



/ A global regulatory framework for Automated Driving Systems

Richard Damm – Tokyo, 18th April 2025

Symposium on International Rulemaking for Automated/ Autonomous Connected Vehicles 2025

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UNECE - Multilateral Agreements

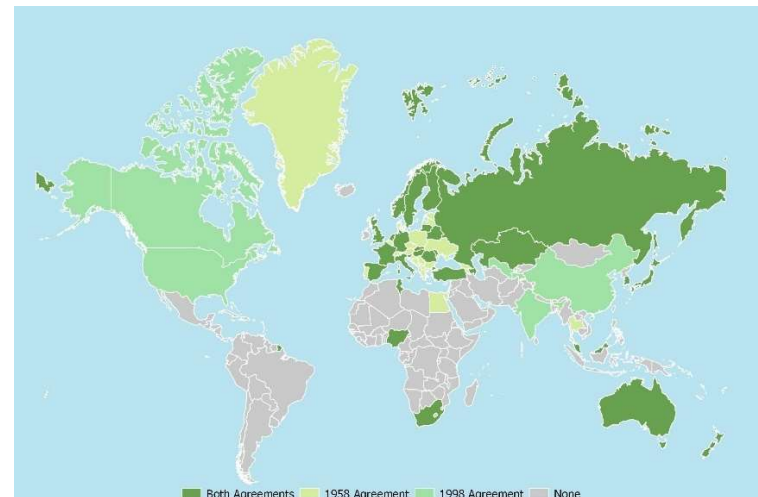
WP.29 – World Forum for Harmonization of Vehicle Regulations

1958 Agreement:

- **UN Regulations**
- Directly applicable by the industry
- Mutual recognition of Type Approvals

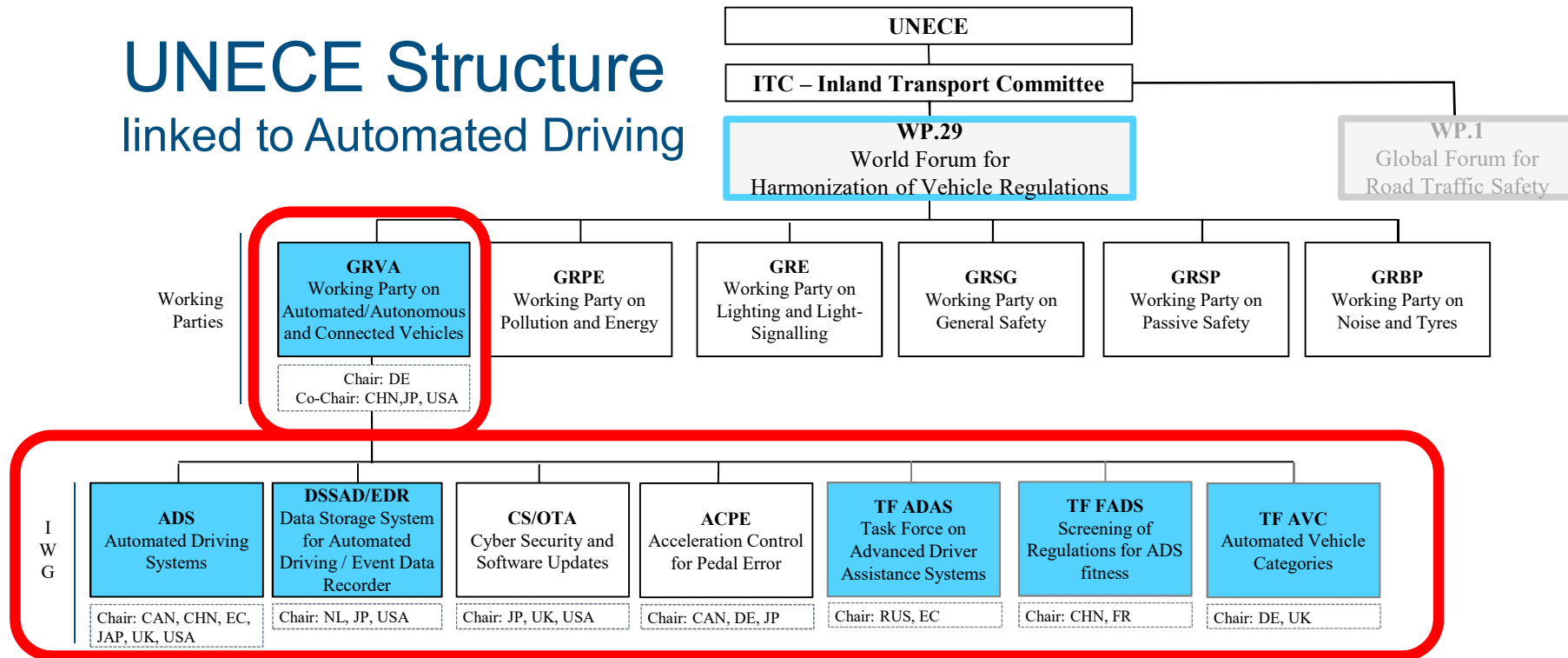
1998 Agreement:

