

Fitness of ECE-R48 for Automated Vehicles Status Report GRE TF AVSR

DR. K. MANZ, DE – CHAIR

L. SCHWENKSCHUSTER, GTB - SECRETARY

AVSR

Preliminary Remarks:

The goals are:

- To amend R48 in the direction to be applicable to non automated and automated vehicles;
- To define the corresponding device to the driver;
- to get a common language and a common understanding for the necessary definitions;

With regard to the definitions, TF AVSR cooperates with

GRVA,

FRAV,

TF ADS - [Task Force on fitness for ADS of GRVA Regulations and GTRs](#)

There is now agreement that the dynamic driving task will be performed in:

- The manual driven vehicle by the driver;
- The automated vehicle by the automated driving system the ADS

With the following definitions:

There are now signs of agreement between AVSR/GRVA/FRAV/VMAD/Integration Group

“Dynamic Driving Task (DDT)” means the real-time operational and tactical functions required to operate the vehicle in on-road traffic.

=> FRAV/VMAD Integration group

“Automated Driving System (ADS)” means the hardware and software that are collectively capable of performing the entire DDT on a sustained basis.

=> FRAV/VMAD Integration group

“Driver” means a human being who performs in real time part or all of the DDT

=> FRAV

“Driver” means a human being who performs in real time part or all of the DDT ***and/or DDT fallback for a particular vehicle. .***

⇒ => Integration group

There are now signs of agreement between AVSR/GRVA/FRAV/VMAD/Integration Group

“ADS vehicle” means a vehicle equipped with an ADS.

With an alternative version of AVSR

“ADS vehicle” means a vehicle where the DDT will be performed by an ADS only.

In Addition Necessary Definitions: (Idea in the last TF AVSR meeting not yet discussed in TF AVSR!)

“ Assistance Systems (AS)” – means for the purposes of this Regulation, the hardware and software collectively capable of assisting a human driver of performing the entire DDT on a sustained basis, which require the human driver to permanently monitor the environment and vehicle/system performance.

=> Shortcut of a definition to “Dynamic Control Assistance Systems (DCAS)” in document ADAS-08-05 (Netherlands)

But may be with a paragraph 5. xx in the general requirements:

Any automatic functionality is to be seen as an Assistance Systems (AS) as long as an ADS is not active.

**In addition with necessary definitions,
the open questions are definitions for
MDV
and Dual Mode Vehicles**

Definition MDV:

“Manually Driven Vehicle (MDV)” means a vehicle where a driver within the vehicle is performing the entire DDT.

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“Manually Driven Vehicle (MDV)” means a vehicle which is not an ADS vehicle.

=> Idea by TF ADS

Definition Dual Mode Vehicle:

‘dual mode vehicles’ means fully automated vehicles with a driver seat designed and constructed:

(a) to be driven by the driver in the ‘manual driving mode’ and

(b) to be driven by the ADS without any driver supervision in the ‘fully automated driving mode’

=> EU - see <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1426>

"Dual mode vehicle" means a vehicle where the DDT is capable of being performed by a driver within the vehicle and by an ADS, but not at the same time.

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Further Ideas in the last TF ADS meeting not yet discussed in TF AVSR!

“Dual-mode vehicle” means a vehicle which can be driven manually and which are equipped with an Automated Driving System allowing the vehicle to be driven in an automated mode not issuing a [system initiated deactivation to manual driving] requiring an interaction by a driver to take back manual control (e.g. a fallback user

=>OICA/CLPA - No proposal existing at FRAV/VMAD Integration group, inspired by AV categorization proposal

***“Dual-mode vehicle”* means a vehicle which can be driven manually and which are equipped with an Automated Driving System allowing the vehicle to be driven in an automated mode.**

=> Idea by TF ADS

Result to discussion

Driver seat / Front seat nearest to the opposing traffic

Paragraph 6.2.6.1.1., amend to read:

The initial downward inclination of the cut-off of the dipped-beam to be set in the unladen vehicle state with one person in the ~~driver's seat~~ **front seat, nearest to the opposing traffic**, shall be specified within an accuracy of 0.1 per cent by the manufacturer and indicated in a clearly legible and indelible manner on each vehicle close to either headlamp or the manufacturer's plate by the symbol shown in Annex 7.”

Add a new Paragraph 6.2.6.1.1.1., to read:

If the driver's seat does not meet the requirements as defined in paragraph 6.2.6.1.1. due to the design or the operational conditions of the vehicle, the manufacturer shall specify the driver's seat position.”

Annex 5,

"States of loading to be taken into consideration in determining variations in the vertical orientation of the dipped-beam headlamps

Paragraph 2. amend to read:

2. Loading conditions for different types of vehicles :

If the driver's seat is not located on the front seat nearest to the opposing traffic due to the design or the operational conditions of the vehicle, the manufacturer shall specify the driver's seat position.

For vehicles designed to travel without occupants the presence of any persons shall be disregarded.

For vehicles designed to travel with occupants the following loading conditions shall apply:"

Additions with regard Assistance System:

Add a new Paragraph 6.1.7.2.1., to read:

6.1.7.2.1. In the case that the vehicle is controlled by an ADS, either

- **the control signals being produced by a sensor system ~~which~~ shall be capable, in addition to the Requirements in paragraph 6.1.7.2., of detecting and reacting to vulnerable road users such as, pedestrians, unlighted bicycles, horses etc.; or**

- **the main-beam headlamps shall be deactivated.**

Paragraph 6.1.7.3., amend to read:

6.1.7.3. With the exception of an active ADS, it shall always be possible to switch the main-beam headlamps ON and OFF manually and to manually switch OFF the automatic control of the main-beam headlamps. Moreover, the switching OFF, of the main-beam headlamps and of their automatic control, shall be by means of a simple and immediate manual operation; the use of sub-menus is not allowed.

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Thank you for your attention!