

WP.29 Expert Groups on Regulatory Fitness for ADS

Status and input for the Guidance and Interpretation
Document

Summary

1. Status of the fitness groups and future work
2. Interpretation of ADS requirements linked to other Regulations

Current status of WP.29 fitness as of 9 February 2026

GRBP: 2 UN Regulations scheduled for 83rd session (10-13 February); other Regulations already adopted

GRE: All UN Regulations adopted at 93rd session (October 2025)

GRPE: 12 UN Regulations scheduled for 94th session (17-19 March). WP.29 agreed to consider them for its 199th session.

GRSG: 18 UN Regulations scheduled for 131st session (13-17 April). WP.29 agreed to consider them for its 199th session.

GRSP: All UN Regulations regulations adopted at 78th session (December 2025).

GRVA: all remaining priority regulations adopted at 24th session (January 2026)

For more details, see [FADS-J10-01 Status of all WP.29 Regulations as of January 2026](#)

Future priorities of the fitness groups

GRE: TF AVRS is working on a UN Regulation for “ADS marker lamps” (turquoise-coloured lamps indicated that an ADSF is active).

GRE: IWG EMC is working on further amendments to UNR 10 (electromagnetic compatibility) regarding tests while an ADSF is active.

GRSP: New UNR on crashworthiness of vehicles of category Y is the next priority.

GRVA: TF FADS will continue considering potential equivalence within UNR 140 / GTR 8 where the ADS performs the function of enhancing dynamic stability through the use of individual wheel brakes.

All GRs may consider other topics (e.g. vehicles of categories L₆ and L₇) if requested by WP.29.

Unless active tasks are ongoing, the fitness groups will be considered to have completed their mandate, and will cease their activities.

Interpretation of ADS requirements linked to other Regulations

- 6.1.4.2. The ADS shall **detect faults, malfunctions, and abnormalities** that compromise its capability to perform the DDT within the ODD.
- 6.3.5.1. For vehicles without manual driving controls, suitable means shall be made available, where necessary (e.g., special controls, test modes, ADS functions) to enable the performance of the **physical checks required for mandated inspections of other vehicle systems** in the jurisdiction of operation (e.g., Periodical Technical Inspection, safety standards inspection, etc.)
- 6.3.6. The ADS shall receive and appropriately manage all **signals received from other systems of the ADS vehicle**. A list of these signals and how they are managed shall be included in the manufacturer's safety case.
- 6.3.7. While an ADSF-2 is active, the ADS shall **manage relevant non-DDT-related tasks** (which would otherwise be performed by a driver) in accordance with the manufacturer's safety case. Alternatively, where the ADS does not perform such necessary tasks, the safety case shall describe how these tasks are performed.
- 7.3.2.10. The safety case shall include a list of **safety risks to passengers** (e.g., safety belts not fastened, passengers not seated) and a description of how they are managed for all passengers while an ADS feature is active.
- 7.3.2.11. The safety concept shall describe the strategies in place to **avoid operating the vehicle when the general working condition of the vehicle is not satisfactory** (e.g., condition of tyres, brakes, lighting, status of external loads, steering). These strategies may include technological solutions, physical inspections or other relevant solutions.

Interpretation of ADS requirements linked to other Regulations

6.1.4.2. The ADS shall detect faults, malfunctions, and abnormalities that compromise its capability to perform the DDT within the ODD.

Interpretation from the fitness groups:

- This requirement encompasses three kinds of faults:
 1. Warning signals sent by other systems), as required by 6.3.6. -> the ADS shall detect whether the fault compromises the performance of the DDT
 2. Faults and malfunctions without warning signals that a driver would be expected to perceive (e.g., sideway drift when braking)
 3. Faults within the ADS itself (sensors/perception, actuators...)
- Receiving a warning does not necessarily mean an immediate impact on the DDT
- The response of the ADS to these faults is handled in other requirements (e.g. 6.1.4.3.)

Interpretation of ADS requirements linked to other Regulations

6.3.5.1. For vehicles without manual driving controls, suitable means shall be made available, where necessary (e.g., special controls, test modes, ADS functions) to enable the performance of the physical checks required for mandated inspections of other vehicle systems in the jurisdiction of operation (e.g., Periodical Technical Inspection, safety standards inspection, etc.)

