

Proposal for Terms of Reference and Rules of Procedure for a GRVA Informal Working Group Validation Method for Automated Driving (VMAD)

Introduction

1. The development of technologies that perform driving tasks are advancing rapidly. Some countries developed guidelines for the introduction of automated driving systems including validation methods as one of these items. However, appropriate and harmonized methods to assess the driving performance of automated driving systems are lacking. These Terms of Reference (ToR) are the basis for the Informal Working Group “Validation Method for Automated Driving (VMAD).

Objective

2. To develop methods to assess the safety of driving performance of automated driving systems including safe responses to the environment as well as safe behaviour towards other road users.
It is noted that validation methods developed shall be future-proof.

Methodology

3. The VMAD group will consider all possible operating environments for automated driving systems (e.g., highway, interurban, urban, parking).
The VMAD group will work initially on the basis of developing proposals for urban and highway traffic with interurban traffic potentially being dealt with in a second phase. However, if the workload of this approach is considered too great, the timescale too long or some issues are already taken care of in other working groups, the VMAD group will submit a revised plan.
4. The VMAD group will focus on passenger cars, buses and trucks defined in the Special Resolution No. 1 concerning the common definitions of vehicle categories, masses and dimensions (S.R. 1).
5. The VMAD group anticipates consideration of the following elements among other things:
 - i. Methodology for assessing the vehicle in a controlled environment,
 - ii. Methodology for assessing the OEM’s processes
 - iii. Simulation and virtual testing methodology
 - iv. Methodology for assessing the vehicle performance under real-world conditions.

6. The VMAD group will take into account existing data, research outputs, relevant standards (e.g. ISO, SAE and JSAE), UN GTRs /UN Regulations/Resolutions, and those relevant documents from countries or regions (e.g. guidelines) in developing its proposals.

Working Criteria

7. To the extent possible, the proposed methods will be performance-oriented using objective criteria.
8. Where relevant, the VMAD group may take into account the following topics ;
e.g.
 - cooperative vehicle connectivity,
 - communication technology,
 - localization technology,
 - the use of methods for in-service conformity, and/or
 - methods which allow access to relevant vehicle data
9. The decision whether to adopt the work as regulation, guidelines or best practices will be taken by WP.29.
10. The VMAD group has authorization to work until December 2020.

Rules of Procedure

11. The VMAD group is subsidiary to GRVA, and is open to all participants of WP29.
12. A summary report shall be provided to each session of GRVA.
13. The VMAD group will appoint co-chairs and technical secretaries and may create further task forces to deal with the technical issues and proposals. In so doing it will agree chairs and secretarial resources among its membership.
14. The official language of the VMAD group will be English.
15. All documents must be submitted to the Secretary of the VMAD group in a suitable electronic format for publication on the dedicated website in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated ten working days in advance.
16. An agenda and related documents will be circulated to all members of the VMAD group at least ten working days in advance of all scheduled meetings.
17. Decisions will be reached by consensus. When consensus cannot be reached, the chair of the VMAD group shall present the different points of view to GRVA as required. The chair may seek guidance from GRVA as appropriate.
18. The VMAD group will include the widest possible constituency of contracting parties and associated/affiliated bodies.