Current activities regarding Automated Driving Systems

Francois E. Guichard
UNECE
Current WP.29 activities regarding Automated Driving Systems

Content

• Current status of the Framework Document
• Highlights from the June 2021 session of WP.29 regarding ADS and GRSG
• Scope and timeline estimation
Framework document for automated vehicles

Authors

Purpose

Guides WP.29’s groups
Programme management
(Management tool used by WP.29)

Highlights

Safety vision
Key safety elements
timeline

Adopted in June 2019
Revision tabled for formal adoption on November 2021 by WP.29
See: ECE/TRANS/WP.29/2021/151

➔ Input from the GRs concerning potential activities on automated vehicles can be submitted to AC.2
Outline of the Framework document

Safety Vision

“An automated/autonomous vehicle shall not cause any non-tolerable risk”, meaning that automated/autonomous vehicle systems, under their automated mode ([ODD/OD]), shall not cause any traffic accidents resulting in injury or death that are reasonably foreseeable and preventable.

Key issues and principles considered as a priority

<table>
<thead>
<tr>
<th></th>
<th>System Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Failsafe Response</td>
</tr>
<tr>
<td>C</td>
<td>Human Machine Interface (HMI) /Operator information</td>
</tr>
<tr>
<td>D</td>
<td>Object Event Detection and Response (OEDR)</td>
</tr>
<tr>
<td>E</td>
<td>Operational Design Domain (ODD/OD) (automated mode)</td>
</tr>
<tr>
<td>F</td>
<td>Validation for System Safety</td>
</tr>
<tr>
<td>G</td>
<td>Cybersecurity</td>
</tr>
<tr>
<td>H</td>
<td>Software Updates</td>
</tr>
<tr>
<td>I</td>
<td>Event data recorder (EDR) and Data Storage System for Automated Driving vehicles (DSSAD)</td>
</tr>
</tbody>
</table>
Current status of the Framework Document

- Reference document: ECE/TRANS/WP.29/2021/151 – EDR part

<table>
<thead>
<tr>
<th>Title</th>
<th>Description of work / ECE/TRANS/WP.29/2021/9:2</th>
<th>Corresponding principles/elements</th>
<th>Allocation to</th>
<th>Main targets</th>
<th>Activities</th>
<th>Deliverable/ Deadline for submission to WP.29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Data Recorder (EDR)</td>
<td>Existing systems - as road safety measure (e.g. accident recording)</td>
<td>i. EDR/DSSAD - GRSG In coordination with GRVA / EDR/DSSAD informal group</td>
<td>EDR/DSSAD</td>
<td>Conventional and Automated / Autonomous vehicles</td>
<td>Complete EDR Performance Elements for 1958/1998 Contracting Parties - Corrections / amendments to existing EDR regulation and ADS data elements for ALKSG</td>
<td>July 2021</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WP29 guidelines on EDR Performance Elements for ADS - EDR Step 2: Consideration of additional technical requirements to current UN Regulation regarding trucks and buses</td>
<td>[March 2022]</td>
</tr>
</tbody>
</table>

| | | | | | Future Activities |
| | | | | | November 2022 |
| | | | | | March 2023 |
Highlights from the June 2021 session of WP.29

• See ECE/TRANS/WP.29/1159, para. 68


64. The GRVA Chair reported on the results achieved by GRVA during its special (tenth) session (for details, see the reports of the sessions ECE/TRANS/WP.29/GRVA/10).

65. He reported on the progress of the GRVA working groups on automation with the objective to submit proposals for guidelines for automated/autonomous vehicles in 2022.

66. The representative of OICA explained that some contracting parties were initiating regulatory activities having relevance for automated driverless shuttles and that others were launching regulatory activities on Artificial Intelligence. He proposed that WP.29 reflects on the harmonization of these matters.

67. The representative of France made a distinction between activities related to the performance of automated driving addressed by the IWG on FRAV and activities related to the vehicle category to reflect such shuttles.

68. The Chair of GRSG recalled that GRSG already exchanged views on the definition of a vehicle category for shuttles.
Scope and timeline estimation

**Level of automation**

- **Level 5**
  - FRAV/VMAD, DSSAD/EDR activities
  - All categories
  - All functions
  - All use cases
  - All speeds

- **Level 4**
  - ALKS* PC<br>  - PC/HV<br>  - < 60 km/h<br>  - Motor<br>  - + LC

- **Level 3**
  - ALKS*<br>  - PC<br>  - < 130 km/h<br>  - way

**Use cases**

- Driverless
- W/ driver

**ADS activities**

- FRAV/VMAD
- EDR/DSSAD
- ALKS – 130 + LC
- ALKS – HVs
- ALKS – 60

* ALKS is a Level 3 ADS with a very narrow ODD

1998 Agreement Framework Document

- 1958 Agreement

- Under the 1998 Agreement Document

- ?

- ?

- ?

- ?

- ?