Interpretation from the fitness groups:

- Examples of operations include:
 - Operating the braking and steering systems
 - Operating the engine at a specific rpm
 - Turning lamps on and off
 - Checking the operation of bulbs (tell-tales)
 - Checking software integrity
 - **A list of generic PTI operations should be established for the GID in consultation with other WP.29 stakeholders (e.g. IWG PTI)**
- OEM should provide recommendations (see [GRSP-78-16r2](#) for wording) for enabling inspections, including making information available (e.g. in the owner's manual)

Interpretation of ADS requirements linked to other Regulations

6.3.6. The ADS shall **receive** and appropriately manage all signals **received [transmitted to the ADS]** from other systems of the ADS vehicle. A list of these signals and how they are managed shall be included in the manufacturer's safety case.

Interpretation from the fitness groups:

- **This requirement seems to be worded incorrectly**
 - **Other Regulations indicate what signals must be transmitted to an ADS**
 - **The requirement of the UNR/GTR ADS should be to receive and manage these signals**
- Does not require all signals from all systems to be received by an ADS, but only those affecting ADS functions (DDT and non-DDT) Covers both DDT and non-DDT signals, including regulated signals, and non-regulated signals designed to be transmitted to the ADS
- "Receive" should be linked to other UNRs where there are requirements for transmitting signals to the ADS
- "Manage" include the expected response, including dealing with multiple signals received simultaneously
- The ADS response should reflect the level of urgency of the warning if defined in another regulation
- Signals are not necessarily a binary/logic message but may also include context or other information

Interpretation of ADS requirements linked to other Regulations

- 6.3.7. While an ADSF-2 is active, the ADS shall manage relevant non-DDT-related tasks (which would otherwise be performed by a driver) in accordance with the manufacturer's safety case. Alternatively, where the ADS does not perform such necessary tasks, the safety case shall describe how these tasks are performed.

Interpretation from the fitness groups:

- DDT OPI (UK) will provide a list of non-DDT tasks based on FADS (see [FADS-J5-01 \(EC\) Non-DDT tasks High-level requirements draft 3.0](#))
 - The table should contain types and sub-types of non-DDT tasks, as well as (to be confirmed) examples of expected ADS responses
 - [FADS-J5-01](#) contains non-DDT tasks on the "general working condition of the vehicle" -> these tasks could be moved to interpretation of 7.3.2.11.
- The interpretation of "manage" should provide examples of ways in which non-DDT tasks are performed by the ADS, or by non-ADS strategies (remote supervision, crew member, maintenance worker...)

Non-DDT tasks (extract from [FADS-J5-01](#))

