS/OTA

57. The representative of the United Kingdom of Great Britain and Northern Ireland, Co-Chair of the IWG on Cyber Security (CS) and Over-the-Air (OTA) issues presented the status report of the group (GRVA-18-43). He detailed the current activities of the group related to the update of the interpretation document related to UN Regulation No. 156, Annex 7 to the Consolidated Resolution R.E.3, post-registration software updates, vehicle data access and privacy-by-design, as well as updatable telecommunication via OTA updates.

58. The representative of FIA volunteered to provide further information on their concepts to the informal group aimed to address vehicle data access and privacy-by-design. The representative of SAE International clarified that their members were considering the reference to an ISO standard proposed to be referred to in the UN Regulation No. 156 interpretation document update.

59. GRVA inquired if there was an overlap with the activities of the IWG on DSSAD/EDR concerning the activities on data sharing and with the activities of the IWG on ITS concerning the activities related to updatable telecommunication systems. The Co-Chair of the IWG on CS/OTA explained that the group was not considering data elements to be recorded and that the group worked on a support process and mechanism. The representative of ITU, Secretary to the IWG on ITS task force on vehicular communication clarified that this item was considered in close collaboration between the groups. The representative of OICA confirmed that the related FISITA proposal was under review.

60. The representative from Japan, Co-Chair of the IWG on CS/OTA and Co-Chair of the Workshops on the implementation of UN Regulation No. 155, informed GRVA on the outcomes of the recent meeting held in Geneva on 11-12 January 2024 (GRVA-18-36). He explained that the GNSS issue was closed and mentioned the progress made on the reporting provisions (CSMS) on Regulation X Software Identification Number (RxSWIN), on recertification process of CSMS and Software Update Management System (SUMS), software updates performed post registration, the reference to UN Regulation No. 155 in GRSG UN Regulations, CSMS for joint ventures and their practical application, as well as cyber security and PTI. He mentioned the ongoing activities of the IWG on post registration software updates, supported by the discussions at the workshops. He mentioned the idea, expressed in January 2024, to insert in UN Regulation No. 0 the software updates provisions that would be relevant for the Whole Vehicle Type Approval.

61. The expert from Norway shared observations on the weaknesses of Global Navigation Satellite Systems (GNSS) and asked how Approval Authorities would assess other methods as equivalents to cryptographic solutions. The expert from ITU mentioned, in his capacity as member of the National Aeronautics and Space Administration (NASA) committee on Position, Navigation and Timing, that cryptographic methods were inadequate. The representative of the United Kingdom of Great Britain and Northern Ireland clarified that the risk assessment imposed by the regulation could easily conclude in usual cases that GNSS vulnerabilities would cause a neglectable risk for safety. He added that the regulation was indeed “open”, which explained the question by the representative of Norway, but also required that the authorities share with their peers the methods and assessments they used.

62. The representative of France welcomed the activities under the workshops co-organized by the National Traffic Safety and Environment Laboratory (NTSEL) of Japan and the secretariat. He mentioned that post registration updates may have whole vehicle type approval implications and suggested ways to consider them. Following discussion, GRVA agreed that the IWG on CS/OTA would primarily, with the support of the workshops, elaborate on this point.

63. GRVA noted the updated Questions and Answers document (GRVA-18-37) and agreed to keep it on its agenda as reference document.

64. The representative of the United Kingdom of Great Britain and Northern Ireland presented (GRVA-18-27) an amendment proposal to Annex VII of the Consolidated Resolution on the construction of vehicles (R.E.3), aimed to clarify the use of RxSWIN. GRVA agreed with OICA that the first question to address was whether RxSWIN should be mandatory, and the second question was where to put the corresponding provision (in R.E.3 or UN Regulation No. 156) and requested the IWG on CS/OTA to consider GRVA-18-27 and address both questions.

65. The representative of France presented (GRVA-18-34) a list of UN Regulations under the purview of GRVA and an assessment of the need to implement software update provisions in each of them. The representative of France added in the table presented the two UN GTRs under the purview of GRVA (GRVA-18-34/Rev.1).

66. GRVA supported the proposal of France to prepare such list for the five other WP.29 subsidiary bodies.

B. Data protection and privacy-by-design

67. This item was covered by the status report of the IWG on CS/OTA. No separate document was submitted under this agenda item.

C. Data and vehicle communications

68. The representative of the ITU informed GRVA on the establishment of the Expert Group on Communications Technology for automated driving at ITU. He announced the first meeting scheduled in March 2024. He mentioned the ongoing activities of the Task Force on Vehicular Communication under the WP.29 IWG on ITS.

D. Other business

69. No document was submitted under this agenda item.

VII. Advanced Driver Assistance Systems and UN Regulation No. 79 (agenda item 6)

A. Advanced Driver Assistance Systems

Documentation: ECE/TRANS/WP.29/GRVA/2024/2
ECE/TRANS/WP.29/GRVA/2024/12

Informal documents GRVA-18-07 and revisions, GRVA-18-14, GRVA-18-15 and GRVA-18-16

70. The representative of the Russian Federation, Co-Chair of Task Force on Advanced Driver Assistance System (TF on ADAS), presented the status report of the group contained in GRVA-18-16. He detailed the progress made since the last GRVA session and explained the status of the documents submitted to GRVA, (ECE/TRANS/WP.29/GRVA/2024/2 and GRVA-18-07/Rev.1) with the draft UN Regulation on Driver Control Assistance System (DCAS).

71. The representative of France asked about the proposed para. 5.3.7.3.2. The Chair of the TF on ADAS explained that it mandated Risk Mitigation Function (RMF) as specified in UN Regulation No. 79. The representative of Norway pointed out that, if the system can't do lane changes, then RMF would stop the vehicle in the lane of travel.

