37th Session Status Review and Session Orientation

Web Conference

20-21 February 2023

FRAV

Adoption of the agenda

Agenda item	Documentation
1. Adoption of the agenda	FRAV-37-01
2. FRAV status and session orientation	FRAV-37-03
3. FRAV/VMAD collaboration	
4. Pending proposals	
4.1. Approach to derive verifiable (DDT) performance (criteria)	FRAV-31-19 (DDT w/s)
4.2. Application of Safety Models to Define Performance Criteria	FRAV-33-37 (Germany)
4.3. Approach to defining codified rules of the road	FRAV-33-39 (UK)
5. Review of consolidated comments on draft guidelines *FRAV-33 ended at para. 5.10.3.1.*	FRAV-37-04
6. FRAV-38 (March 14-16, Coventry)	FRAV-38-00 (WMG)
7. April-May planning	
8. Any other business	

FRAV status

- Review of consolidated table of proposals → GRVA May submission
  - Skipped over 1.5.6.-1.8.5.
  - Session 36 review ended at para. 5.10.3.1.
  - Aim to complete review by end of March session (FRAV-38), including proposals to resolve open issues.
- Need decisions on handling of components for establishing verifiable criteria for DDT assessments
  - Scenario generation and coverage
  - Establishment of valid behavioural competencies
  - Processes for traffic-rule analysis (application to scenarios and competencies)
  - Establishment of safety models and use in assessments
- FRAV/VMAD collaboration on joint guidelines

FRAV/VMAD collaboration

FRAV Requirements	VMAD validation pillar: Audit	Virtual	Track	Real-World	ISMR
ITERATION 1					
Requirement A	No role in verification.	Virtual can verify in this way.	Maybe could be verified, but we have these questions.	Seems verifiable but need to decide how.	Seems verifiable but need to decide how.
Requirement B	No role in verification.	Virtual can verify in this way.	Maybe could be verified, but we have these questions.	Seems verifiable but need to decide how.	Seems verifiable but need to decide how.
Requirement C	Audit can verify in this way.	Seems verifiable but need to decide how.	No role in verification.	RWT can verify in this way.	ISMR can verify in this way.
ITERATION 2					
Requirement A		Verified under Virtual in this way.	(Virtual testing is enough)		Maybe could be verified, but we have these questions.
Requirement B		Virtual can verify in this way.	Track can verify in this way.	RWT can verify in this way.	Seems verifiable but need to decide how.
Requirement C	Audit verifies in this way.	Seems verifiable but need to decide how.		RWT verifies in this way.	ISMR can verify in this way.
ITERATION 3					
Requirement A		Verified under Virtual using this method.			ISMR can verify in this way.
Revised requirement B		Virtual can verify in this way.	Track can verify in this way.	(Track is a stronger way to test)	ISMR can verify in this way.
Requirement C	Audit verifies in this way.	Seems verifiable but need to decide how.		RWT verifies in this way.	ISMR can verify in this way.

Legend

	Not applicable
	Satisfactory
	Requirement needs more elaboration
	Translation to validation pillar needs more time

FRAV/VMAD joint guidelines

FRAV Requirements	Audit	Virtual	VMAD validation pillar Track	Real-World	ISMR
ITERATION 1					
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Requirement B	No role in verification.	Virtual can verify in this way.	Maybe could be verified, but we have these questions.	Seems verifiable but need to decide how.	Seems verifiable but need to decide how.
Requirement C	Audit can verify in this way.	Seems verifiable but need to decide how.	No role in verification.	RWT can verify in this way.	ISMR can verify in this way.
ITERATION 2					
Requirement A		Verified under Virtual in this way.	(Virtual testing is enough)		Maybe could be verified, but we have these questions.
Requirement B		Virtual can verify in this way.	Track can verify in this way.	RWT can verify in this way.	Seems verifiable but need to decide how.
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United Nations ECE/TRANS/WP.29/2024/xx

Economic and Social Council

Distr.: General
xx March 2024

Original: English

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

193rd session
Geneva, xx-xx June 2024
Item 2.3 of the provisional agenda
Intelligent Transport Systems and coordination of automated vehicles related activities

