Status report on WP.29 activities related to Automated and Connected Vehicles

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Content

• Presentation of WP.29 and GRVA

• Automated vehicles – strategic activity

• Requirements for automated vehicles – as of today
UNECE and vehicle regulations

Our structure:

- WP.29, 6 working groups, ~40 informal working groups

Notes:
- Some countries not marked here apply unilaterally (some of) the UN vehicle Regulations
- Concept of mutual recognition of approvals for a number of countries
Organization of WP29

The U.N. Economic Commission for Europe (UNECE)

World Forum for Harmonization of Vehicle Regulations (WP.29)

- Automated driving (GRVA)
- General safety (GRSG)
- Passive safety (GRSP)
- Lighting (GRE)
- Noise and tyres (GRBP)
- Pollution and energy (GRPE)

Created in June 2018
Content

• Presentation of WP.29 and GRVA

• Automated vehicles – Strategic activity

• Requirements for automated vehicles
Framework document for automated vehicles

Authors

Purpose
Guides WP.29’s groups
Programme management

Highlights
Safety vision
Key safety elements
Timeline

Adopted in June 2019

### 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 to be considered by WP29 subsidiary bodies as a priority**

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Four dedicated Informal Working Groups in the Framework document

- Functional Requirements for Automated Vehicles (FRAV)
- Validation Method for Automated Driving (VMAD)
- Data Storage System for Automated Driving (DSSAD) vehicles + EDR
- Cybersecurity and (OTA) software updates
Focus on the following key safety elements:
- System safety
- Failsafe Response
- HMI /Operator information
- OEDR (Functional Requirements)

Delivery:
- Common functional requirements based on
  - existing national/regional guidelines
  - other relevant reference documents

Leaders
Secretary
Meetings
Geneva (Sept. 2019)
Berlin (Oct. 2019)
Tokyo (Jan 2020)
Focus on the following key safety elements:
• OEDR (Assessment Method)
• Validation for System Safety (including CEL)

Delivery:
• Review of the existing and upcoming methods
• Propose way forward for the assessment of AD
Focus on the following key safety elements:
- Cyber security
- Software Updates

Ambition:
Completion in March 2020
EDR / DSSAD

Event Data Recorder and Data Storage System for Automated Driving

Leaders

Secretariat

EDR
Not only for ICVs
Harmonization work
C-EDR, US-EDR
⇒ Accident reconstruction

DSSAD
For ICVs
⇒ Purposes
• Research
• Monitoring
• Liability
• Legal responsibility

Outcome
EDR vs. DSSAD
DSSAD for ALKS

Focus on the following key safety elements:
• DSSAD/EDR

Delivery:
• DSSAD for Lane Keeping systems (levels 3/4)
• DSSAD / EDR

F. Guichard
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UN Regulation No. 79 (Steering)

- Scope (active safety and ADAS):
  - Steering systems, incl.:
    - Emergency Steering Function
    - Corrective Steering Function
    - Remote Maneuvering Systems
    - Automatically Commanded Steering Function
  - Low speed «ACSF of category A» e.g. RCP
  - Lane keeping «ACSF of category B1» (Level 2)
  - Lane change «ACSF of category C» (Level 2)
- ADAS covered since November 2017
Automated Lane Keeping Systems – ALKS

- First Regulation in the area of vehicles of Level 3 and higher
  - Use case
    - Motorway
    - Low speed (< 60 km/h)
- Safety related provisions highlights:
  - Dynamic Driving Task
  - Emergency manœuvre
  - Transition demand
  - Minimum Risk Manoeuvre
  - Driver Monitoring Function
  - Activation criteria and system override provisions
  - …
Conclusion

• Presentation of WP.29 and GRVA
  – *Dedicated Working Party on Automated/ Autonomous and Connected Vehicles was established in June 2018*

• Automated vehicles – Strategic activities
  – *The Framework document, the foundament of WP.29 work on automated vehicles, was adopted in June 2019*

• Requirements for automated vehicles – as of today
  – *The First Regulation in the area of vehicles of Level 3 was drafted.*
THANK YOU VERY MUCH FOR YOUR ATTENTION

UNECE/WP29

www.unece.org/trans/main/welcwp29

www.unece.org/automated-vehicles

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