72. The representative of CLEPA provided background information on RMF. She recalled that RMF (as regulated by UN Regulation No. 79) allowed the manufacturer to choose whether (or not) RMF perform lane changes. She added that this flexibility should be kept in DCAS otherwise the regulation would impose a certain type of RMF. She explained that DCAS assistance systems might not have the necessary redundancies for executing such manoeuvre, as RMF intervene when the driver is not available (e.g., he passed out) and that it would pose a liability uncertainty.

73. The representative of the United Kingdom of Great Britain and Northern Ireland confirmed that the group discussed the risk induced by the system stopping the vehicle in the lane of travel. He explained that in the case of congestion, a stop in the lane of travel would be fine but it would be riskier on the highway with free-flowing traffic. He encouraged the group to consider that, if DCAS offers the functionality where the driver confirms lane changes, then RMF should be capable of performing lane changes, if needed. He suggested that the NGO should think about safety more than about liability.

74. The representative of Norway pointed at the risk of stopping in the lane of travel. He also mentioned difficult conditions such as in tunnels, crossings, and sharp curves. He hoped that DCAS would effectively and safely cope with such conditions.

75. The representative of EC mentioned the risk assessment required in the paragraph of concern and thus noted that the text did not mandate RMF to always perform lane changes.

76. GRVA provided further comments on the draft reflected in GRVA-18-07/Rev.2, (prepared by TF on ADAS in French, English and Russian - the secretariat mentioned that the documents were not edited by the secretariat and alerted the group on the potential corrigenda that could be required to fully align the linguistic versions and unify the terminology across documents).

77. GRVA noted that the text in para. 5.5.3.1. was similar to the one in the amendment proposal under agenda items 4(e) and 6(b). GRVA agreed to keep the word "engine" and to revert back to it at a next session to identify a more technology-neutral term.

78. The representative of Norway supported adoption of the draft regulation, noting the many compromises made to reach consensus. He highlighted some experts in Human Machine Interfaces had concerns with such system and that the effectiveness of the counter measures developed in the draft regulation to address these concerns, i.e., the driver monitoring function, would need to be assessed once the first vehicles are in the field.

79. GRVA requested the secretariat to submit GRVA-18-07/Rev.2 (reproduced in ECE/TRANS/WP.29/2024/37) as draft new UN Regulation on DCAS for consideration and vote by WP.29 and AC.1 in March 2024.

80. The TF on ADAS Chair informed GRVA that the group would now start the second phase of activities.

81. The representative of the United Kingdom of Great Britain and Northern Ireland introduced ECE/TRANS/WP.29/GRVA/2024/12, aimed at clarifying the scopes of UN Regulation No. 79 and of the draft UN Regulation on DCAS. He referred to GRVA-18-14 as well as GRVA-18-15, which included the most recent wording (and which was also prepared in French and Russian).

82. GRVA requested the secretariat to submit GRVA-18-15 as supplements to the 03 and 04 series of amendments to UN Regulation No. 79 to WP.29 and AC.1 for consideration and vote at their March 2024 sessions (see ECE/TRANS/WP.29/2024/35 and 36 as the content of this informal document is not reproduced in this report).

B. UN Regulation No. 79 (Steering equipment)

Documentation: ECE/TRANS/WP.29/GRVA/2023/21
Informal document GRVA-18-06, GRVA-18-11, GRVA-18-17
GRVA-18-18 and GRVA-18-51

83. The representative of OICA recalled the purpose of the amendment proposal to UN Regulation No. 79 (ECE/TRANS/WP.29/GRVA/2023/21) including clarifications for the Automatically Commanded Steering Function of Category A for vehicles towing a trailer. He reminded GRVA of the comments received at the previous session and proposed amendments to the initial proposal taking them into account (GRVA-18-51).

84. The representative of the United Kingdom of Great Britain and Northern Ireland acknowledged the improvements. The representative of France no longer objected. The representative of Italy supported the proposal.

85. GRVA adopted the proposal in ECE/TRANS/WP.29/GRVA/2023/21, as modified by informal document GRVA-18-51 and reproduced in Annex V. GRVA requested the secretariat to submit it to WP.29 and AC.1, as draft supplement to the 03 and 04 series of amendments to UN Regulation No. 79, for consideration and vote at their June 2024 sessions.

86. The representative of Australia presented (GRVA-18-11) a proposal for the 05 series of amendments to UN Regulation No. 79 intend to facilitate a consistent approach across all Contracting Parties for Emergency Lane Keeping Systems (ELKS) covering vehicles of Category M₁ and N₁. The proposal received comments from the representatives of Japan and OICA. GRVA agreed to resume consideration of this issue at its next session, on basis of this document, distributed with an official symbol at the next session.

87. The representative of OICA introduced GRVA-18-06, proposing amendments UN Regulation No. 79 modifying the term “engine start” in consistency with a recent amendment to UN Regulation No. 152. GRVA noted the similarity of the proposal with proposal to amend UN Regulation No. 157 (GRVA-18-05) and agreed to resume consideration of this item at its next session.

88. The representative of OICA presented informal document GRVA-18-17, introducing an amendment proposal to UN Regulation No. 79 (GRVA-18-18) aimed to introduce provisions for the approval of steer-by-wire systems and proposing to organize a workshop on this matter.

89. The representative of France agreed to review the document until the next session. The representative of the United Kingdom of Great Britain and Northern Ireland noted that some aspects would need to be clarified and called for full alignments with the work ongoing related to electro-mechanical brakes.

90. GRVA agreed that an informal workshop be organized to address this topic.

C. Acceleration Control for Pedal Error

Documentation: Informal document GRVA-18-53

91. The representative of Japan, Chair of the IWG on Acceleration Control for Pedal Error (ACPE), presented a status report of the IWG (GRVA-18-53). He highlighted that the group did not reach consensus on whether the Category N₁ should already be added into the scope of the draft regulation or in later, in a future amendment. He also mentioned the interest of some parties to develop ACPE provisions under the 1998 Agreement.