Guidelines for the Assessment of Automated Driving System Safety

Submitted by the Working Party on Automated/Autonomous and Connected Vehicles*

The text reproduced below was approved by the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) during its eighteenth session (see ECE/TRANS/WP.29/GRVA/18, para. xx). The text proposes guidelines for ADS safety requirements and the assessment of ADS for compliance with those requirements that can be

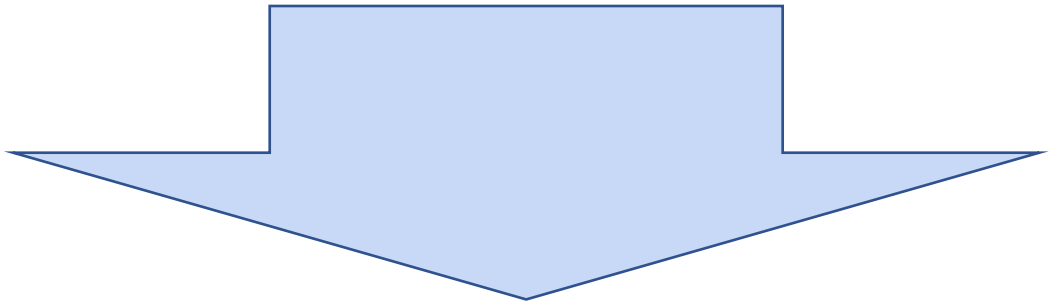
First step: Small working group

FRAV

- Which requirements are, at this stage, sufficiently described to be used for each of the validation pillars
- Which requirements need more elaboration for using one or more of the validation pillars
- Which validation pillars need further development for validating the related requirement
- Which validation pillars are sufficiently described to apply for the related requirement
- As far as possible/needed, the boundaries for the requirements and validation methods for this first iteration
- Discussion items for FRAV, VMAD or GRVA to be resolved in order to allow further execution of the first iteration

Delivery calendar

- June 2024: Formal WP.29 consideration of ADS guidelines
- March 2024: Deadline for formal submissions to June WP.29 session
- January 2024: GRVA consideration and approval of guidelines



- **November 2023**: FRAV/VMAD submission of guidelines to GRVA January session

FRAV/VMAD: Big picture

FRAV Requirements	Audit	Virtual	VMAD validation pillar Track	Real-World	ISMR
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February 2023

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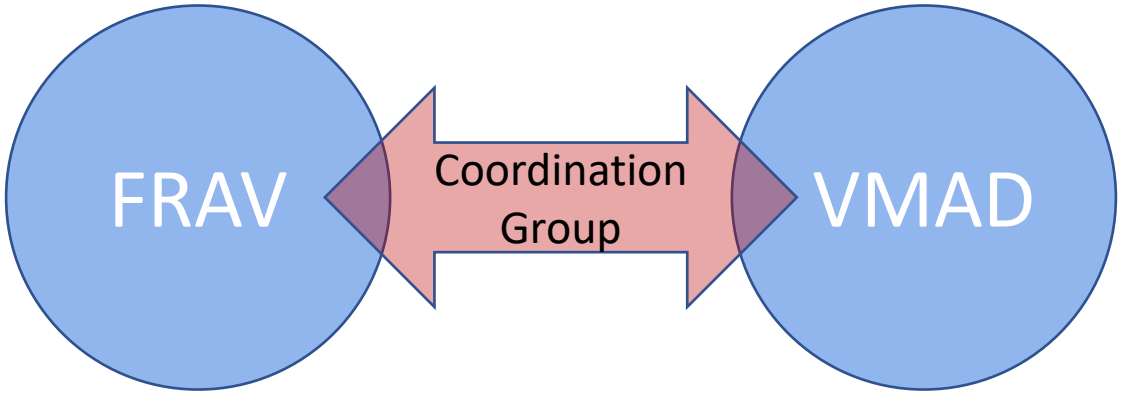

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Item 2.3

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FRAV/VMAD Joint Submission to GRVA: November 2023