- **UN Global Technical Regulations**
- Requires transposition in national law
- No administrative procedures- suitable for
 - Self Certification
 - Type Approval



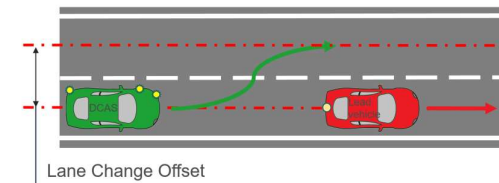
Global role of WP.29 for harmonisation

UNECE Structure linked to Automated Driving



Advanced Driver Assistance Systems (ADAS) - DCAS

- **New UN Regulation 171** on Driver Control Assistance System (DCAS) entered into force in **September 2024**
- Provide a safety net (minimum requirements) for any ADAS
- Generic approach for ADAS performance/assessment
- Strong emphasis on driver involvement and HMI
- Phase 2 is completed
- System-initiated manoeuvres (lane changes and other) on highways
- Withholding of hands-on requests in driver disengagement monitoring (assessment of visual disengagement)
- Entering into force of **Phase 2: Sept. 2025**, Phase 3 is under consideration
- Important interim step towards automation



UNECE WP.29 - GRVA

AV Framework document in WP.29

- Primary purpose is to provide guidance to World Forum for Harmonization of Vehicle Regulations (WP.29) subsidiary Working Parties (GRs) by identifying key principles for the safety and security of automated/autonomous vehicles of levels 3 and higher.
- The framework document defines the work priorities for WP.29 and indicates the deliverables, timelines and working arrangements for those certain work products related to those priorities.



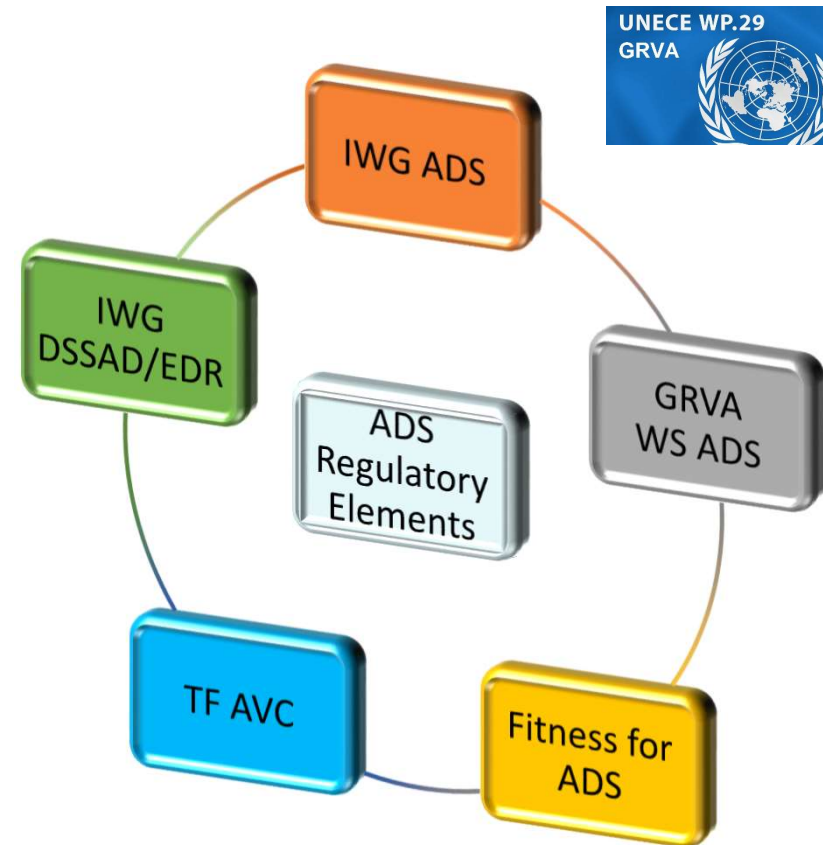
Inland Transport Committee
World Forum for Harmonization of Vehicle Regulations
Framework document on automated/autonomous vehicles¹