Level 1 task	Level 2 task	Level 3 task	Examples of strategies to perform the task
Checking passenger safety	Before starting to drive	Safety belts fastened (if applicable)	- Implement a strategy/process to ensure that seat belt fastening is checked <u>before driving (vehicle stopped)</u> - Implement a strategy/process to ensure that seat belts are securely fastened
		Number of passengers compatible with vehicle capacity	- Implement a strategy/process to ensure that the compatibility of number of passengers with vehicle capacity is checked <u>before driving (vehicle stopped)</u> - Implement a strategy/process to ensure that the number of passengers stay within safe and legal limits
		Absence of passengers (in vehicles of Category Y)	- Implement a strategy/process to ensure that the absence of passengers is checked <u>before driving (vehicle stopped)</u> (particularly for vehicles of Category Y)
	While driving	Safety belts unfastened (if applicable)	- Implement a strategy/process to ensure that seat belt fastening is checked at all times <u>while driving</u> - Implement a strategy/process to ensure that seat belts are securely fastened for all passengers at all times <u>while driving</u>
		Standing passengers (in vehicles not designed for standing passengers)	- Implement a strategy/process to ensure that the presence of any standing passengers (in vehicles not designed for standing passengers) is checked <u>while driving</u> - Implement a strategy/process to ensure that there are no standing passengers <u>while driving</u> (in vehicles not designed for standing passengers)
		Assess situation inside of the vehicle	- Implement a strategy/process to ensure that the situation inside the vehicle is monitored at all times <u>while driving</u> - Implement a strategy/process to have any potential hazard inside the vehicle addressed as necessary
Reacting to signals received from other vehicle systems	Regulated, Directly related to DDT	Braking	- Implement a strategy/process to ensure appropriate handling of braking signals
		Steering	- Implement a strategy/process to ensure appropriate handling of steering signals
		Doors opened / unlocked (service and emergency)	- Implement a strategy/process to ensure appropriate reaction to the signals received from opened / unlocked doors (service and emergency)
	Not regulated	Emission control system	- Implement a strategy/process to ensure appropriate reaction to the signals received from the emission control system
		Passenger stop request (R107) Passenger stop request (R ADS)	- Implement a strategy/process to ensure appropriate reaction to a passenger stop request (bus) Stop in case of passenger request.
		Fire / smoke in a compartment (light duty vehicle) or in the batteries system	- Implement a strategy/process to ensure appropriate reaction to fire / smoke in a compartment (light duty vehicle) or in the batteries system
Reacting to signals received from remote systems (if applicable)	Sensors	Opening of emergency exits	- Implement a strategy/process to ensure the appropriate reaction to the signals received from sensors
		Retractable step not retracted	- Implement a strategy/process to ensure appropriate reaction to the opening of emergency exits - Implement a strategy/process to ensure retractable steps are retracted
		Door movement inversion requested by remote operator	- Implement a strategy/process to ensure appropriate reaction to the request by a remote operator related to door movement inversion
Providing assistance to passengers (remote)	Call and communication with remote supervision centre	Door automatic closing process control activation, desactivation or control by remote operator	- Implement a strategy/process to ensure appropriate reaction to the request by a remote operator related to door automatic closing process control activation, desactivation or control
		Any other command from a remote operator to control a non-DDT element of the vehicle (see above)	- Implement a strategy/process to ensure appropriate reaction to any other command from a remote operator to control a non-DDT element of the vehicle
Strategic functions	-	Through audiovisual equipment (and specific for vision or hearing impaired people)	- Implement a strategy/process to ensure the provision of remote assistance through audiovisual equipment (and specific for vision or hearing impaired people) to vehicle passengers
		Setting an itinerary	- Implement a strategy/process to enable the setting of an itinerary to the desired destination
Giving Information to...	Passengers	Reacting to on-board or remote operator's modifying an itinerary during operation	- Implement a strategy/process to enable the reaction to an on-board or remote operator's modifying an itinerary during operation
		Intention to place vehicle in an MRC	- Implement a strategy/process to provide <u>passengers</u> with information about the intention to place vehicle in an MRC
		Informations for safe operation	- Implement a strategy/process to provide <u>passengers</u> with information about the safe operation of the vehicle
	Other road users (if not covered by the ADS conspicuity requirements)	Emergency manoeuvres	- Implement a strategy/process to provide <u>passengers</u> with information about emergency manoeuvres - Implement a strategy/process to provide <u>other road users</u> (if not covered by the ADS conspicuity requirements) with information about emergency manoeuvres
		Emergency manoeuvres	- Implement a strategy/process to provide <u>other road users</u> (if not covered by the ADS conspicuity requirements) with information about emergency manoeuvres
		Status of the ADS	- Implement a strategy/process to provide <u>other road users</u> (if not covered by the ADS conspicuity requirements) with information about the status of the ADS, as necessary
Law enforcement & first responders	Allowing the communication between operators (remote or on-board) and law enforcement officers	- Implement a strategy/process to provide <u>law enforcement & first responders</u> with information by allowing the communication between operators (remote or on-board) and law enforcement officers	
		Status of the ADS	- Implement a strategy/process to provide <u>law enforcement & first responders</u> with information about the status of the ADS

Interpretation of ADS requirements linked to other Regulations

7.3.2.10. The safety case shall include a list of safety risks to passengers (e.g., safety belts not fastened, passengers not seated) and a description of how they are managed for all passengers while an ADS feature is active.

Interpretation from the fitness groups:

- Should the notion of “safety risk” be general? Should it be limited to road traffic- and vehicle-related risks? Should it be separated from 7.3.2.8.(b) “harm to occupants caused by external sources”?
- The fitness groups only provide interpretation for risks related to other vehicle systems/functions. Other sources may wish to add interpretation for other safety risks to passengers (e.g., passengers fainting).
- Examples of safety risks related to other systems include: **general construction** (inability to evacuate in case of fire), **interior fittings** (risks related to doors, windows etc.), **seating and safety belts, manual controls, ...**
- As for 6.3.7., the interpretation of “manage” should provide examples of ways in which non-DDT tasks are performed by the ADS, or by non-ADS strategies (remote supervision, crew member, maintenance worker...)