92. The representatives of Canada and United States of America expressed support to transfer this workstream under the 1998 Agreement.

93. The representative of the Republic of Korea supported the stepwise approach proposed by OICA and suggested to focus on vehicles with automatic transmission only.

94. GRVA endorsed the report and looked forward to reviewing the first ACPE draft in May 2024. GRVA agreed that the scope should include the vehicles of Category M₁ in the original version (00 series) of the draft regulation. GRVA also agreed that the IWG would continue to discuss how to address the Category N₁ and also to review accidents data. GRVA noted the remaining challenges related to the testing procedure development and agreed to extend the mandate of the IWG on ACPE by one additional year.

95. The representative of Japan, Chair of the Executive Committee of the 1998 Agreement (AC.3) volunteered to bring to the attention of AC.3 the willingness of the group to develop a UN GTR under the 1998 Agreement on this topic.

D. Other business

96. No document was submitted under this agenda item.

VIII. Advanced Emergency Braking Systems (agenda item 7)

Documentation: ECE/TRANS/WP.29/GRVA/2023/22
Informal documents GRVA-18-12, GRVA-18-19, GRVA-18-22,
GRVA-18-23, GRVA-18-24, GRVA-18-55
(ECE/TRANS/WP.29/GRVA/2022/24)

97. GRVA did not receive further input and agreed to keep ECE/TRANS/WP.29/GRVA/2022/24 (Urban Emergency Braking System (UEBS)) on the agenda for its next session.

98. The representative of Australia consulted GRVA (GRVA-18-12) on practical information and operational details regarding the mutual recognition requirements in 02 series of amendments to UN Regulation No. 131 that includes references to UN Regulation No. 152 requiring Contracting Parties that are signatories to both AEBS regulations to recognize approvals to either Regulation as equally valid for vehicles of Category M₂, and for those of Categories M₃/N₂ with a maximum weight below or equal to eight tons, equipped with hydraulic braking. He sought GRVA member's views on the following matters: (a) Can a type-approval to UN Regulation No. 152 be issued or extended to cover vehicles of Categories M₂, M₃ and N₂? (b) Have vehicle Categories M₂, M₃ and N₂ been accepted/approved onto other Contracting Parties' markets in accordance with these provisions? What approach was used? He proposed an amendment to the scope's footnote aimed to increase clarity. Delegations were invited to provide feedback to Australia on these questions.

99. GRVA requested the secretariat to distribute GRVA-18-12 with an official symbol at the next session.

100. The representative of France presented (GRVA-18-22) the outcome of three workshops organized on virtual testing in the context of UN Regulation No. 152. He recalled the purpose of ECE/TRANS/WP.29/2023/22 and presented recent amendments to that document derived from the consultations during the workshops available in two versions, including one consolidating the whole amendment proposal to UN Regulation No. 152 (GRVA-18-23 and GRVA-18-24).

101. The representative of the United Kingdom of Great Britain and Northern Ireland presented (GRVA-18-55) what simulations would involve, in their views, in the context of AEBS. He mentioned that DCAS included the whole credibility assessment section developed by the IWG on VMAD but that this proposal did not include it. He explained the issues related to this topic, listed on slide number five.

102. GRVA discussed the text in paragraph 6.7.3. in square brackets. The representative of Japan proposed to keep that text. The representative OICA mentioned that keeping that text would defeat the purpose of the proposal. The representative of Germany proposed, as a

compromise to replace “shall” by “may”. The representative of Spain felt that “may” would not support uniform application of the regulation.

103. GRVA agreed to resume discussion of this item at its next session and requested the secretariat to distribute GRVA-18-04 with an official symbol at the next session.

IX. UN Regulations Nos. 13, 13-H, 139 and 140 and UN GTR No. 8 (agenda item 8)

A. Electronic Stability Control

104. No document was submitted under this agenda item.

B. Electromechanical braking

Documentation: (ECE/TRANS/WP.29/GRVA/2023/10),
ECE/TRANS/WP.29/GRVA/2024/13
ECE/TRANS/WP.29/GRVA/2024/14
Informal documents GRVA-18-29 and GRVA-18-54

105. The representative of the United Kingdom of Great Britain and Northern Ireland, Chair of the Special Interest Group (SIG) on Electromechanical Braking, presented the status report of the group (GRVA-18-54). He presented the two documents ECE/TRANS/WP.29/GRVA/2024/13 (intended to be considered together with ECE/TRANS/WP.29/GRVA/2023/10, containing updates to the requirements to be applied to the safety aspects of electronic control systems) and ECE/TRANS/WP.29/GRVA/2024/14 that reflected the status of group following the meeting in November 2023. He detailed the activities of SIG during the last six meetings since the seventeenth GRVA session. He focused on the considerations by the group on the ability of Electrical Storage Devices (ESD) to provide power to the braking system over time, which is not constant due to ESD aging and which therefore requires to consider warnings when the ESD useful life is reached, and replacement is required. He also focused on the Energy Management System (EMS) that deduces the power availability to the braking system by monitoring multiple variables and therefore needs to be assessed at the time of type approval. He also provided details on the group status on the use of ESD by other systems such as steering systems, which have priority over braking in terms of energy supply.

106. The representative of Sweden stated the risk that drivers ignore warnings. She inquired whether the group considered automatic braking actuation when the energy has reached an unsafe level. The SIG Chair confirmed that it was under consideration by the group. The GRVA Chair pointed at similar cases in the field of emissions, where the regulations impose a cascade of warning and actions.

107. The representative of Germany inquired whether considerations were given to the battery lifecycle, as traction batteries would need to be replaced over time, potentially with updated technology, and from third parties.

108. The representative of Norway shared with GRVA some experience gathered in his Country, where there was a significant share of the vehicles being battery electric vehicles. He recalled that power of the regenerative braking reached up to 50 KW in some models and that therefore electric vehicle would rarely lose 100 per cent of their braking capability when the battery is low. He mentioned the difficulty of the Battery Management System to evaluate the status of the battery at very low temperatures e.g., by -20°C and the difficulties to charge in these conditions.

