

Invitation to the 44th session of the GRVA Informal Working Group on Functional Requirements for Automated Vehicles (FRAV)

The 44th session of the FRAV informal group will be held in Tokyo on 13 December 2023. The session will be held at the AP Ichigaya Meeting Space located in the Ichigaya Osato Building (floors 5-8, 1-10 Gobancho, Chiyoda Ward). Logistical information (see FRAV-44-00) has been provided on the [session wiki page](#). Participants can [join the session online via the web](#). The session will start at 09:30 JST.

The session aims to:

- Consider changes to the structure of the FRAV guidelines introduced during the development of the integrated FRAV/VMAD guidelines to be submitted to GRVA and WP.29.
- Resolve any open points in the integrated document pursuant to the joint FRAV/VMAD session scheduled for 12 December.
- Reach decisions on the inclusion of an annex on an “Approach to Derive Verifiable Performance Requirements for Accident Avoidance” as proposed last July during the 42nd FRAV session (FRAV-42-04).
- Consideration of future work under FRAV, if any.

Updates from the workstreams and stakeholder presentations, if any, will be integrated into these discussions.

Structural changes in the Integrated Document

FRAV submitted its final guidelines to the September GRVA session (GRVA-17-33). GRVA approved the guidelines and submitted them to the November WP.29 session (WP.29-191-07). WP.29 agreed to consider the guidelines as a formal proposal with an official symbol for endorsement during its March 2024 session.

The FRAV/VMAD Integration Group established a small drafting group to prepare an integrated document for the January GRVA session and submission as a formal document to the June WP.29 session. The Integration Group approved a proposal for the structure of the integrated document and the drafting group prepared documents covering each section of the structure. These documents are [available on the Integration Document wiki page](#). The current status of the FRAV/VMAD review of the integrated document can be found in FRAV-VMAD-01-02/Rev.3 on the [wiki page for the first FRAV/VMAD session](#).

The document on Section 6 (Requirements for ADS Performance of the DDT) proposes to restructure the FRAV guidelines. Under the FRAV guidelines, requirements for DDT performance are structured under nominal, critical, and failure scenarios in order to enable application of the requirements to the VMAD scenario-based test methods. Section 6 of the integrated proposal introduces two new sections: “ADS Performance of the DDT at ODD Boundaries” and “Minimum Risk Condition Requirements”. Requirements on ODD recognition and ADS response to ODD exits are moved from the DDT performance requirements under nominal scenarios into the “ODD Boundaries” section. Requirements referring to “minimal risk condition” are moved from the critical and failure scenario sections to the “Minimum Risk Condition Requirements” section.

FRAV will consider the proposed changes and their impact on the FRAV guidelines to reach consensus on recommendations to the Integration Group.

Open items from the joint FRAV/VMAD session

FRAV and VMAD will hold a joint session to continue the review of the integrated ADS guidelines draft. In cases where the joint session considers provisions developed by FRAV and determines a need for further consideration, FRAV will consider these provisions during its session to reach consensus on recommendations for consideration by the Integration Group.

Annex on Verifiable Requirements for Accident Avoidance

During 2022, FRAV discussed requirements for DDT performance under critical scenarios, including discussion of unavoidable collisions and related scenarios where compliance with all the requirements for performance under nominal scenarios might not be possible. From earlier sessions going back to 2020, FRAV has received input on developing scenario-based verifiable “pass/fail” criteria, including approaches such as “careful and competent driver”, “state of the art”, “safety envelope”, and “positive risk balance” (e.g., FRAV-09-03). The annex to the FRAV guidelines summarises outcomes of these discussions, including the application of approaches to the establishment of verifiable “pass/fail” criteria under critical scenarios.

BAS^t provided an initial proposal for one approach to establishing such verifiable criteria to the 39th FRAV session (FRAV-39-07, April 2023) followed by an updated proposal to the 42nd session (FRAV-42-04, July 2023). FRAV was requested to consider including this proposal in its guidelines.

FRAV will consider the proposal to reach consensus on a recommendation to the Integration Group relative to inclusion of the approach in the submission(s) to GRVA and WP.29.

Next steps

FRAV will consider outcomes of the Integration Group and FRAV/VMAD sessions as well as a proposal developed by AC.2 and presented to the November WP.29 session (WP.29-191-30) concerning the next phase of work on ADS safety. In general, the Integration Group co-chairs anticipate finalisation of the joint FRAV/VMAD integrated document submission before the January GRVA session and development of an Addendum during the first half of next year for submission to GRVA (May) and WP.29 (June). AC.2 anticipates the establishment of a new informal working group on ADS safety (i.e., superseding FRAV and VMAD) combined with a program of quarterly workshops run by GRVA towards establishing a UN GTR and a UN Regulation by the November 2026 WP.29 session.

FRAV will consider its role(s) in this process of transitioning into the next phase of work and steps that might be taken to fulfil these roles.

If experts wish time on the agenda for presentations, please notify the secretary. Submissions can be sent to the FRAV secretary (jcreamer@americanautocouncil.org).