

Revised proposal for establishing a new Task Force on Advanced Driver Assistance Systems (TF on ADAS) – based on GRVA-08-08

I. Background

1. A number of amendment proposals to the ACSF provisions in UN Regulation No. 79 (Steering equipment) presented by various submitters at the previous GRVA sessions including several significant amendments to ACSF of Category B1 (Lane-keeping) and C (Lane change) provisions aimed at addressing innovation opportunities.
2. GRVA has been divided on these amendments for more than a year already with a lack of progress towards resolution. On the one hand, some Contracting Parties are willing to remove provisions that they consider to be design restrictions, as highlighted by the representatives of AVERE and OICA. Some other Contracting parties however highlighted the risks introduced by loosening the existing ACSF requirements and/or the initiation of new ACSF functionalities by pointing out the possibility that the driver would assume that the system is able to temporarily take over the driving task, leading a.o. driver overreliance and mode confusion. They therefore call for sufficient evidence that such amendments will ensure traffic safety. (See the last slide of GRVA-05-49).
3. AC.2 at its 134th session held on 9 November 2020 discussed the possibility to take relevant provisions out of UN Regulation No.79 and to develop a new UN Regulation on Advanced Driver Assistant Systems (ADAS). AC.2 invited GRVA to further discuss and seek consensus, especially taking into account: (i) Human Machine Interface¹ (HMI) related provisions and (ii) relevant human factor issues such as e.g. driver overreliance, as a safety concern.
4. At the WP.29 182nd session, EC submitted the proposal (WP.29-182-17) to amend the WP.29 Programme of Work for 2021 (ECE/TRANS/WP.29/2020/1/Rev.2) to include a new item addressing the simplification of UN Regulation No. 79 and elaborating the new ADAS UN Regulation.
5. During the 8th session, GRVA agreed that the European Commission and the Russian Federation should invite GRVA participants to discuss and determine if a Task Force or other working body be formed to address any issues with UN Regulation No. 79 that need to be investigated and developed with regard to ADAS. If needed, GRVA will evaluate draft Terms of Reference for a proposed Task Force or other body on ADAS at its next session.
6. The industry is concerned with the lack of progress in addressing the issues of further development of ACSF provisions in UN Regulation No. 79 and has proposed two parallel work streams: (i) continue work to improve and adapt UN Regulation No.79, and (ii) consider the development of a new generic approach to the development of regulatory provisions in the form of a new UN Regulation to cover not only existing, but new driver assisting technologies to be introduced on the market in the next few years. Industry has consistently indicated a need to recognize the important role that ADAS continues to play in the near future in various operational environments (highway, interurban & urban).
7. The development of the new ADAS UN Regulation may affect the content of UN Regulation No. 79, possibly leading to the partial removal of the ADAS provisions of the Regulation.
8. Reference documents: WP.29-182-17, ECE/TRANS/WP.29/1155, GRVA-05-49, GRVA-07-23, FRAV-06-04, FRAV-06-05.

¹ To be interpreted as ‘Human Machine *Interaction*’ to indicate the interaction between the human and the system

