

WMG Safe Autonomy Research Group

# Remote Support for Automated Driving Systems: Proposal for considerations for ADS Reg v2 (UNR / GTR)

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20<sup>th</sup> UNECE GRVA ADS IG meeting, Bangkok  
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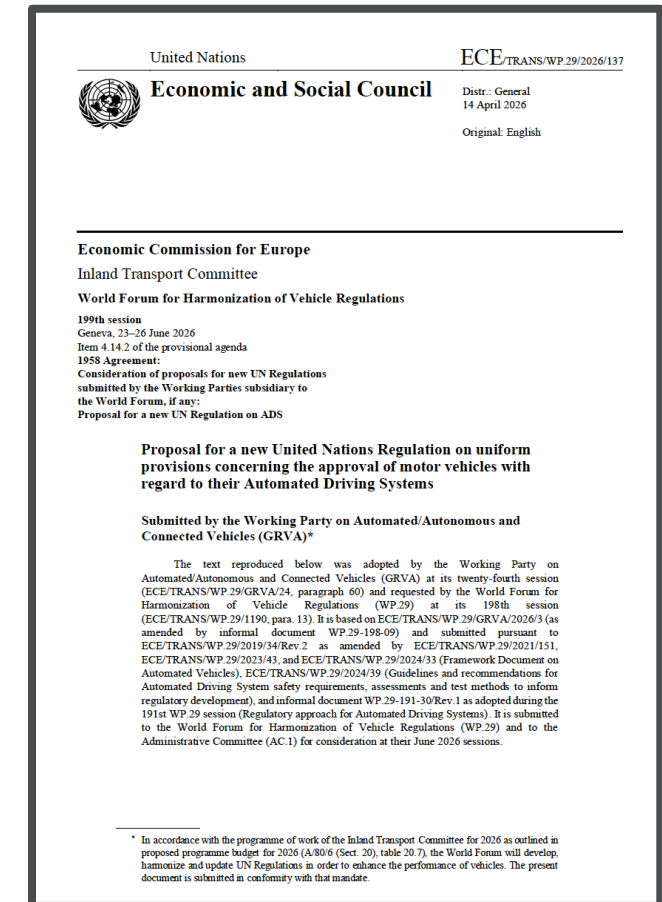
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# Background

- Document **ECE/TRANS/WP.29/2026/137** submitted to **WP.29** which includes proposal for UN Regulation for motor vehicles with regard to their Automated Driving Systems (ADS)
- Incorporates discussions and agreements of past years on this topic
- Key milestone for enabling the commercial deployment of automated driving systems
- Learnings from current commercial deployments and discussions with industry stakeholders have highlighted the **importance and necessity of remote support for such commercial operations of ADS equipped vehicles**



# Current Status on Remote Support for ADS in UNR

- According to **ECE/TRANS/WP.29/2026/137**, 19 instances of “remote”
  - Linking directly to **7 requirements**
- 19 instances across: Definition, **Clause 6.1 (DDT Requirements)**, **Clause 7.3 (safety case)**, Annex 1 (Appendix 1 information document ) and **Annex 3 (ISMR occurrences)**
- Terms used: remote **termination**, remote **intervention**, remote **supervision**, remote **monitoring**, remote **interaction**
- **Only term defined:** Remote termination (2.19)

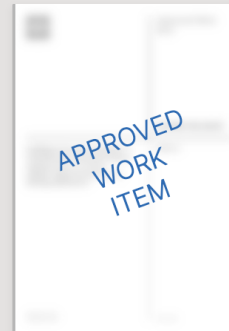
# Key requirements linked to “remote”

- 6.1.4.4. The ADS shall be capable of remote **termination**.
- 6.1.4.4.1. The procedure for remote **termination** of an ADS performing the DDT shall include the capability to perform an ADS fallback response.
- 6.1.4.4.2. The remote **termination** of an ADS or ADS feature(s) shall render it unable to be activated until such time as the remote termination is rescinded.
- 7.3.1.11. If the ADS can request a remote **intervention**, the system description shall describe the nature and process for such interaction.
- 7.3.1.12. The system description shall describe the methods of activating, overriding, or deactivating the ADS feature by any or all of: the ADS user (where relevant), remote **intervention** (where relevant), passengers (where relevant) or other road users (where relevant).
- 7.3.1.4.3. The outlines shall include how the following functions and aspects are addressed: (c) Remote **supervision** and remote **monitoring** by a remote **supervision** centre (if applicable)