Interpretation of ADS requirements linked to other Regulations

7.3.2.11. The safety concept shall describe the strategies in place to avoid operating the vehicle when the general working condition of the vehicle is not satisfactory (e.g., condition of tyres, brakes, lighting, status of external loads, steering). These strategies may include technological solutions, physical inspections or other relevant solutions.

Interpretation from the fitness groups:

- Covers the general condition before driving and while driving
- See 6.3.7. and [FADS-J5-01](#) for examples of sub-tasks and examples of expected ADS response

General working condition of the vehicle (extract from [FADS-J5-01](#))

Level 1 task	Level 2 task	Level 3 task	Examples of strategies to perform the task
Checking the correct working condition of the vehicle	Before driving (vehicle stopped)	Brake wear	- Implement a strategy/process to ensure that brake pads are inspected <u>before driving (vehicle stopped)</u> ADS should facilitate PTI
		Tyre wear/tear, pressure, etc.	- Implement a strategy/process to have worn parts replaced - Implement a strategy/process to ensure that tyres are inspected (wear, damage, pressure, seasonal considerations, etc.) <u>before driving (vehicle stopped)</u> - Implement a strategy/process to have worn parts replaced/repared or pressure increased
		Fluids levels	- Implement a strategy/process to ensure that fluid levels are checked <u>before driving (vehicle stopped)</u> - Implement a strategy/process to have worn parts replaced or pressure increased
		Lamps operation, angle	- Implement a strategy/process to ensure that lamps operation and angle are inspected <u>before driving (vehicle stopped)</u> - Implement a strategy/process to change or adjust lights
		Trailer correctly coupled	- Implement a strategy/process to ensure that the trailer attachment to the vehicle is inspected <u>before driving (vehicle stopped)</u> - Implement a strategy/process to have the trailer coupling mechanism secured
		Energy level	- Implement a strategy/process to ensure that battery energy level is checked <u>before driving (vehicle stopped)</u> - Implement a strategy/process to have battery charged
		Wheel alignment	- Implement a strategy/process to ensure that wheel alignment is checked <u>before driving (vehicle stopped)</u> - Implement a strategy/process to fix wheel alignment
		While driving	Broken window, body damage or other safety hazard for occupants or other road users
	Malfunction without failure warning that would be detected by a human and affects performance: unusual response of steering system, wrong speedometer value, etc.		- Implement a strategy/process to ensure that vehicle performance is monitored (e.g., unusual response of steering system, wrong speedometer value, etc.) <u>while driving</u> - Implement a strategy/process to have any malfunction, even without failure warning, resolved
	Malfunction with failure warning that would be detected by a human and affects performance; Malfunction indicator (MI)		- Implement a strategy/process to ensure that warning signals are received and monitored (check for malfunction indicators) <u>while driving</u> - Implement a strategy/process to have any malfunction with failure warning resolved

Contact information

Group	Chairperson(s) to contact	Secretary
GRBP TF AVRS	Netherlands (Jan Sybren BOERSMA)	OICA (Shervin SOLHKONAN)
GRE IWG EMC	Germany (Zissis TSAKIRIDIS)	OICA (Jean-Marc PRIGENT)
GRE TF AVSR	Germany (Karl MANZ)	GTB (Lukas SCHWENKSCHUSTER)
GRPE TF AVRS	Netherlands (Niels DEN OUDEN) European Commission (Sandor VASS)	EME (Banita FIDYOVA)
GRSG TF AVRS	Netherlands (Hans LAMMERS)	OICA (Olivier FONTAINE)
GRSP TF AVRS	European Commission (Sandor VASS)	OICA (Ann-Kristin BORG)
GRVA TF FADS (and coordination with other expert groups)	China (Jiajie WU) France (Romain PESSIA)	CLEPA (Sébastien PATERNOTTE)

Note to the UNECE Secretariat

The author and the speaker of this presentation confirm that they have authorisation to use all content including photos and visual elements.

The material is either copyright-free or the author/speaker hold the necessary copyright or permission.

The UNECE will remove any material from its events and supporting websites if there is unlawful use of copyrighted material.

The author/speaker takes responsibility for any infringement on copyright and holds the UNECE harmless to this effect.