Status Report of Informal Working Group on Validation Methods for Automated Driving (VMAD)

United Nations Economic Commission for Europe (UNECE)
Working Party on Automated/Autonomous and Connected Vehicles (GRVA)
May 23-27, 2022
Hybrid

UNECE

Purpose

To provide a status update on the work of the Informal Working Group on Validation Methods for Automated Driving (VMAD) :

- o Nomination of new VMAD co-chair and recognition of Mr. Takao Onoda
- o VMAD work and deliverables
- o Collaboration between FRAV and VMAD
- o Co-chairs proposal for next steps / work

Nomination of new VMAD co-chair

- As of April 1st, Mr. Hidenori Nonaka has taken over the co-chair of VMAD in place of Mr. Takao Onoda.
  - Mr. Hedinori Nonaka is presently the JASIC Director – Geneva Office and is the VMAD Subgroup 1 leader (SG1 – Scenarios)
- VMAD co-chairs and members welcomed Mr. Hedinori Nonaka

- VMAD co-chairs and members also expressed their heartfelt gratitude and sincerest appreciation to Mr. Takao Onada for his leadership, unwavering dedication and hard work at VMAD (and beyond). Mr. Onada has now moved on to new duties as the Deputy Director General of Chubu District Transport Bureau. We ask GRVA to join us in wishing him the best of successes in his new role.

VMAD Deliverables to the World Forum for Harmonization of Vehicle Regulations (WP.29)
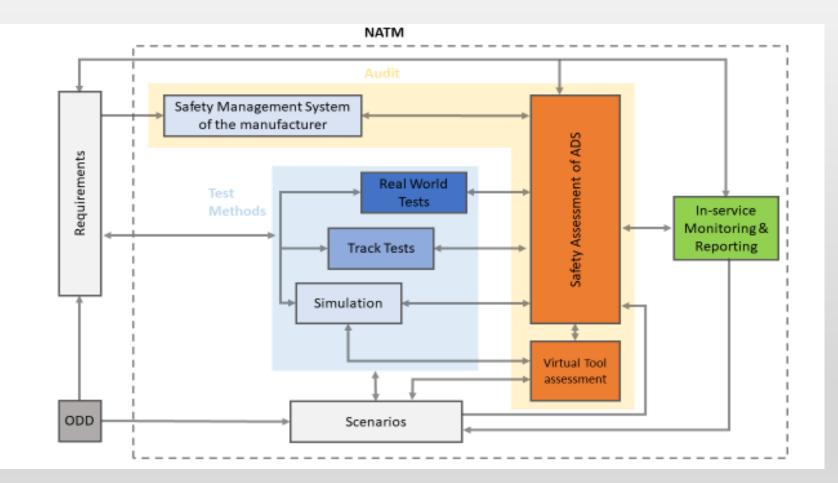
A reminder of VMAD deliverables to GRVA & WP.29:

Deliverables	Status
1. Second iteration of NATM addressing the "outstanding issues" identified by VMAD and the evaluation of NATM for the motorway use-case	November 2021 (information) / March 2022 (endorsement)
2. WP29 guidelines for NATM including outcome of "outstanding issues" and translation of FRAV requirements	March 2022 (information)

Overview of proposed second iteration of NATM

VMAD IWG activities since GRVA #12

- 3 VMAD meetings and more than 15 (!) Subgroup meetings took place
- In-Service Safety Performance Workshop
- Participation to the GRVA workshop on AI
- More details:
  - February 2022: focus on draft 2nd iteration NATM (ECE/TRANS/WP.29/2022/57)
  - March 2022: focus on edits to Guidelines and outstanding issues (e.g. scenario catalogue, FRAV/VMAD collaboration)
  - May 2022: focus on FRAV/VMAD collaboration and possible future work)

VMAD IWG activities since GRVA #12 (cont'd)

- The 2nd iteration NATM was endorsed at the March WP29 2022 session
- The guidelines were introduced as an informal document at the March WP29 2022 session

- Submission of informal document to GRVA 13 (to submit to WP.29 June 2022)
  - The informal addresses comments received by VMAD with respect to ECE/TRANS/WP.29/2022/58 (sections V, VI, VII, IX, X and Annex 1)
  - Comments are mostly to address typos and clarify the languuage

VMAD SG3-ISMR Workshop March 17 & 24

- Led by Ms. Maria Cristina Galassi (SG3 leader)
- Successful and well attended meeting
- Key takeaways:
- FRAV could provide the minimum amount of data that needs to be collected to ensure safety
- EDR/DSSAD could identity the data to be collected for the characterization of occurrences
- FG4AID/SG3-ISMR could identify AI performance and behavious that can be potentially monitored during operation

VMAD open issues (by Subgroup)

- **SG1 – Scenarios**
  - Discussed outstanding issues including the need for further in-depth collaboration with FRAV as well as the development of a scenario catalogue
- **SG2 – Virtual and Simulation Testing**
  - Discussed the need to understand how simulation is used for approvals under UN Reg 157 to inform VMAD future work
- **SG3 – ISMR**
  - Discussed recommendations on reporting and information sharing
- **SG4 – Real world/Track testing**
  - Discussed the need to review applicability of FRAV safety requirements with VMAD safety pillars

Collaboration between FRAV and VMAD

- Ongoing collaboration between VMAD and FRAV
- Several meetings between the 2 IWG including co-chairs meetings and extended SG / Stream leaders
- A document has been developed to address which FRAV safety requirements require (VMAD) validation requirements
- Discussions are underway on how to translate FRAV safety requirements into validation requirements
- VMAD provided comments on 3 FRAV documents

VMAD co-chairs Proposal for future work UNECE

- VMAD co-chairs would propose a request for an extension/new mandate
- Expected period: 2 years, with clear intermediate milestones, aligned with FRAV
- Suggested deliverables for VMAD:
  - elaboration of outstanding issues (e.g. Real World Testing)
  - evaluation of first applications of NATM in practice and updating the descriptions/requirements if needed
  - updating validation methods in line with new or more detailed Functional Requirements (in particular HMI/HF)
- The Guidelines will become the main focus / document for VMAD; the Master Document will be updated if needed
- VMAD (and FRAV) co-chairs foresee the need to have an intensive exchange of experience in the early applications/implementations of our outcomes
- VMAD will work in parallel with FRAV for the next version of requirements/guidelines, considering the possibility to integrate these documents in the future

Thank you!