109. The representative of Denmark inquired whether replacement battery provisions should be considered and if UN Regulation No. 90 could cover this.

110. The representative of the United Kingdom of Great Britain and Northern Ireland highlighted the risk posed by such systems, as the driver won't get indications if this happens,

as the braking system would compensate the lack of performance induced by the heat. He suggested to check the hot performance test and to consider a specific warning to the driver.

111. The representative of CITA presented (GRVA-18-29) their views on the need for vehicle manufacturers to provide reference values for Periodic Technical Inspection also in the case of EMB. The representative of OICA pointed at the provisions in the draft that already addressed reference values. He stated that more details were difficult to provide at this stage due to the nascent nature of the technology and the several system layouts envisaged. He added that standardizing this point was premature.

112. The SIG Chair suggested that this conversation might be more meaningful at a later stage when reviewing the systems on the market. He acknowledged that further actions would be needed in the near future and pointed at the potential risk posed by electric compensation in the case of hot brakes, as an example. He felt that there could be new ways to check brakes and that these technologies would allow to go further in the assessment, providing more information than today's roller brake testers.

113. GRVA invited the representative of CITA to provide suggestions to SIG and to come back to GRVA with further presentations as needed.

114. GRVA agreed to keep ECE/TRANS/WP.29/2023/10 on the agenda for the next session.

115. GRVA kept ECE/TRANS/WP.29/GRVA/2024/3 on its agenda, noting that GRSG was performing a prerequisite action (i.e. reviewing the Category O definition in R.E.3).

C. Clarifications

Documentation: ECE/TRANS/WP.29/GRVA/2024/7
Informal documents GRVA-18-08, GRVA-18-09, GRVA-18-10,
GRVA-18-46/Rev.1 and GRVA-18-56

116. The representative of the Netherlands presented a revised proposal (GRVA-18-10) for amendments to UN Regulation No. 13 intended to align the provisions of Annex 15 with those in Annex 4, for the Type II test.

117. The representatives of Germany and OICA supported the proposal. The representative of France supported the aim of the proposal but suggested that it might require further drafting efforts; he volunteered to provide some alternative wording.

118. The representative of the Netherlands agreed to work with the representative of France to submit an official document for consideration at the next session.

119. The representative of Germany introduced ECE/TRANS/WP.29/GRVA/2024/7, aimed at clarifying provisions of the Type-IIA test for the test mass of vehicles authorized to tow trailer(s). He referred to informal document GRVA-18-46/Rev.1, which was including the most recent amendment proposal to the regulation, drafted in consultation with other delegations. He recalled the two existing interpretations of the regulation on the test mass for "non-ADR trailers" (trailers not covered by the agreement on the transport of dangerous goods), adding that the requirements were in place for two decades and that no safety issue was reported from the field. He suggested to either go for the least demanding interpretation or, in case GRVA would prefer so, go for the more demanding interpretation, with transitional provisions. He called for a decision at this session. The proposal received comments. GRVA agreed to resume consideration of this item at its next session on the basis of an official document based, on GRVA-18-46/Rev.1

120. The representative of CLEPA presented (GRVA-18-56) an innovative technology parking brake technology for which they would like to suggest regulatory amendments (GRVA-18-08 and GRVA-18-09) covering both existing friction type parking brakes and new locking type parking brakes. The representative of Switzerland questioned if such locking system should be installed on the gearbox given the existing requirements on road surface with left/right dissymmetrical friction coefficient (μ -split). The representative of CLEPA confirmed that such parking brakes could be installed on the wheels. The

representatives of Italy and the United Kingdom of Great Britain and Northern Ireland called for increasing the technology neutrality of the provisions applicable to parking brakes. GRVA agreed to further consider this item and requested the secretariat to distribute GRVA-18-08 and GRVA-18-09 with an official symbol at the next session.

X. Motorcycle braking (agenda item 9)

A. UN Global Technical Regulation No. 3

121. No document was submitted under this agenda item.

B. UN Regulation No. 78

Documentation: ECE/TRANS/WP.29/GRVA/2024/6
Informal documents GRVA-18-38, GRVA-18-39

122. The representative of IMMA introduced an amendment proposal to UN Regulation No. 78, intended to improve the transitional provisions for the 06 series of amendments (ECE/TRANS/WP.29/GRVA/2024/6).

123. GRVA adopted it as draft supplement to the 06 series of amendments to UN Regulation No. 78 and requested the secretariat to submit it to WP.29 and AC.1 for consideration and vote at their June 2024 sessions.

124. The representative of WBIA recalled that Speed Electronically Power Assisted Cycles were belonging to the Category L. She detailed (GRVA-18-39) the reason why such vehicles were having difficulties to pass the stopping distance requirements on high friction surface set in paragraph 9.3. of the Regulation. She proposed (GRVA-18-38) to amend the regulation to address these issues.

125. GRVA requested the secretariat to distribute GRVA-18-38 and GRVA-18-39 with an official symbol at the next session.

XI. UN Regulation No. 90 (agenda item 10)

Documentation: ECE/TRANS/WP.29/GRVA/2024/11

126. The representative of FEMFM introduced ECE/TRANS/WP.29/GRVA/2024/11 proposing amendments to existing provisions on the use of digital means to provide the required installation instructions.

127. The representative of CLEPA recalled that the use of Quick Response (QR) codes was already allowed by the regulation for that purpose and preferred the provisions approved during the sixteenth GRVA than the new alternative proposed by FEMFM. He did not see the reason to modify the regulation.

128. Several delegations felt that the aim of the proposal was unclear and failed to identify the real issue addressed the proposal.

