

Presented by the expert of Germany

**Automated Vehicles–Regulatory Screening
(AVRS)
of UN Regulations and GTRs under responsibility
of GRSP
November 2022**

Agenda

1. Welcome and roll call
2. Assignment of chair and secretary of this TF
3. Background
4. Overview affected UN Regulations and GTRs
5. Interaction with other GRs
6. Next steps

3. Background

At the 71st meeting of GRSG, the secretariat, on behalf of WP.29, asked GRSP to start evaluating the UN Regulations and GTRs falling under the responsibility of GRSP

[Report of the Working Party on Passive Safety on its seventy-first session, Geneva, 9–13 May 2022](#)
[ECE/TRANS/WP.29/GRSP/71](#)

XX. Exchange of views on vehicle automation (agenda item19)

36. At the request of WP.29 (ECE/TRANS/WP.29/1164, paragraphs 27 to 30), a majority of GRSP experts agreed to **establish a task force with Germany as coordinator and OICA as secretariat, that would in Autumn 2022, start to screen the UN Regulations and UN GTRs under its responsibility**. Screening would be related to drivers, to accommodate for autonomous driving. The task force would include experts from China, France, Germany, Japan, Netherlands, Republic of Korea, Spain, United States, EC, CLEPA and OICA for the time being.

3. Background

Report of the World Forum for Harmonization of Vehicle Regulations on its 186th session
ECE/TRANS/WP.29/1164

C. **Intelligent Transport Systems and coordination of automated vehicles related activities (agenda item 2.3)**

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26. The representative of OICA advised to initiate a review of the UN Regulations and UN GTRs with regards to their fitness for ADS, including driverless systems, as these regulations might refer to drivers.

27. The Chair of GRVA explained that AC.2 discussed the need to review the UN Regulations and UN GTRs and was in the process of setting a coordinated approach.

28. The representative of the European Commission fully recognized the need to review the Vehicle Regulations, which were linked to drivers, to accommodate for automated/autonomous driving.

29. The representative of the United States of America advised that this task could require a phased approach, one phase being the identification of UN Regulations and UN GTRs of relevance and a second phase being the evaluation of the provisions and test requirements that might be linked to drivers.

30. **WP.29 requested all GRs to perform a screening of the UN Regulations and UN GTRs of relevance until March 2023** and agreed to resume consideration of a coordinated approach for reporting to AC.2 and WP.29.

4. Overview affected UN Regulations and GTRs

UN-R

11	approval of vehicles with regard to door latches and door retention components
12	approval of vehicles with regard to the protection of the driver against the steering mechanism in the event of impact
14	approval of vehicles with regard to safety-belt anchorages
16	approval of: I. Safety-belts, restraint systems, child restraint systems and ISOFIX child restraint systems for occupants of power-driven vehicles II. Vehicles equipped with safety-belts, safety-belt reminders, restraint systems, child restraint systems and ISOFIX child restraint systems and i Size child restraint systems
17	approval of vehicles with regard to the seats, their anchorages and any head restraints
21	approval of vehicles with regard to their interior fittings
22	approval of protective helmets and their visors for drivers and passengers of motor cycles and mopeds
25	approval of head restraints (headrests), whether or not incorporated in vehicle seats

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29	approval of vehicles with regard to the protection of the occupants of the cab of a commercial vehicle
32	approval of vehicles with regard to the behaviour of the structure of the impacted vehicle in a rear-end collision
33	approval of vehicles with regard to the behaviour of the structure of the impacted vehicle in a head-on collision
42	approval of vehicles with regard to their front and rear protective devices (bumpers, etc.)
44	approval of restraining devices for child occupants of power-driven vehicles ("Child Restraint Systems")
80	approval of seats of large passenger vehicles and of these vehicles with regard to the strength of the seats and their anchorages
94	approval of vehicles with regard to the protection of the occupants in the event of a frontal collision
95	approval of vehicles with regard to the protection of the occupants in the event of a lateral collision
100	approval of vehicles with regard to specific requirements for the electric power train

4. Overview affected UN Regulations and GTRs

UN-R

111	approval of tank vehicles of categories N and O with regard to rollover stability
114	approval of: I. An airbag module for a replacement airbag system II. A replacement steering wheel equipped with an airbag module of an approved type III. A replacement airbag system other than that installed in a steering wheel
126	approval of partitioning systems to protect passengers against displaced luggage, supplied as non original vehicle equipment
127	approval of motor vehicles with regard to their pedestrian safety performance
129	approval of Enhanced Child Restraint Systems (ECRS)
134	approval of motor vehicles and their components with regard to the safety-related performance of hydrogen-fuelled vehicles (HFCV)
135	approval of vehicles with regard to their Pole Side Impact performance (PSI)
136	approval of vehicles of category L with regard to specific requirements for the electric power train

137	approval of passenger cars in the event of a frontal collision with focus on the restraint system
145	approval of vehicles with regard to ISOFIX anchorage systems ISOFIX top tether anchorages and i-Size seating positions
146	approval of motor vehicles and their components with regard to the safetyrelated performance of hydrogen-fuelled vehicles of categories L1,
153	approval of vehicles with regard to fuel system integrity and safety of electric power train in the event of a rear-end collision

GTR

1	Door lock and door retention components
7	Head restraint
9	Pedestrian safety
13	Hydrogen and fuel cell vehicles
14	Pole side impact
20	EV safety

5. Interaction with other GR's

At the 14th meeting of GRVA NL proposed to align the scope of the work to be done in all GR's under WP.29. After an extensive discussion GRVA decided:

Fourteenth session of the Working Party on Automated/Autonomous and Connected Vehicles (GRVA)

26-30 September 2022

Decisions submitted to silence procedure following formal meetings with remote participation:

Agenda item No. 4(e), Decision No. 14

GRVA received a request for input from the experts involved in the review of UN GTRs and UN Regulations with regards to ADS. GRVA prepared GRVA -14 -54/Rev.1 with guidance for the experts involved in these activities. GRVA requested the Chair to inform AC.2 about this collaboration between the GRs.

