

Status Report

Task Force

Automated Vehicles—Regulatory Screening

(TF-AVRS)

of UN Regulations and GTRs under responsibility of

GRSP

1. 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.

[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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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.

[WP.29 on its March 2023 session endorsed the request of GRSP Chair to postpone to the June session of the World Forum the outcome of results of its Task Force on Autonomous Vehicle Regulatory Screening.](#)

2. Overview affected UN Regulations and GTRs

UN-R

11	approval of vehicles with regard to door latches and door retention components	25	approval of head restraints (headrests), whether or not incorporated in vehicle seats
12	approval of vehicles with regard to the protection of the driver against the steering mechanism in the event of impact	29	approval of vehicles with regard to the protection of the occupants of the cab of a commercial vehicle
14	approval of vehicles with regard to safety-belt anchorages	32	approval of vehicles with regard to the behaviour of the structure of the impacted vehicle in a rear-end collision
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	33	approval of vehicles with regard to the behaviour of the structure of the impacted vehicle in a head-on collision
17	approval of vehicles with regard to the seats, their anchorages and any head restraints	42	approval of vehicles with regard to their front and rear protective devices (bumpers, etc.)
21	approval of vehicles with regard to their interior fittings	44	approval of restraining devices for child occupants of power-driven vehicles ("Child Restraint Systems")
22	approval of protective helmets and their visors for drivers and passengers of motor cycles and mopeds	80	approval of seats of large passenger vehicles and of these vehicles with regard to the strength of the seats and their anchorages
25	approval of head restraints (headrests), whether or not incorporated in vehicle seats	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

2. 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 safety-related 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

3. 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.

3. 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

3. Interaction with other GR's

UN Regulation	Seat belt anchorages									
14										
09 series of amendments; Supplement 1				Notes:		a) For bi-directional vehicles ... B).Only seat positions with 25° seatback considered				
Date of review	16.11.2022									
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;									
List of paragraphs with effect to the approval of automated vehicles										
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		
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					Bi-directional vehicles not considered so far. Only seated passengers considered				
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		
5.1.6.2.	In the absence of a well-defined position:									
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 st	yes	no	no	?	Redefinition	no		
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		
Please note: This is only an example and not the complete screening of Regulation 14										

3. Interaction with other GR's

In a second step for each regulation a sheet has been 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 TF Leaders and Secretaries of the different GR TF's on 30th of November 2022.

On the second meeting of the TF Leaders and Secretaries of the different GR TF's it was concluded as proposed by the GRSP TF to integrate this summery sheet in the excel file .

3. Interaction with other GR's

Automated Vehicles - Regulatory Screening (AVRS)				
UN Regulation N°	09 series of amendments; Supplement 1		Date of review:	16.11.2022
Scope:	Category M & N			
Content of existing Regulation			Specifics for dual-mode vehicles	none
Content relevant for vehicles equipped with an ADS			Specifics for vehicles without manual driving capabilities	none
Content to be covered by (potential) ADS Regulation	n/a		Specifics for vehicles with or without occupants	n/a
Summary of recommended changes	Change Driver seat by.....			
Notes:	Bi-directional vehicles to be reviewed in a second step Other seat positions (e.g. Large seat back angle) to be reviewed in second step			
Outcome of review				
		Yes	No	
Regulation applicable to automated vehicles/driverless vehicles			X	
Recommendation:	Amendment required			
potential approach	New Regulation			

Please note:

a) This page serves as a summary of the "Review" worksheet

b) These fields on this page are only filled in as examples!

c) Please fill in these white fields

Review **Summary** Document

4. Meetings of the GRSP TF-AVRS

1st meeting 24th of November 2022

- tasks were assigned to CPs and NGOs

2nd meeting 30th January 2023

- outcome of the screening has been discussed regulation by regulation

3rd meeting 16th February 2023

- outcome of the screening has been discussed regulation by regulation

4th meeting 14th March 2023

- Thanks to the participants of the Task Force, for all of the 30 UN regulations and 6 GTR's under GRSP the screening could be finalized after the 4th meeting

All excel files with the results are uploaded on the UNECE wikipage of the GRSP TF-AVRS

<https://wiki.unece.org/pages/viewpage.action?pageId=188285257>

5. General findings and next steps

- Some of the findings can be fixed by rewording; e.g. references to “driver”, “steering control”, “Driver R-Point” etc.
→ GRSP task in a next step

- Other findings need a general solution for all concerned UN Regulations.
 - Tell tales and warnings for example. It has to be discussed, who has to be informed, by tell tales and warnings when the vehicle has no driver.
 - What shall happen with driver tasks, like in case of a seatbelt reminder, when no responsible driver is in a vehicle
 - Which crash tests shall be required for vehicles without occupants (compatibility, electrical safety)
- next step discussion in GRVA or FRAV or WP.29

- For some situations like transport of children alone in a vehicle without driver it has to be discussed if this should be permitted
→ Next step discussion in WP.29 or WP.1

- For new interior concepts like relax seats, existing test devices have to be validated, new devices have to be developed or simulation tools have to be created
→ Next step discussion in GRSP and VMAD

5. General findings and next steps

Romain Pessia, Task Force Leader of the ADS screening TF in GRVA volunteered to take of the part, to present the the screening results of all task forces in WP.29 in June 2023.