XII. Exchange of views on guidelines and relevant national activities (agenda item 11)

Documentation: Informal documents GRVA-18-13, GRVA-18-28 and GRVA-18-35

129. GRVA received an update from the expert from the Beijing High-level Autonomous Driving (BJHAD) demonstration zone work office (GRVA-18-28) on Beijing's initiatives on Autonomous driving industry in the era of interconnection of everything. The expert explained what is meant with "interconnection of everything", he detailed the areas on which the demonstration zone focused, he pointed at the realization of a standard for intelligent and

connected intersections and he listed the applications in the test zone. He provided details on the three areas of importance for the zone: Intelligent Transport System (ITS) (navigation and traffic signal optimization), Intelligent Connected Vehicle (ICV) (collaborative perception, decision making and control) and application of massive traffic data (transportation guide and traffic signal optimization). He explained that the demonstration zone intended to address the difficulty faced by ADS developers, the ODD fragmentation, which can be solved with an integrated vehicle-road-cloud system achieving continuity. He concluded his presentation by explaining the zone expansion with the phase 3.0 aimed to build upon the existing 160km² to reach 600 km².

130. The representative of Switzerland presented the regulatory situation regarding ADS in his country. He recalled the existing possibility to apply for an exceptional authorization to operate ADS and gave an overview of the current trials. He detailed the activities in Switzerland on the development regulations on automated driving, expected to enter into force early 2025. He announced that the current draft was open for public consultation.

131. GRVA received an update from the expert from Japan regarding the outcome of research by NTSEL in the field ADAS and ADS. He presented the research performed, as well as potential direction for future research on Indoor Virtual Reality Testing System (being premature in the type-approval context as an official validation method), on Artificial Rainfall device (aimed to test the performance an ADAS system under rain conditions) and on negligence requirements (based on a case study), exploring potential requirements for human drivers in the case of negligence leading to a crash. This research investigated quantifiable parameters permitting to establish, when exceeded, that a crash is reasonably foreseeable and preventable (referring to the wording contained in the Framework Document).

132. GRVA thanked the three representatives for sharing information on national activities.

XIII. Revision 3 of the 1958 Agreement (agenda item 12)

A. Implementation of relevant provisions in Revision 3 to the 1958 Agreement

133. No document was submitted under this agenda item.

B. International Whole Vehicle Type Approval

134. No document was submitted under this agenda item.

XIV. Other business (agenda item 13)

A. Inland Transport Committee Climate Change Mitigation Strategy

135. GRVA recalled the activities at GRVA and WP.29 supporting the drafting of the Inland Transport Committee Strategy on Reducing Greenhouse Gas Emissions from Inland Transport, aimed to be adopted at the February 2024 session.

136. GRVA agreed to consider again this item at its next sessions.

B. Arrangement of meetings

Documentation: Informal document GRVA-18-57

137. GRVA discussed the arrangements for the May 2024 informal meeting of GRVA organized in Troy, Michigan. The WP.29 Secretary presented (GRVA-18-57) the rules applicable to official meeting outside of Geneva and he detailed the procedural and

administrative steps applicable for such meetings. He proposed to consider organizing the May 2025 session of GRVA at the headquarters of Economic and Social Council for Asia and the Pacific (ESCAP) in Bangkok (Thailand).

138. The representative of Japan welcomed this idea, as an alternative to organizing it in Japan. He announced that Japan would host GRVA at a later stage. The representative of Canada offered to consider the hosting of the May 2026 session of GRVA in Canada, in conjunction with the Enhanced Safety of Vehicles (ESV) conference, possibly in Montreal, Canada. He asked the secretariat to liaise with the International Civil Aviation Organization (ICAO) for this purpose. The WP.29 Secretary mentioned that ICAO was not part of the UN Secretariat and that details would need to be checked to materialize this idea.

139. GRVA discussed the administrative arrangements for the May 2024 session. GRVA agreed that the May 2024 session in Troy would not meet the requirements for an official session and envisaged that a list of decisions on documents could be prepared for adoption during a short official meeting.

140. GRVA agreed to request WP.29 to approve the organization of a short formal part of the nineteenth GRVA session, possibly in June 2024.

141. GRVA also agreed to the request WP.29 to approve the organization of the May 2025 session of GRVA at the ESCAP premises in Bangkok (Thailand).

C. Programme of Work

Documentation: (Informal documents GRVA-16-28/Rev.2, WP.29-191-31 and WP.29-191-32)

142. GRVA welcomed the proposal for amendments to the Framework Document on Automated Vehicles (WP.29-191-31) and amended GRVA priorities (WP.29-191-32).

143. GRVA agreed to resume consideration of the GRVA programme of work update (GRVA-16-28/Rev.2) once decisions on the structure to develop regulation on ADS, either in May or September 2024.

D. Any other business

144. No document was submitted under this agenda item.

E. Tributes

145. GRVA learned that Mr. W. Mueller (CLEPA) would no longer attend GRVA sessions. GRVA wished him all the best for their retirement.

Annex I

[English only]

