Submitted by the Chairperson of GRVA

Informal document **GRVA-03-10**
3rd Session of GRVA, 3-4 June 2019
Provisional agenda item 3.

Delivery of WP.29 Priorities for
Vehicle Automated Driving Systems

1. Introduction

1. At its 177th Session in March 2019 WP29 reviewed Informal Document WP.29-177-19 which sets out the strategic vision for the activities of WP29 in respect to automated/autonomous vehicles.

2. WP29 agreed the general approach outlined in the Framework Document and directed GRVA to use the issues, topics and deliverables from that document as guidance to inform further discussions on structuring its work and delivery plans.

3. WP29 expects GRVA to report at the June 2019 session on its proposed structure, including terms of reference for any informal working groups that GRVA may wish to establish in this respect.

4. To this end, this document builds detail into the issues identified in that document and makes proposals for the establishment of a number of informal working groups to deliver WP29 ambitions. It is suggested that this document forms the reference for the activities of each informal working group and therefore be read as the Terms of Reference for those individual activities.

2. Priorities of Work

5. WP29-177-19 identifies four areas of work for GRVA and gives indicative dates for the delivery of the priority tasks.

a). Functional Requirements

b). New Assessment / Test Methods

c). Cyber Security and Software Updates

d). Data Storage System for Automated Driving

6. Each of these tasks has a milestone date of March 2020 for specific tasks. It is also recognised that work in these areas will continue beyond those dates to deliver against further priorities as established by WP29 or in order to respond to advances in automated technology.

3.   Tasks Detail

3.1. Functional Requirements

7.   This task shall address the key safety aspects established in paragraph 5 of document WP.29-177-19 and in particular the common principles a, b, c, d and e. In respect to item d, consideration will be given to the performance criteria – assessment methods shall be considered under the New Assessment Method task.

- Automated/autonomous acceleration and deceleration (longitudinal control)
  - Full speed range adaptive cruise system (including ACC)

- Automated/autonomous steering function (lateral control)
  - Automated/ emergency steering system
  - Lane keeping system

- Combined control
  - Traffic jam assistance/pilot
  - Highway assistance/pilot
  - Automated parking

- Human Machine Interface (HMI)
  - Warnings
  - Driving status monitoring and display
  - Interactive operations

- Transition process
  - Minimum risk achievement
  - Responsibility for takeover operation
  - Transitional process
  - Transitional period

- Driving availability recognition

- Driving environment monitoring
  - Headway, side, rear

3.2. New Assessment / Test Methods

8.   This task shall address the key safety aspects established in paragraph 5 of document WP.29-177-19 and in particular the common principles d and f. In respect to item d, consideration will be given to the assessment methods – performance criteria shall be considered under the Functional Requirements task.

- Driving Scenarios
  - Operational Domain distinction and characterisation (Highway/Motorway, Inter-urban & Rural, Urban)
  - Operational Domain specific scenario classification
  - Scenario format specification
  - Scenario library/database

- Methodology for assessing the OEM's processes
  - Functional safety concept including hazard and risk perception in the operating domain
  - Safe system / software design/production audit/validation
  - Conformity of production

- Methodology for assessing the vehicle in a controlled environment,
  - Minimum validation assessments to permit real-world evaluation/validation
  - Test scenarios addressing foreseeable events for which real-world evaluation would be unsuitable-

- Methodology for assessing the vehicle performance under real-world conditions.
  -Operating domain hazard and driving task descriptors to characterise the real-world road route profile.
  - Objective methodology to assess automated driving performance

- Simulation and virtual testing methodology
  - Driving scenario centred modelling
  - Simulation tool / toolkit

3.3. Cyber Security and Software Updates

9.   This task shall address the key safety aspects established in paragraph 5 of document WP.29-177-19 and in particular the common principle g and h.

- Assessment and validation of methodology proposed in GRVA-01-17 - Draft Recommendation on Cyber Security
- Drafting of Agreement neutral text (for use under both the 1958 and 1998 Agreements).

3.4. Data Storage Systems for Automated Driving

10.   This task shall address the key safety aspects established in paragraph 5 of document WP.29-177-19 and in particular the common principle j.

- Requirements for application with Automated Lane Keep Systems (links with ACSF IWG)
  - Minimum data channels/fields
  - Data format
  - Data access (protection against unauthorised and facility for authorised access)
  - Data Privacy provisions
  - Minimum data storage provisions (time and volume limits)

- Coordination with GRSG for development of DSSAD beyond step 1 above.

4.   Short term deliverables

a.   Functional Requirements

New activity

- Common principles based on existing national/regional guidelines and other relevant reference documents – [March 2020]

Existing activity

- Functional requirements for Lane Keeping systems of SAE levels 3/4 (New UN Regulation for contracting parties to the 1958 Agreement – [March 2020]

b.   New Assessment / Test Methods

New activity

- Review of the existing and upcoming methods and a proposed way forward for the assessment of AD – [March 2020]

- The test and assessment method for Lane Keeping systems of SAE levels 3/4 as New UN Regulation for contracting parties to the 1958 Agreement – [March 2020]

Existing activity

- New assessment /Test method of AD [December 2020] – end of the existing VMAD activities

c.   **Cyber Security and Software Updates**

- Review of the test phase on the draft requirements – [March 2020]

d.   **Data Storage Systems for Automated Driving**

- Clear objectives, deadline for DSSAD and the identification of differences with EDR – [November 2019]

- DSSAD requirements for Automated Lane Keeping Systems of SAE levels 3/4 as New UN Regulation for contracting parties to the 1958 Agreement – [March 2020]

- Review of the existing national / regional activities and a proposed way forward for DSSAD – [March 2020]

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5.   **Medium term deliverables**

a.   **Functional Requirements**

Medium Term

- 24-36 month deliverables to be added

b.   **New Assessment / Test Methods**

Medium Term

24-36 month deliverables to be added

c.   **Cyber Security and Software Updates**

Medium Term

24-36 month deliverables to be added

d.   **Data Storage Systems for Automated Driving**

Medium Term

24-36 month deliverables to be added]

6.   **General Rules of Procedure for the Informal Working Groups**

11.   The informal working groups shall report to GRVA and are open to all participants of WP.29.

a.   Two co-Chairs and a Secretary will manage each informal group.

b.   The working language of the informal groups will be English.

  c. The output of the informal working groups shall be delivered such that it is suitable for adoption under either or both the 1958 and the 1998 Agreements. This may be in the form of a single text or in Agreement specific versions.

d. All documents and/or proposals must be submitted to the Secretary of the relevant group in a suitable electronic format in advance of the meeting. The group may refuse to discuss any item or proposal which has not been circulated five working days in advance to the meeting.

e. An agenda and related documents will be circulated to all members of the informal working group in advance of all scheduled meetings.

f. Decisions will be reached by consensus. When consensus cannot be reached, the co-Chairs of the groups shall present the different points of view to GRVA. The Co-Chairs may seek guidance from GRVA as appropriate.

g. The progress of the informal working groups will be routinely reported routinely to GRVA – wherever possible as an informal document and presented by the Co-Chairs or their representatives.

h. All documents shall be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the dedicated website.

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