5. Interaction with other GR's

GRVA-14-54/Rev.1 - (Secretariat) Automated Vehicles Regulatory Screening of UN Regulations and GTRs - Guidance

Items to consider during the screening of UN Regulations and UN GTRs:

1. Vehicles in the scope:

- Vehicles equipped with an ADS
 - including, but not limited to:
 - Dual-mode vehicles
 - Vehicles without manual driving capabilities
 - Vehicles with or without occupants

2. Screen regulations with:

- Terms such as “driver” (interaction with controls in the vehicles, signals, etc.), “seating position” (incl. seat references) and other topics (performance requirements)
- Terms such as “driver”, “seating position”, “seat”, etc. in relation with testing provisions

3. Recommendation:

Any proposal to introduce ADS-related terminology shall be reviewed by GRVA to ensure consistent terms and definitions.

5. Interaction with other GR's

At the 124th meeting of GRSG the Chairs of the TF of GRSG, GRVA and GRSP decided to have a meeting with the chairs and secretaries of all other GR's to align the work in all GR's of WP.29 on base of a clear scope and the same forms.

This meeting took place on 11th of November 2022

It was concluded in a first step to scan the regulations word by word to find,

- terms such as “driver” (interaction with controls in the vehicles, signals, etc.), “seating position” (incl. seat references) and other topics (performance requirements),
- tasks to be done by a “driver” etc.
- responsibilities of a “driver” etc.
- provisions not relevant for or in contradiction to vehicles with an ADS

This shall be done by converting the complete regulation or at least the part where an issues has been detected into an excel file, to document the results

5. Interaction with other GR's

	A	B	C	D	E	F	G	H	I	J
1	R14	Seat belt anchorages								
2	09 series of amendments									
3	Date of review	11/16/2022								
4	1. SCOPE	This Regulation applies to: Vehicles of categories M and N with regard to their anchorages for safety-belts intended for adult occupants of forward-facing or rearward-facing or side-facing seats;								
5	Example									
6										
7	List of paragraphs with effect to the approval of automated vehicles									
8	Paragraph	Text	Issue	Issue for fully automated vehicles?	Issue for dual mode vehicles?	Issue for vehicles without occupants?	Issue for other use cases?	Possible action	Criticality	
9	1	Scope: This Regulation applies to: Vehicles of categories M and N with regard to their anchorages for safety-belts intended for adult occupants of					Bi-directional vehicles not considered so far. Only seated passengers			
10	2.6.1.	Front passenger seat" means any seat where the "foremost H point" of the seat in question is in or in front of the vertical transverse plane through the driver's R point	Link to driver R-point	yes	no	n/a	?	Redefinition	no	
11										
12	5.1.6.2.	In the absence of a well-defined position:								
13	5.1.6.2.1.	The plane P for the driver's seat is a vertical plane parallel to the median longitudinal plane of the vehicle which passes through the centre of the steering-wheel in the plane of the steering-wheel rim when the steering-wheel, if adjustable, is in its central position.	Link to driver seat and	yes	no	no	?	Redefinition	no	
14	5.1.6.2.2.	The plane P for the front outboard passenger shall be symmetrical with that of the driver.	Link to Driver (seat)	yes	no	no	?	Redefinition	no	
15										
16										
17										
18										
19										

5. Interaction with other GR's

In a second step for each regulation a sheet shall be prepared to serve as a high level summary of the findings to be delivered to WP.29. in March 2023.

The form should base on a form presented by OICA during WP.29, which still has to be improved and decided at a second meeting of the Chairs and Secretaries of the different GR TF's on 30th of November 2022.

5. Interaction with other GR's

		Regulation applicable to Automated Vehicles/driverless vehicles: <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
UN Regulation No.	UN Group: GRSP	Potential approach for application: no amendment required amendment new Regulation
<i>Content Summary (existing Regulation)</i> <ul style="list-style-type: none">xxx		<i>Summary of required changes</i> <ul style="list-style-type: none">See excel sheet
<i>Content relevant for <u>vehicles equipped with an ADS</u></i> <ul style="list-style-type: none">xxx		<i>Specifics for <u>dual-mode vehicles</u></i> <ul style="list-style-type: none">None
		<i>Specifics for <u>vehicles without manual driving capabilities</u>:</i> <ul style="list-style-type: none">None
		<i>Specifics for <u>vehicles with or without occupants</u>:</i> <ul style="list-style-type: none">None
<i>Content to be covered by (potential) ADS Regulation</i> <ul style="list-style-type: none">N/A		

Format do be discussed

6. Next steps

To do:

- Scan of GRSP Regulations
 - Highlight paragraphs of Regulation with effect to vehicles with ADS (possible issues blocking application of the Regulation to ADS vehicles)
 - Point out possible effects to future use cases (bi-directional vehicles, other passenger positions...)
 - Define possible action needed (no detailed elaboration)
 - Estimate criticality of necessary changes
- Summary of findings to be presented to WP.29

Timeline:

- WP.29 is expecting input for its March 2023 session
- First feedback for GRSP-72 (December 2022)
- Kick-off meeting on 24 November 2022