- **Difference between** remote supervision, remote monitoring and remote intervention (if any)?
- 7.3.1.11. If the ADS can request a **remote intervention**, the system description shall describe the nature and process for such interaction.
  - **Is intervention different from termination?**
- Annex 3: List of Reportable Occurrences by Reporting Type: Active ADS feature required **remote interaction** to navigate a driving situation
  - **Is remote interaction including supervision, monitoring and intervention?**
- **What are “allowable” triggers** of remote “intervention”?

# Need recognised in ISO Standardisation

- New work item proposal approved: Jan 2026
- ISO work item co-leaders: UK (**Warwick**) & Japan (**Nissan**)
- **ISO 26361**: Classification of remote support for ADS and performance requirements



## ISO/AWI PAS 26361

Intelligent transport systems —  
Classification and performance  
requirements on human remote support  
functions for driving automation

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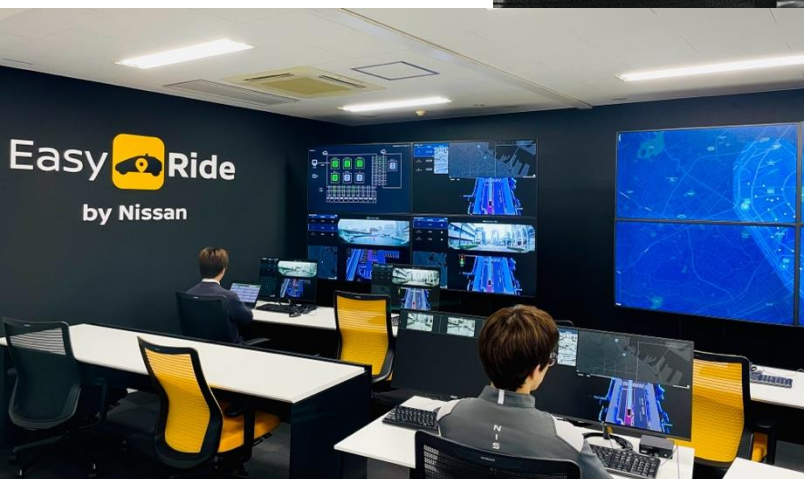
# Nissan's (JP) L4 mobility Service: Remote Centre

**Vehicle level**  
Operational  
& tactical  
tasks



In-vehicle  
(**occupant**)

**Fleet level**  
Strategic  
tasks



# Current ISO PAS 26361 thinking

- Three categories for remote support: Remote monitoring; Remote assistance; Remote driving
- Three axis for classification:
  - Purpose of Remote Support:
    - Type 1: Individual Vehicle
    - Type 2: Occupants and/or people outside
    - Type 3: Area and/or fleet
  - Type of support by remote support:
    - Information
    - Command
    - Partial or Full DDT
  - Timing of remote support: Continuous or Triggered