List of informal documents (GRVA-18-...) considered during the session

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
1	(Chair) Running order of the eighteenth session	C
2	(Secretariat) Consolidated and updated provisional agenda for the 18th GRVA	C
02/Rev.1	(Secretariat) Consolidated and updated provisional agenda for the 18th GRVA (incl. inf. docs. until 22 Jan. 2024 11.30)	A
3	(Secretariat) Highlights of the November 2023 sessions of WP.29, AC.1 and AC.2	C
4	Proposal for amendments to ECE/TRANS/WP.29/2024/34	A
5	(OICA/CLEPA) Proposal for amendment to the 00 and 01 series of amendments to UN Regulation No. 157 (Automated Lane Keeping System)	B
6	(OICA/CLEPA) Proposal for amendments to the 03 and 04 series of amendments to UN Regulation No. 79 (Steering equipment)	B
7	(TF on ADAS) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2024/2 - Draft UN Regulation on DCAS	C
07/Rev.1	(TF on ADAS) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2024/2 - Revision 1	C
07/Rev.2	(TF on ADAS) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2024/2 - Revision 2	A
8	(OICA/CLEPA) Proposal for amendments to UN Regulation No. 13	C
9	(OICA/CLEPA) Proposal for amendments to UN Regulation No. 13-H	C
10	(Netherlands) Proposal for a new supplement to UN Regulation No. 13	D
11	(Australia) Proposal for the new 05 series of amendments to UN Regulation No. 79 ELKS	D
12	(Australia) Proposal for the new 02 series of amendments to UN Regulation No. 131	B
13	(Switzerland) Regulating automated driving in Switzerland	C
14	(TF on ADAS) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2024/12	C
15	(TF on ADAS) Consolidated amendment proposal to ECE/TRANS/WP.29/GRVA/2024/12 (based on GRVA-18-14)	A
16	(TF on ADAS) Report of the TF on ADAS to the 18th GRVA session	C
17	(CLEPA/OICA) Proposal for amendments to UN R79 to provisions on Full Power Steering	D
18	(CLEPA/OICA) Proposal for Supplements to the 03 and 04 series of amendments to UN Regulation No. 79	C
19	(CLEPA/OICA) Virtual testing - UN R152	C
20	(CEMA) UN R 155 versus CRA an in-depth assessment	C
21	(CEMA) Consideration regarding vehicle/machinery in scope of UN R155 and type approved categories T, R and S.	C
22	(France) Virtual testing for AEBS (UN R152)*	C
23	(France) Proposal for a supplement to the 01 series of amendments to UN Regulation No. 152 (AEBS) - virtual testing	C
24	(France) Proposal for a supplement to the 01 series of amendments to UN Regulation No. 152 (clean version)	B
25	(EDR/DSSAD) Activities/deliverables of the IWG on EDR/DSSAD	C
26	(ITU) Scenario Catalogue for ADS	C
26/Rev.1	(ITU) Scenario Catalogue for ADS	C
27	(UK) Proposal for amendments to the Consolidated Resolution R.E.3	B
28	(China) Beijing's Initiatives on Autonomous Driving industry in the Era of Interconnection of	C

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
	Everything	
29	(CITA) EMB and PTI	C
30	(TF on FADS) Consolidated amendment proposal to ECE/TRANS/WP.29/GRVA/2024/8	A
31	(TF on FADS) Consolidated amendment proposal to ECE/TRANS/WP.29/GRVA/2024/9	A
32	(TF on ADAS) Consolidated amendment proposal to ECE/TRANS/WP.29/GRVA/2024/10	A
33	(TF on FADS) Questions and answers	D
34	(France) List of relevant UN Regulations for Software Updates	C
34/Rev.1	(France) List of relevant UN vehicle regulations for Software Updates	D
35	(Japan) Introduction of researches in Japan regarding AD/ADAS	C
36	(WS UN R155&156) Report of the 16th Workshop on UN R155 and UN R156	C
37	(WS UN R155&156) Questions and Answers/Comments derived from the Workshops on the implementation of UN Rs. 155 and 156	D
38	(WBIA) Proposal for a new supplement to the 03, 04, 05 and 06 series of amendments to UN Regulation No. 78*	B
39	(WBIA) UN Regulation No. 78 - Limitations and improvement for S-EPAC	B
40	(FRAV/VMAD) Status report of the FRAV/VMAD integration group	C
41	(Secretariat) Proposal for GRVA workshops for the regulatory approach for Automated Driving Systems (GRVA workshops on ADS)	C
41/Rev.1	(Secretariat) Proposal for GRVA workshops for the regulatory approach for Automated Driving Systems (GRVA workshops on ADS)	C
41/Rev.2	(Secretariat) Proposal for GRVA workshops for the regulatory approach for Automated Driving Systems (GRVA workshops on ADS)	A
42	(Secretariat) Proposal for an Informal Working Group on Automated Driving Systems (IWG on ADS)	C
42/Rev.1	(Secretariat) Proposal for an Informal Working Group on Automated Driving Systems (IWG on ADS)	C
42/Rev.2	(Secretariat) Proposal for an Informal Working Group on Automated Driving Systems (IWG on ADS)	A
43	(IWG on CS/OTA) Status report from the Informal Working Group on Cyber Security and Software Updates	C
44	(TF on FADS) Status report	C
45	(VMAD) Status report of the IWG on VMAD	C
46	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2024/7	C
46/Rev.1	(OICA) Proposal for amendments to ECE/TRANS/WP.29/GRVA/2024/7	B
47	(France) Scenario based design, validation and homologation - views of France	C
48	(France) Automated and connected road transport France's views on a possible approach of coordinating scenario libraries for safety assessment	C
49	(UK) UNECE scenario catalogue	C
50	(FRAV/VMAD) Guidelines and recommendations for ADS safety requirements, assessments and test methods to inform regulatory development	C
51	(OICA/CLEPA) RCP - Proposal for a supplement to the 03 and to the 04 series of amendments to UN Regulation No. 79 (Steering equipment)	C
52	(Warwick University) Scenario catalogue for ADS approval in the UK	C
53	(IWG on ACPE) Status report	C
54	(SIG on EMB) Status report	C
55	(UK) Virtual testing in UN R152	C
56	(CLEPA/OICA) Proposal for amendments to UN R13 and UN R13-H Mechanical locking device as an alternative to the friction parking braking to hold the vehicle	C

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>
57	(Secretariat) Official GRVA meeting outside Geneva - procedural/administrative steps	C

Notes:

Administrative follow-up, for the secretariat, with the informal documents:

- A Adopted/Endorsed/Agreed;
- B Distribute with an official symbol at the next session;
- C Consideration completed;
- D Resume consideration at the next session.