II. Proposal

A. Terms of Reference

1. The Task Force (TF) should focus on Advanced Driver Assistance Systems (ADAS), and shall address the simplification of UN Regulation No. 79 and if needed, develop a new ADAS UN Regulation with a focus on ADAS systems up to of level 2².
2. The scope of the new UN Regulation shall in principle aim to cover vehicles of Categories M, N and O. It is recognised that technical limitations may require vehicle category or system-specific requirements.
3. The TF on ADAS shall develop a definition of ADAS clarifying the difference of ADAS to automated driving or conventional technologies. The TF on ADAS will consider existing definitions outlined in legislation (e.g. UN Regulation No. 79), standards and informal documents.
4. The TF on ADAS shall address the following issues:
 - a. Outline the use-cases that are expected to be available for the market now and in the next years.
 - b. Consider the definition, classification and scope of functions of ADAS,
 - c. Ensure that use-cases and functions are considered subject to a safety evaluation aimed at ensuring, maintaining and if possible improving traffic safety.
 - d. Review and solve current issues on ADAS systems in Regulation No. 79 and other relevant regulations, in particular taking into consideration existing proposals for Automatically Commanded Steering Function (ACSF) of Category A (Remote Controlled Parking), Category B1 (lane keeping) and Category C (lane changes and Risk Mitigation Function).
 - e. Consider and develop generic safety performance and assessment requirements for ADAS, as well as combinations of multiple ADAS, for which a manufacturer is applying for an approval.³ General principles to identify differences and help distinguish between assistance systems and automated driving functions may be considered as a basis to derive generic requirements. Based on the outlined use-cases and on the review of current issues in Regulation No. 79, consider and propose specific requirements that may be relevant for specific use-cases in addition to the generic approach.
 - f. As for ADAS, the TF will pay special attention to the shared driving task between the driver and vehicle which puts specific demand on:
 - HMI (e.g. harmonization, saliency, unambiguity, responsibilities);
 - Human Factor (HF) issues (e.g. out-of-loop phenomena, driver engagement and vigilance, confusion, calibration of trust, ergonomics, misuse and overreliance);
 - Information to the user (e.g. system functioning, capabilities and limitations)
5. Based on the findings from item 3, the TF on ADAS shall consider if the development of a new draft UN Regulation focusing on ADAS systems for vehicle longitudinal and lateral control and/or an amendment to UN Regulation No. 79 is appropriate, taking into account existing ADAS provisions from UN Regulation No. 79.
6. In developing its proposals, the TF on ADAS shall take into account existing data, research results, legislation and voluntary standards available.

² As defined in ECE/TRANS/WP.29/1140 on pages 3 up to 1

³ Similar approach to what is being developed by FRAV/VMAD for automated vehicles (from SAE level 3).

7. TF ADAS shall take full account of developments and work in full cooperation with other informal working groups of GRVA, such as FRAV and VMAD.
8. The regulatory text shall, to the fullest extent possible, be performance-based and technology-neutral. The technical specification will attempt to be developed in a neutral manner to the compliance assessment system: type approval and self-certification.

B. Rules of Procedure

1. The TF on ADAS shall report to GRVA and is open to all participants of WP.29.
2. Two Co-Chairs and a Secretary will manage the TF.
3. The working language of the TF will be English.
4. All documents and/or proposals must be submitted to the TF Secretary in a suitable digital format in advance of one week of the meeting. The group may refuse to discuss any item or proposal submitted later.
5. An agenda and related documents will be communicated to all TF members in advance of all scheduled meetings by the means of publication on the dedicated UNECE website.
6. Decisions will be reached by consensus. When consensus cannot be reached, the Co-Chairs shall present the different points of view to GRVA. The Co-Chairs may seek guidance from GRVA as appropriate.
7. The progress of TF will be reported routinely to GRVA – wherever possible as an informal document and presented by the Co-Chairs.

C. Deliverables and Timings

1. As a first phase of activities, the TF on ADAS shall deliver regulatory texts intended to:
 - a. Finalize pending proposals to UN Regulation No. 79 taking into account existing proposals, for consideration and potential adoption by GRVA at the September 2021 session;
 - b. In parallel, consider and develop a first proposal for generic safety performance and assessment requirements for ADAS in the form of a new UN Regulation and/or amendments to UN Regulation No. 79, which will be submitted for consideration by GRVA at the September 2021 session and at the latest in February 2022, and;
 - c. Subject to GRVA agreement, finalize the new UN Regulation and/or amendments to UN Regulation No. 79 for review and possible adoption by GRVA at the February 2022 session or at the following session.
 2. As a second phase, if desired by the Contracting Parties of the 1998 Agreement, the TF on ADAS could develop a Global Technical Regulation compatible with the 1998 Agreement for consideration and possible adoption by GRVA at the September 2023 session. The scope of activities of TF on ADAS may be extended as requested through endorsement by GRVA.
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