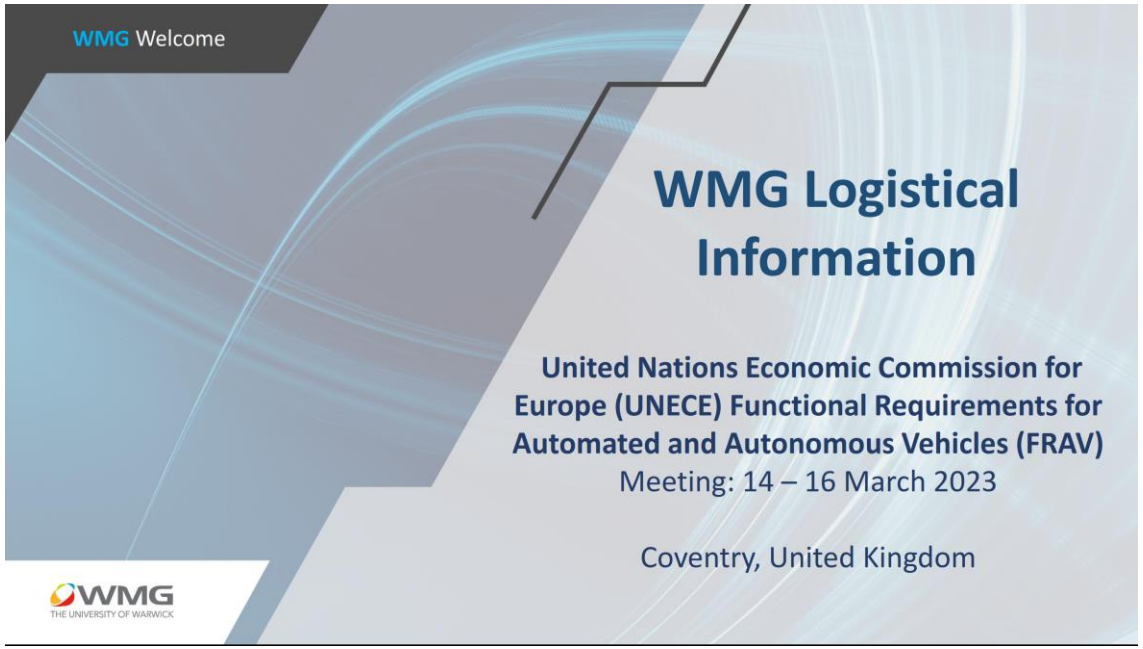
Pending proposals

- FRAV has received:
  - Draft text explaining the approach to defining verifiable criteria for assessing ADS performance of the DDT (FRAV-31-19)
  - A proposal to include explanation for developing safety models (FRAV-33-37)
  - Draft text explaining an approach to analysing and codifying traffic rules (FRAV-33-39)
- The draft submission refers to these elements, but the text does not provide further explanation.
  - Proposal: The submission should include sufficient information to enable understanding of how to derive verifiable criteria from the high-level requirements.

Interim submission review

- Introductory paragraphs remain to be reviewed and agreed.
- FRAV has covered definitions, nominal DDT, critical DDT, and portions of failure DDT.
  - Open issues remain to be resolved in each section.
- Remaining failure DDT, User interactions, and lifetime safety to be reviewed.
  - Key goal to identify obstacles in path to final text so FRAV can consider proposals to remove them during the March session.
- Left off at para. 5.10.3.1.

Next session



- 14-16 March in Coventry (UK)
- Logistical information posted on the FRAV-38 wiki page.
  - Hotel and transportation info
- Need to confirm in-person participation.
- Expect to start at 10h00 GMT
  - 15th: 9h30-17h00 GMT
  - 16th: 9h30-13h00 GMT
- Further details to be provided

Outlook for next steps

FRAV Calendar

WP.29: March 6-9

Session 38: 14-16 March **UK**

Session 39: April

Session 40: May

GRVA: May 22-26

Session 41: June

WP.29: June 19-22

Next sessions

Consider April-May needs to finalise GRVA submission.

After June, focus must shift to drafting the joint FRAV/VMAD submission.