Annex II

[English only]

**List of Informal Working Groups reporting to GRVA
(as of January 2024)**

<i>Informal Working Group</i>	<i>Chair/Co-Chairs</i>	<i>Country</i>	<i>Mandate until</i>
Automated Driving System	[Ms. C. Chen ¹ Mr. I. Saw ¹ Ms. C. Galassi ¹ Mr. M. Braisher ¹ Mr. H. Matsukawa ¹ Mr. E. Wondimneh ¹]	China Canada EC UK Japan USA	[June 2026]
Functional Requirements for Automated and Autonomous Vehicles (FRAV)	Ms. C. Chen Mr. R. Damm ¹ Mr. E. Wondimneh ¹	China Germany USA	June 2024
Validation Method for Automated Driving (VMAD)	Mr. I. Sow ¹ Mr. H. Matsukawa ¹ Mr. P. Striekwold ¹	Canada Japan Netherlands	June 2024
Cyber Security and Over-The-Air software updates (CS/OTA)	Mr. T. Niikuni ¹ Mr. D. Hannah ¹ Ms. E. Wondimneh ¹	Japan UK USA	November 2024
Event Data Recorder / Data Storage System for Automated Driving (EDR/DSSAD)	Mr. T. Guiting ¹ Mr. H. Matsukawa ¹ Mrs. J. Doherty ¹	Netherlands Japan USA	June 2024
Acceleration Control for Pedal Error	Mr. T. Hirose Mr. P. Seiniger	Japan Germany	May 2024

¹ IWG Co-Chairs

Annex III

Proposal for GRVA workshops for the regulatory approach for Automated Driving Systems (GRVA workshops on ADS)

The text below is based on informal document GRVA-18-41/Rev.2.

I. Background, objective and outline

1. ECE/TRANS/WP.29/2019/34/Rev.2, as modified by ECE/TRANS/WP.29/2021/151, ECE/TRANS/WP.29/2023/43 and ECE/TRANS/WP.29/2024/33 contains the strategic vision for the activities of WP.29, GRVA and its Informal Working Groups (IWGs) with respect to automated vehicles. This framework document directs GRVA and its IWGs to use the issues, topics, and deliverables from that document as guidance to inform further discussions, activities and outcomes.
2. At its 191st session WP.29 adopted a new working structure with a new IWG on Automated Driving Systems (ADS) and GRVA workshops to launch and to undertake the work on regulatory activities for such systems. This follow-up is based on the activities of the two IWGs Functional Requirements for Automated and Autonomous Vehicles (FRAV) and Validation Methods for Automated Driving (VMAD) and their joint deliverable, namely the FRAV-VMAD integrated document (GRVA-18-50) to be adopted by WP.29 at its June 2024 session.
3. The GRVA workshops on ADS shall:
 - (a) Work according to the principles outlined in the Framework Document ECE/TRANS/WP.29/2019/34/Rev.2, as modified by ECE/TRANS/WP.29/2021/151, ECE/TRANS/WP.29/2023/43 and ECE/TRANS/WP.29/2024/33;
 - (b) Be organized as needed (envisaged: four times a year);
 - (c) Develop and draft the specific administrative provisions and annexes for a draft UN Global Technical Regulation on ADS (Task 1);
 - (d) Develop and draft the specific administrative provisions and annexes for a draft UN Regulation on ADS (Task 2);
 - (e) Prepare and draft a guiding/interpretation document applicable for both Agreements to support the implementation of the regulations (Task 3);
 - (f) Provide the IWG on ADS with the provisions and annexes developed in Task 1 and Task 2;
 - (g) Liaise with the IWG on ADS for the work on Task 3.
4. The GRVA workshops on ADS shall take full account of developments and work in full cooperation with other subsidiary Working Parties (GRs) of WP.29 and their IWGs.
5. The GRVA workshops on ADS shall take into account existing and any new data, research, and standards available to the contracting parties in developing its proposals and consider its relevance while aiming to respect the agreed timeline.
6. Based on the endorsement of GRVA-18-50 (incl. future amendments) and the Terms of Reference of the IWG on ADS by WP.29 at its March 2024 session, the first GRVA workshop on ADS shall be held Mid 2024 to draft a proposal for activities and a timeline in accordance with the draft timeline of the IWG on ADS, to start a first discussion on the content for the drafting process.
7. The GRVA workshops on ADS shall deliver proposals for Task 1, Task 2 and Task 3 according to the timeline/schedule outlined in the Framework document.

8. The text of regulatory proposals (Task 1 and Task 2) shall, to the fullest extent possible, be performance based and technology neutral.

II. Structure and administrative provisions

9. The GRVA workshops on ADS shall report to GRVA and are open to all participants of WP.29. All Contracting Parties to both Agreements, the 1958 and the 1998 Agreement can participate in and contribute to all meeting days and tasks of the workshop.

10. The GRVA Chair together with the two Vice-Chairs and the Secretary of GRVA will act as leadership and manage the GRVA workshops on ADS. Support can be provided to the Secretary by Contracting Parties and Non-Governmental Organizations.

11. Each GRVA Vice-Chair shall lead the work on one of the Tasks 1 and Task 2.

12. The leadership may invite experts (at their discretion), including non-participants of WP.29, to assist in the development of technical prescriptions.

13. The working language of the GRVA workshops on ADS will be English. The possibility of a hybrid format to allow also for online participation should be provided.

14. Each workshop shall be organized as two-days-workshops. The workshop is covering the 1958 and 1998 Agreements. One day will be dedicated to the 1958 Agreement specific topics, the other day to the 1998 Agreement specific topics. An extension of the workshop to three days is possible, if needed.

15. All documents and/or proposals must be submitted to the Secretary of the relevant group in a suitable electronic format in advance of the workshops. The group may refuse to discuss any item or proposal which has not been circulated five working days in advance to the workshops.

16. An agenda and related documents will be circulated to all members of the GRVA workshops on ADS in advance of all scheduled workshops.

