

UN/UNECE/WP29/GRVA/VMAD SG1 (scenarios) status report

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Prepared by SG1 leader

Shumpei MIYAZAKI (MLIT, Japan)

Status of SG1 (Scenarios)

[Background]

- NATM MD (New Assessment/Test Method Master Document) was reported to WP29 on March (WP29-183-05).
- NATM MD includes what SG1 had discussed (scenario concepts and functional scenarios, which was agreed during the last SG1 meeting on 13th January) and outstanding issues (VMAD-15-05-rev.1) includes open issues of SG1.
- Task of SG1 for next year is to continue discussion for remaining open issues and provide update to NATM MD.

[Next step]

- “Outstanding issues” will be revisited and updated for future discussion.
- SG1 is planning to have periodical meeting to discuss outstanding issues.
- SG1 will provide update for NATM MD as appropriate.

[Next meeting]

- SG1 will have meeting on 29th March.
- SG1 will discuss
 - update of outstanding issues including their target completion date, and
 - introduction of “abstract scenario”, which was proposed by a member of SG1.

Outstanding issues (copy from VMAD-15-05-rev.1)

Outstanding questions/issues/activities to address/develop	Target Completion date
1. Initiate the development of illustrative examples of functional scenarios for divided highway driving to inform the development of other aspects of the scenarios catalogue and the NATM pillars.	March 2021 ->Completed
2. Determine the scope/level of abstraction of the scenarios required for the broader VMAD catalogue (e.g., functional, logical, concrete).	March 2021 ->Completed
3. Determine methods/best practices for identifying scenarios (e.g. derived from collision data, etc.).	March 2021 ->Completed
4. Determine methods for categorizing scenarios and develop timeline for further catalogue development (e.g., based on the ODD, such as highway driving, urban/rural, complex situations, such as construction zones, and edge cases, and micro ODDs).	March 2021 ->Completed
5. Leverage existing scenarios resources and develop a VMAD engagement strategy to inform the development and maintenance of the catalogue (e.g., identify work by other organizations that can be used to assist VMAD to develop a scenarios catalogue. Establish partnerships with other organizations – where feasible).	March 2021 ->Completed
6. Develop a common dictionary of terms used to describe scenarios (e.g., the various aspects of the operational design domain) and the elements that compose the scenario.	March 2021 continued if necessary
7. Determine how scenarios can be applied within the NATM process (simulation, test track, real-world). <i>Work to be done in consultation with SG2,3,4</i>	after March 2021
8. Develop common metrics to apply to the elements examined in scenario testing. <i>Work to be done in consultation with SG2,3,4 and FRAV</i>	after March 2021
9. Identify who is the owner/curator of the scenario catalogue? Determine the methods for inputting scenarios into a potential scenario catalogue, if appropriate. What are the best practices for informing/updating the scenario catalogue?	after March 2021
10. Determine how best to demonstrate sufficient coverage of critical scenarios. Should scenarios focus on the system as a whole or should it also include scenarios for specific component? How do we test vehicles based on varying levels of perception?	after March 2021
11. Determine which scenarios are required to validate the functional safety requirements established by FRAV (see sections 4.4 to 11 in FRAV-02-05) (e.g., system safety, operational design domain, object and event detection and response (OEDR), human-machine interface). <i>Work to be done in consultation with SG2,3,4 and FRAV</i>	after March 2021
12. Determine how other permutations of the base-line scenarios in the catalogue can be applied. <i>Work to be done in consultation with SG2,3,4 and FRAV</i>	after March 2021
13. Determine methods for assessing the validity and reliability of scenarios. <i>Work to be done in consultation with SG2,3,4 and FRAV</i>	after March 2021
14. Determine methods for dealing with the possible risk of training/overfitting an ADS to pass limited number of predefined scenarios. <i>Work to be done in consultation with SG2,3,4</i>	after March 2021
15. Determine methods/best practices to develop scenarios suggested by members in order to enhance to identify scenarios (e.g., the Pegasus 6 layer, three aspects based on factors interfering DDT).	after March 2021
16. Determine how unusual situations (e.g. wrong way driver) are dealt with in the scenario catalogue.	after March 2021