He prepared an excel file with an overview about the results of the scanning of all regulation under WP.29 (FADS-08-05)

Number	"Applicable"	"Should be"	Should be a	Other use	Signif	GR	Title	Issues	Details	Compon	Deprecat	2/3 wheels only
1	R11	No	Yes	No		Yes	GRSP		DOOR LATCHES AND DOOR RETENTION COMPONENTS			Only applies to doors of compartments with occupants
2	R12	No	No	No		No	GRSP		Protection of the driver against the steering mechanism in the event of impact and to the electrical power			Not applicable to fully automated vehicles if electrical protection is covered by UN-R 94 or UN-R 137
5	R14						GRSP		safety-belt anchorages			
6	R16	No	Yes	No		Yes	GRSP		Safety-belts			
7	R17	No	Yes	No		Yes	GRSP		Strength of seats, their anchorages and head restraints			
1	R21	No	Yes	No		Yes	GRSP		Interior Fittings			
9	R29	No	Yes	No		Yes	GRSP		Cabs of commercial vehicles			
2	R32	No	No	No		No	GRSP		rear-end collision			
3	R33	No	No	No		No	GRSP		head-on collision			
4	R44	No	Unclear	No		No	GRSP		Child restraint systems			Going forwards, WP.29/GRSP intends that all new ch Yes
0	R80	Yes	Yes	No		No	GRSP		SEATS AND SEAT ANCHORAGES (buses)			
4	R94	No	Yes	Unclear		Yes	GRSP		PROTECTION OF THE OCCUPANTS IN THE EVENT OF A FRONTAL COLLISION			Unclear whether provisions for EVS and on leakage should apply to vehicles without occupants
5	R95	No	Yes	No		Yes	GRSP		PROTECTION OF THE OCCUPANTS IN THE EVENT OF A LATERAL COLLISION			
10	R100	No	Yes	Yes		Yes	GRSP		Electric power train			
1	R111	No	Unclear	Unclear		No	GRSP		Handling and stability of tank vehicles			
7	R127	No	Yes	Yes		Yes	GRSP		Pedestrian safety			
9	R129	Yes	Yes	No		No	GRSP		Enhanced Child Restraint Systems (ECRS)			
4	R134	No	Yes	Yes		No	GRSP		Safety-related performance of hydrogen-fuelled vehicles			
5	R135	No	Yes	Yes		Yes	GRSP		Pole Side Impact			Only provisions regarding electrical and hydrogen safety may apply to vehicles without occupants
6	R136	No	Unclear	Unclear			GRSP		Electric power train (cat.L)			Critical Regulation for light quadricycles -> decision will depend on category rework by WP.29
7	R137	No	Yes	Unclear		Yes	GRSP		Frontal collision, restraint system			Unclear whether provisions for EVS and on leakage should apply to vehicles without occupants
5	R145	Yes	Yes	No		No	GRSP		ISOFIX anchorages			
6	R146	No					GRSP		Safety-related performance of hydrogen-fuelled vehicles of categories L1, L2, L3, L4 and L5			Yes
3	R153	No	Yes	Unclear		Yes	GRSP		Fuel system integrity and safety of electric power train in the event of a rear-end collision			Unclear whether provisions for EVS and on leakage should apply to vehicles without occupants
8	GTR1	No	Yes	No		No	GRSP		DOOR LOCKS AND DOOR RETENTION COMPONENTS			
6	GTR9	Yes	Yes	Yes		No	GRSP		Pedestrian safety			
10	GTR13	Yes	Yes	Yes		No	GRSP		Hydrogen Fuel Cell Vehicles (HFCV)			
11	GTR14	No	Yes	Unclear		Yes	GRSP		Pole Side Impact			
7	GTR20	No	Yes	Yes		No	GRSP		Electric Vehicle Safety			
11												

During GRVA 22.-26. Mai 2023 the TF Leader of GRSP and GRVA will finally work on the comment made in the right part of the Table

*Finally,
the Task Force Leader can only say thank to all the
experts from all over the world, who did a great job
during the last month and a special thank you also to
my secretary Ansgar Pott*