17. A summary of the workshops will be prepared and distributed to all experts involved in the workshops in due time after each workshop.

18. Decisions will be reached by consensus. When consensus cannot be reached, the leadership of the workshops shall present the different points of view to GRVA to seek guidance from GRVA as appropriate.

19. The progress and results of the workshops will be reported routinely to GRVA – wherever possible as an informal document and presented by the Secretary of the workshops.

20. All documents shall be distributed in digital format. Workshop documents should be made available to the Secretary for publication on the dedicated website.

21. Final decision on regulatory proposals rests with WP.29 and the Contracting Parties.

Annex IV

Terms of Reference and Rules of Procedures for the Informal Working Group on Automated Driving Systems (IWG on ADS)

The text below is based on informal document GRVA-18-41/Rev.2.

I. Terms of Reference

1. ECE/TRANS/WP.29/2019/34/Rev.2, as modified by ECE/TRANS/WP.29/2021/151, ECE/TRANS/WP.29/2023/43 and ECE/TRANS/WP.29/2024/33 contains the strategic vision for the activities of WP.29, GRVA and its Informal Working Groups (IWGs) with respect to automated vehicles. This framework document directs GRVA and its IWGs to use the issues, topics, and deliverables from that document as guidance to inform further discussions, activities and outcomes.
2. At its 191st session WP.29 adopted a new working structure with a new IWG on Automated Driving Systems (ADS) and GRVA workshops to launch and to undertake the work on regulatory activities for such systems. This follow-up is based on the activities of the two IWGs Functional Requirements for Automated and Autonomous Vehicles (FRAV) and Validation Methods for Automated Driving (VMAD) and their joint deliverable, namely the FRAV-VMAD integrated document (GRVA-18-50) to be adopted by WP.29 at its June 2024 session.
3. The IWG on ADS shall:
 - (a) Work according to the principles outlined in the Framework Document ECE/TRANS/WP.29/2019/34/Rev.2, as modified by ECE/TRANS/WP.29/2021/151, ECE/TRANS/WP.29/2023/43 and ECE/TRANS/WP.29/2024/33;
 - (b) Draft a regulatory text on ADS for the use under the 1958 and 1998 Agreements (purpose, scope, definition, general requirements, performance requirements, test procedures);
 - (c) Combine the draft regulatory text with the specific administrative provisions and annexes received from GRVA workshops for the generation of the draft UN Global Technical Regulation on ADS and the draft UN Regulation on ADS;
 - (d) Submit a draft regulatory proposal for a Global Technical Regulation on ADS;
 - (e) Submit a draft regulatory proposal for a UN Regulation on ADS.
4. The IWG shall take full account of developments and work in full cooperation with other subsidiary Working Parties (GRs) of WP.29 and their IWGs.
5. The IWG shall take into account existing and any new data, research, and standards available to the contracting parties in developing its proposals and consider its relevance while aiming to respect the agreed timeline.
6. Based on the endorsement of GRVA-18-50 (incl. future amendments) and these Terms of Reference by WP.29 at its March 2024 session, the IWG shall start with a kick-off meeting in March 2024 to agree on the administrative elements, to draft a proposal for activities and timeline for the IWG on ADS, to start a first discussion on the content for the drafting process.
7. The IWG shall deliver draft proposals for a Global Technical Regulation on ADS and a UN Regulation on ADS for the January 2026 session of GRVA.
8. The text of regulatory proposals shall, to the fullest extent possible, be performance based and technology neutral.

II. Rules of Procedure

9. The IWG shall report to GRVA and is open to all participants of WP.29.
10. Six Co-Chairs from different regions of the world and Secretaries will manage the IWG.
11. The Co-Chairs may invite experts (at their discretion), including non-participants of WP.29, to assist in the development of technical prescriptions.
12. The working language of the IWG will be English.
13. All documents and/or proposals must be submitted to the Secretary of the relevant group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated five working days in advance to the meeting.
14. An agenda and related documents will be circulated to all members of the IWG in advance of all scheduled meetings.
15. A meeting report will be prepared and distributed to all experts involved in the IWG in due time after each meeting. It will be adopted at the next meeting of the IWG.
16. Decisions will be reached by consensus. When consensus cannot be reached, the Co-Chairs of the groups shall present the different points of view to GRVA. The Co-Chairs may seek guidance from GRVA as appropriate.
17. The progress of the IWG will be reported routinely to GRVA – wherever possible as an informal document and presented by the Co-Chairs.
18. All documents shall be distributed in digital format. Meeting documents should be made available to the [Secretaries] for publication on the dedicated website.
19. Final decision on regulatory proposals rests with WP.29 and the Contracting Parties.

Annex V

Agreed amendments to ECE/TRANS/WP.29/GRVA/2023/21

Agreed during the session (see para. 85), based on informal document GRVA-18-51, a proposal for amendments to the 03 and 04 series of amendments to UN Regulation No. 79.

Paragraphs 2.4.8. and 2.4.9., amend to read:

- “2.4.8. *"Remote Controlled Parking (RCP)"* means an ACSF of Category A, actuated by the driver, providing parking or low speed manoeuvring. The actuation is made in close proximity to the vehicle **or the vehicle combination**.
- 2.4.9. *"Specified maximum RCP operating range (S_{RCPmax})"* means the maximum distance between the nearest point of the motor vehicle **or of the contour of both vehicles in case of vehicle combination** and the remote control device or alternatively the driver (for systems based on detection of driver position and movement), up to which ACSF is designed to operate.”

Paragraphs 5.6.1.2.10., insert to read:

- “5.6.1.2.10. **In the case that the RCP is designed to operate in combination with a trailer, the manufacturer shall demonstrate to the Technical Service**
- **How the safety of this operation is ensured,**
 - **How S_{RCPmax} is enforced for different trailer lengths,**
 - **How sensing is achieved with the trailer in place and**
 - **How additional sensing capabilities are implemented (if applicable).”**