

Transmitted by Co-chairs

VMAD-15-16

# Validation Methods for Automated Driving (VMAD)

**United Nations Economic Commission for Europe (UNECE)**

**Working Party on Automated/Autonomous and Connected Vehicles (GRVA)**

December 4, 2020

WebEx



**UNECE**

# Revised NATM Master Document UNECE

- At 13<sup>th</sup> VMAD meeting, a revised Master Document (VMAD 13-03) was tabled for comments.
- At 14<sup>th</sup> VMAD meeting, comments received from 7 stakeholders were considered, and SGs were tasked with revising their respective sections of the Master Document based on feedback received during the session.
- For the sections to which no SG is responsible for (namely section 1-4, 11 and 12), co-chairs revised those sections.
- Comments to those sections were diverse, but some highlights include:
  1. Minor editorial changes (e.g. grammar, improvement of flow, etc.)
  2. A variety of miscellaneous comments, particularly related to paragraph 4.2 which describes overview of a scenarios catalogue and five validation methodologies (pillars).

# Scope of the VMAD work



## <Comment>

During the development of this work, VMAD should pursue this work in line with Framework Document on Automated Vehicles (FDAV), primarily focusing on f. Validation for system safety as well as applying the assessment and validation methods on the following principles/elements:

- c. Human Machine Interaction (HMI) / Operator information;
- d. Object event detection and response; and any further safety elements, which are subject to functional requirements put forward by FRAV (Germany, and similar comment from the Netherland).

## < Position of VMAD Co-chairs / Suggested response >

Functional requirements like HMI could be interpreted as parts of system safety. In addition, WP.29/AC.2 is currently reviewing the FDAD with the aim to see if and where revision is necessary. Therefore, no change was made at least at this moment.

# The purpose of the NATM



## <Original sentence in 4.1>

The purpose of the NATM is to assess, based on the functional requirements, whether an ADS is able to safely address the various situations it may encounter in the real world.

## <Comment>

- Add at the last of the sentence ‘, where the “safe response” to these situations is specified in the IWG on FRAV’ (Germany).
- Possible rephrasing: The purpose of the NATM is to provide a framework for assessing the ADS against requirements in order to demonstrate safe behavior in the real world (the Netherland).

## < Position of VMAD Co-chairs / Suggested response >

Co-chairs agreed and simplified this paragraph as follows:

The purpose of the NATM is to provide a framework for assessing an ADS and its ability to demonstrate safe behaviour when operating in the real world.

# Comments to paragraph 4.2



## <Comment>

VMAD received a variety of miscellaneous comments, related to paragraph 4.2 which describes overview of a scenarios catalogue and five validation methodologies (pillars).

## < Position of VMAD Co-chairs / Suggested response >

Regarding comments to first to fifth bullet, co-chairs would like ask responsible SGs to further review them reflecting the recent discussion in each SGs.

As for sixth bullets, SG3 has already come up with a proposal which should be considered during this session (maybe together with proposed texts for paragraph 11.7 and 11.13).

# Section 12



## <Background>

Section 12 is expected to establish how the NATM links with the functional safety requirements developed by FRAV.

Recognizing the importance of the synergies between FRAV and VMAD, the two IWGs have been collaborating to advance our respective workplans.

At this moment, due to lack of sufficient input from FRAV, current description in section 12 is very simple (a kind of placeholder) and therefore, no comment was received .

## < Position of VMAD Co-chairs / Suggested way forward >

Co-chairs would like to suggest to keep section 12. Meanwhile, co-chairs will start discussion with FRAV co-chairs how to describe this section.



**Thank you and stay safe!**