IWG on VMAD

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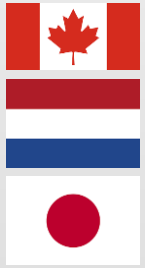
UNECE

Introduction

- Leadership



Ibrahima Sow, Canada
Peter Striekwold, The Netherlands
Takao Onoda, Japan

William Gouse, Secretariat, SAE
Ryuzo Oshita, Secretariat, JASIC

- IWG reports to GRVA
- Four subgroups on (a) Scenarios, (b) Simulation, (c) Audit and Monitoring, and (d) Track Test and Real-world Test

Objectives

- IWG on Validation Methods for Automated Driving (VMAD) is dealing with:
  - *“demonstration of a robust design and validation process based on a systems-engineering approach with the goal of designing automated driving systems free of unreasonable safety risks and ensuring compliance with road traffic regulations and the principles listed in this document. Design and validation methods should include a hazard analysis and safety risk assessment for Automated Driving System (ADS), for the OEDR, but also for the overall vehicle design into which it is being integrated and when applicable, for the broader transportation ecosystem. Design and validation methods should demonstrate the behavioural competencies an Automated/autonomous vehicle would be expected to perform during a normal operation, the performance during crash avoidance situations and the performance of fall back strategies. Test approaches may include a combination of simulation, test track and on road testing”*

    – Framework Document: ECE/TRANS/WP.29/2019/34/Rev. 2

- It delivers new assessment /test method of ADS

Outcomes so far

- Based on the Framework Document, VMAD has submitted the following deliverables to WP.29:

Deliverables	Status
1. The test and assessment (including CEL) for Automated Lane Keeping Systems (ALKS) of SAE levels 3/4 compatible as a new UN Regulation for contracting parties to the 1958 agreement	Completed – March 2020
2. Review of the existing and upcoming methods and a proposed way forward for the assessment of automated driving system (ADS)	Completed – March 2020
3. New assessment/test method (NATM) of ADS[1]	Completed – March 2021

1: This deliverable was submitted to WP29 as the NATM Master Document.

NATM Master Document

- The NATM Master Document (MD) provides a clear overview of the NATM and its constituent pillars.

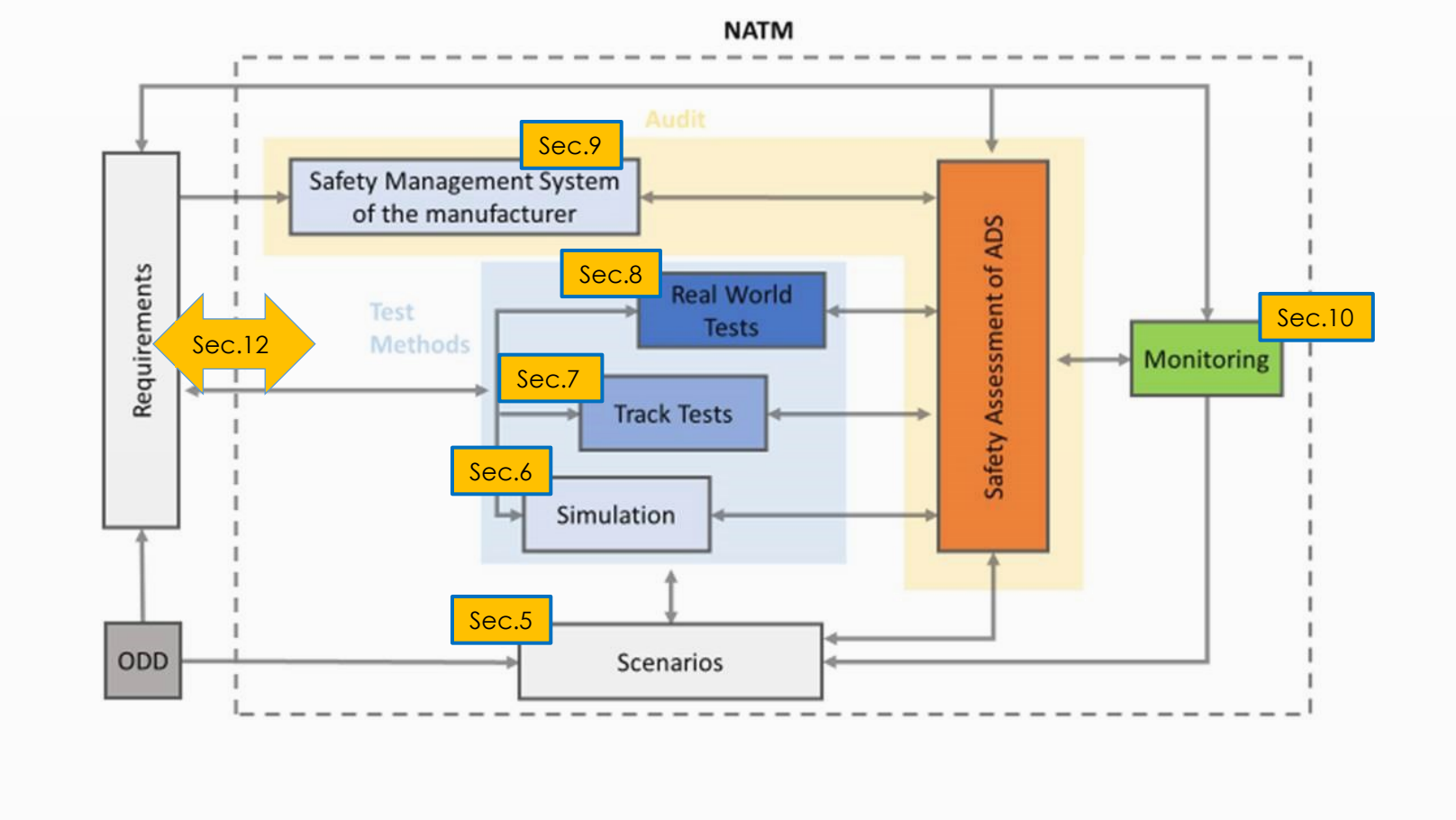
- This version of the MD provides a high level framework for the NATM.

- Going forward, the MD will be further developed and regularly updated and informed by the outcomes of future VMAD sessions.

- WP29 at the March 2021 session recommended that the MD be considered by GRs and IWGs as a reference document when developing activities in the field of automation.

Contents of MD

- The MD describes a multi-pillar approach, composed of a scenarios catalogue and five validation methodologies (pillars), and explains how the pillars, scenarios, and safety requirements developed by FRAV will interact with each other.



In the near future

- VMAD agreed to start with validation of NATM for Highway systems.
- VMAD and its sub-groups have been working together to scope out list of issues to be tackled as next.
- Recognizing the synergies between FRAV and VMAD, the two IWGs will continue to collaborate to advance our respective workplans.

Thank you

World Forum for Harmonization of Vehicle Regulations (WP.29)
Working Party on Automated/Autonomous and Connected Vehicles (GRVA)