GRVA Priorities re: Automated Vehicles

Bernie Frost
The priorities for GRVA work items were sought from all WP.29 Heads of Delegation in July 2018.

The proposals from the EU/Japan and from China, presented to WP.29 at their June session, were circulated at that time.

Responses were received from the governments of:
- Australia, Canada, China, France, Japan, the Netherlands, the Russian Federation, Switzerland and the United States of America.

Responses were also received from:
- OICA and the European Transport Safety Council
Responses

Adequacy of emissions / fuel consumption/noise
Adequacy of passive safety
Around view monitor
Automatic Emergency Braking
Autonomous vehicles operating in specific conditions
Axle load monitoring system
Blind spot monitoring at high speed
Blind spot monitoring at manoeuvring at low speed
Cyber security
Data Storage System for AD (DSSAD)
Define new category for shuttle, including autonomous shuttle
Digital Vehicle Identity
Door-open blind spot detection
Drawback alerting system
Driver availability recognition
Electronic System Compliance (Complex Electronics Development)
Event Data Recorders (EDR)
Information to the Driver (HMI)
Longitudinal control (ACC, preventive braking)
Machine learning algorithms and decision-making algorithms

Minimum Risk Manoeuver
Night Vision
Periodic Technical Inspection
Platooning
Rear crossing alert
Recognition of alcohol vapours in driver’s breath
Sensors accuracy, performance and durability
Simulation/Virtual/Automated Assessment
Software (Inc. Over-the-Air) updates
Strategy for autonomous refuelling
Track/Real World Driving Evaluation
Traffic signal and road sign (including wrong way) recognition
Transition demand (HMI)
Tyre pressure monitoring system
VA signaling to other users (eg pedestrian)
Vehicle automatic identification
Vehicle dangerous condition alerting system
Vehicle parking assistance system
Vehicle to vehicle and Vehicle to infrastructure communications
Vulnerable road user safety messages
Issues outside GRVA remit

- Adequacy of emissions / fuel consumption/noise
- Adequacy of passive safety
- Around view monitor
- Automatic Emergency Braking
- Autonomous vehicles operating in specific conditions
- Axle load monitoring system
- Blind spot monitoring at high speed
- Blind spot monitoring at manoeuvring at low speed
- Cyber security
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- Sensors accuracy, performance and durability
- Simulation/Virtual/Automated Assessment
- Software (Inc. Over-the-Air) updates
- Strategy for autonomous refuelling
- Track/Real World Driving Evaluation
- Traffic signal and road sign (including wrong way) recognition
- Transition demand (HMI)
- Tyre pressure monitoring system
- VA signalling to other users (e.g. pedestrian)
- Vehicle automatic identification
- Vehicle dangerous condition alerting system
- Vehicle parking assistance system
- Vehicle to vehicle and Vehicle to infrastructure communications
- Vulnerable road user safety messages
UNECE/WP.29 Automated Vehicle Landscape pre June 2018
Current Activities

ACSF
- Driver availability recognition
- Information to the Driver (HMI)
- Longitudinal control (ACC, preventive braking)
- Minimum Risk Manoeuvre
- Traffic signal and road sign recognition
- Transition demand (HMI)
- Sensors accuracy, performance and durability
- Around view monitor
- Blind spot monitoring at high speed
- Blind spot monitoring at manoeuvring at low speed

SG.1
- Real World Driving Evaluation

SG.2
- Simulation/Virtual/ Automated Assessment/Track Evaluation

Cyber Software
### Work Priority Groupings

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**GRVA Consideration**

Define new category for shuttle (including autonomous shuttle), Autonomous vehicles operating in specific conditions, Platooning, Automatic Emergency Braking, Tyre pressure monitoring system.
Data Management

EU/Japan
- Data Storage System for AD (DSSAD)
- Roadworthiness Verification / Periodic Technical Inspection
- Electronic System Compliance (Complex Electronics Development)

ITS/AD
- Cyber security
- Software (Inc. Over-the-Air) updates

Russian Federation
- Vehicle dangerous condition alerting system
- Vehicle to vehicle and Vehicle to infrastructure communications
- Vulnerable road user safety messages
- Vehicle automatic identification
- Machine learning algorithms and decision-making algorithms

Netherlands
- Digital Vehicle Identity
Sensors (Spatial Awareness)

China
- Sensors accuracy, performance and durability
- Night Vision
- Rear crossing alert
- Door-open blind spot detection
- Around view monitor

Russian Federation
- Blind spot monitoring at high speed
- Blind spot monitoring at manoeuvring at low speed
- Drawback alerting system
- Vehicle parking assistance system
Functional Requirements

EU/Japan
- Driver availability recognition
- Information to the Driver (HMI)
- Longitudinal control (ACC, preventive braking)
- Minimum Risk Manoeuver
- Transition demand (HMI)
- Track/Real World Driving Evaluation

Russian Federation
- Traffic signal and road sign (including wrong way) recognition
Additional Tasks for GRVA Consideration

France
  - Define new category for shuttle (including autonomous shuttle)

Russian Federation
  - Autonomous vehicles operating in specific conditions
  - Platooning
  - Automatic Emergency Braking
  - Tyre pressure monitoring systems
New Assessment Procedure

AutoVeh
- Simulation/Virtual/Automated Assessment
- Track/Real World Driving Evaluation
Discussion

- Are these work priorities complete?
- What are the industrial priorities?
- Do they align with political priorities?
- How should GRVA be structured to deliver appropriate outcomes?
- What are the resource implications for this activity and what is the most resource efficient path to delivery?