**Ongoing discussion. Subject to change.**

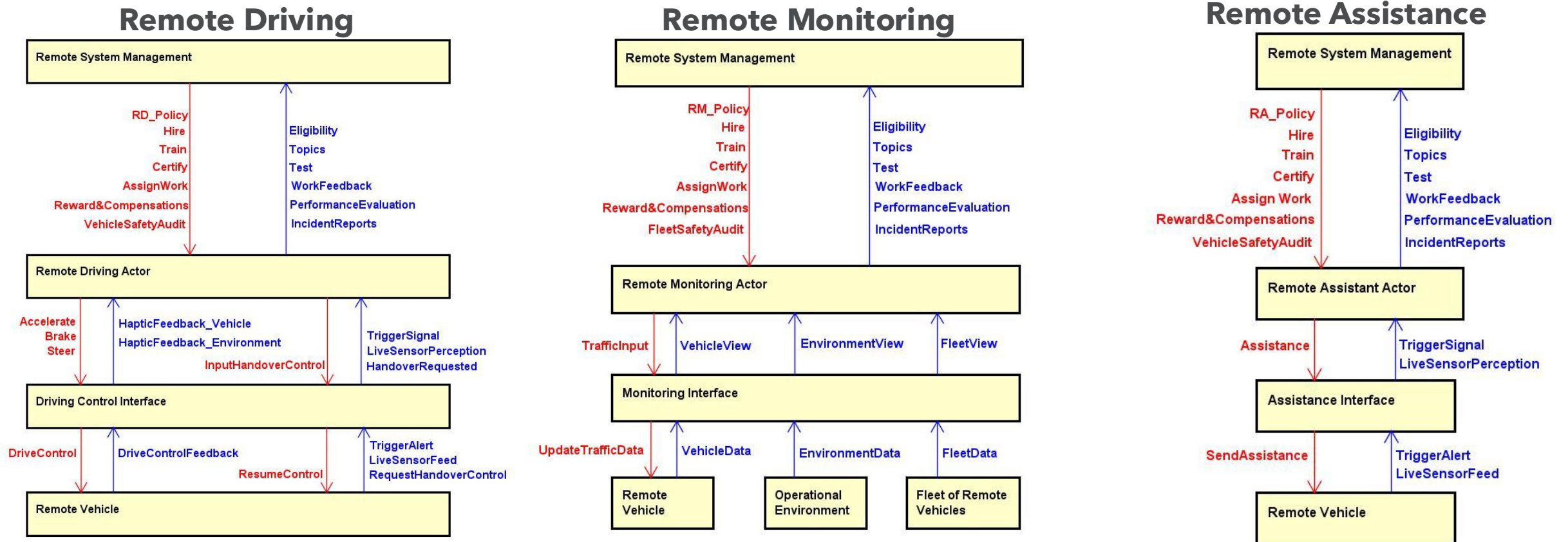
# Current ISO PAS 26361 thinking

		Purpose of Remote Support	Type of support by Remote Support (information, command, partial DDT, full DDT)	When (Continuous, Triggered by vehicle/occupants (V/O), Triggered by something else)
<b>Remote Monitoring</b>	Type 1a	Remote Monitoring of Vehicle	None (one-way comms)	Continuous
	Type 1b	Remote Monitoring of Vehicle	None (one-way comms)	Triggered
	Type 2a	Remote Monitoring of Occupants	None (one-way comms)	Continuous
	Type 2b	Remote Monitoring of Occupants	None (one-way comms)	Triggered
	Type 3a	Remote Monitoring of Area	None (one-way comms)	Continuous
	Type 3b	Remote Monitoring of Area	None (one-way comms)	Triggered
<b>Remote Assistance</b>	Type 1a	Remote Assistance to Individual Vehicle	Information	Triggered
	Type 1b	Remote Assistance to Individual Vehicle	Command	Triggered
	Type 2a	Remote Assistance to Vehicle Occupants and/or people outside	Information	Triggered
	Type 2b	Remote Assistance to Vehicle Occupants and/or people outside	Command	Triggered
	Type 3a	Remote Assistance to Fleet	Information	Triggered
	Type 3b	Remote Assistance to Fleet	Command	Triggered
<b>Remote Driving</b>	Type 1a	Remote Driving of Individual Vehicle	To the vehicle: Partial DDT	< X seconds
	Type 1b	Remote Driving of Individual Vehicle	To the vehicle: Partial DDT	Continuous
	Type 1c	Remote Driving of Individual Vehicle	To the vehicle: Full DDT	< X seconds
	Type 1d	Remote Driving of Individual Vehicle	To the vehicle: Full DDT	Continuous

**Ongoing discussion. Subject to change.**

# Current ISO PAS 26361 thinking

- Using STPA for derivation of performance requirements for each remote support types



Ongoing discussion. Subject to change.

# Request to UNECE GRVA IWG on ADS

## For version 2 of the UNR / GTR of ADS, please consider:

- Introducing and defining **different types of remote support**
- Clarity between the terms used around “remote” in the UNR / GTR text (similarity or differentiation)
- Clearly articulate aspects of remote support covered by the regulation and aspects not covered
- This is needed, as in our opinion, **no fully automated driving system operation (without driver) can be safely realized without remote support.**
- **Offer:** we volunteer to bring definitions (as discussed with ISO) to the ADS IWG Brussels meeting (July 2026) for the IWG to consider.

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