

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)

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Contents



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

- Brief review of work and deliverables until June 2024
- VMAD IWG activities since GRVA 15th
- Future activities

VMAD Deliverables until the WP.29 June 2024



Activities	Deliverables	Timeline	
<ul style="list-style-type: none"> Start of development of safety verification methods, linking to the status of FRAV's consideration of technical requirements for DDTs, etc. Description how to create and maintain the catalogue for scenarios (SG1) Description of the credibility assessment (SG2) Description of ISM&R (SG3) Description for RWT (SG4) 	2nd iteration of the Guidelines for NATM including outcome of "outstanding issues"	January 2023 (GRVA, information: <i>GRVA-15-26</i>), May 2023 (GRVA, adopt), June 2023 (WP.29)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Progressive increase in FRAV-VMAD collaboration towards 2024 deliverable of consolidated submission.	Consolidated FRAV/VMAD submission (requirements+assessment)	January 2024 (GRVA, information), May 2024 (GRVA adopt), June 2024 (WP.29)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

VMAD activities since GRVA #15 (1)



- VMAD held its meetings on February 27 (#29) and April 24+25 (#30), and latter was back to back with the FRAV meeting in ITU
- VMAD activities consist of the two axes:
 1. To have the four sub-groups work on their respective outstanding issues of work and to incorporate the results of their work into the guidelines.
 2. To collaborate with FRAV in a coordinated and steady manner

The First Axis: Sub-group-led Activities

- Scenarios: the structure of the layers of scenarios by level of abstraction has been modified by adding "abstract scenarios" as another example
- Simulation: the description of the open loop simulation has been elaborated, and "Credibility Assessment" has been translated to a practical method
- Audit/In-Service Monitoring & Reporting: the overall description of these areas has been elaborated and, in particular, a report template has been added to the Annex.
- Track-/Real World testing: it has been clarified that track test is to be conducted in ODD and the real-world test is to be done also outside the ODD to see proper response of ADS.



These outcomes have been incorporated in the Guidelines amendment (GRVA-16-39)

VMAD activities since GRVA #15 (3)



The Second Axis: Collaboration with FRAV

- The last GRVA reported that the FRAV/VMAD leadership meeting was held during autumn and winter last year, and that the "Joint vision" was provided as an output of the meeting
- Based on the 'Joint vision', the first Integration Group was held on 25 April and the second on 4 May.
- As a result of the discussions, it was decided to form three working teams:
 1. Definitions
 2. Structure of deliverables
 3. Matrix (to link safety requirements and validation pillars, with scenarios)
- In order to be able to work with speed, the participating members were limited to subgroup leaders, workstream leaders and contributors to both IWGs.
Transparency is assured by reporting to both FRAV and VMAD. Open discussions in the other relevant IWGs is arranged by informal collaboration as well as formal collaboration (via GRVA)

Future Activities



- The first axis:
 - To continue the activities of the VMAD subgroups with the view to complete VMAD deliverables
 - Next VMAD meetings:
 - 28th and 29th June (location to be confirmed)
 - (TBD) 11th or 19th of September and/or October (online), and
Mid-December (Asia, back to back with FRAV and Integration Group, hybrid)
 - Dates for 2024 will be suggested as well in June
- The second axis:
 - Next meetings:
 - 31st May
 - 26th and 27th June

Thank you!

And Special Thanks to ITU for hosting and supporting
the April meeting in Geneva!