¹This document has been prepared by the representatives of China, European Union, Japan and the United States of America. It has been adopted by the World Forum for Harmonization of Vehicle Regulations (WP.29) at its 17th session, see EC/TRANS/WP.29/147, para. 27 and then revised. It has been endorsed by the Inland Transport Committee of UNECE at its February 2021 session. The Annex has since been updated in November 2021, see EC/TRANS/WP.29/2021/151 and EC/TRANS/WP.29/148, para. 18.



Regulatory framework for ADS

- **IWG ADS** – Informal Working Group on ADS
- **GRVA WS ADS** – GRVA Workshop on ADS
- **Fitness for ADS** – Regulatory fitness of UN Regulations and UN GTR for ADS
- **TF AVC** – Task Force on Automated Vehicle Categories
- **IWG DSSAD/EDR** – Informal Working Group on Data Storage for Automated Driving and Event Data Recorder



Regulatory activity on ADS



- Global activity - IWG on ADS
- Drafting of a set of regulations - UN-Regulation (UN-R) and UN Global Technical Regulation (GTR) for both Agreements
- Led by North-America, Europe and Asia
- Start: March 2024
- Target: Completion **mid 2026**
- Current status: first draft text is under review

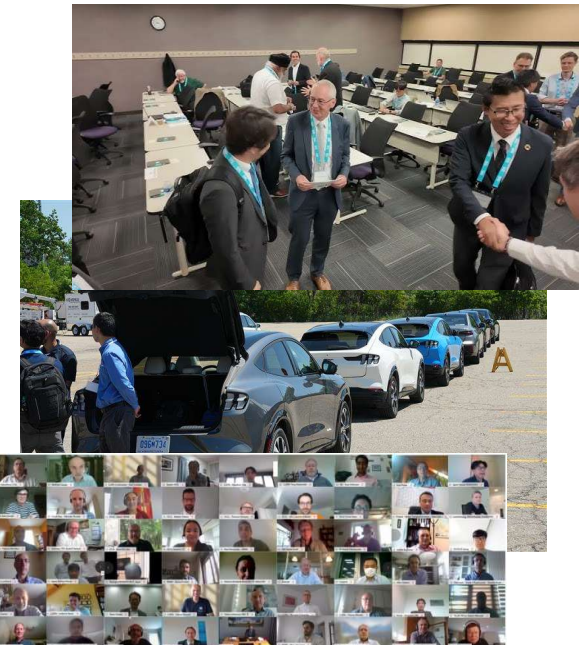


UNECE WP.29 - GRVA

GRVA workshops on ADS



- Leadership of workshops: CHN, DE, JP, USA
- Ambassadors: Australia, NL
- Three tasks:
 1. Development of administrative requirements for UNGTR ADS
 2. Development of administrative requirements for UNR ADS
 3. Development of an interpretation document
- Complements work of the IWG on ADS
Send draft for task 1 & 2 to IWG in April 2025



UNECE WP.29 - GRVA

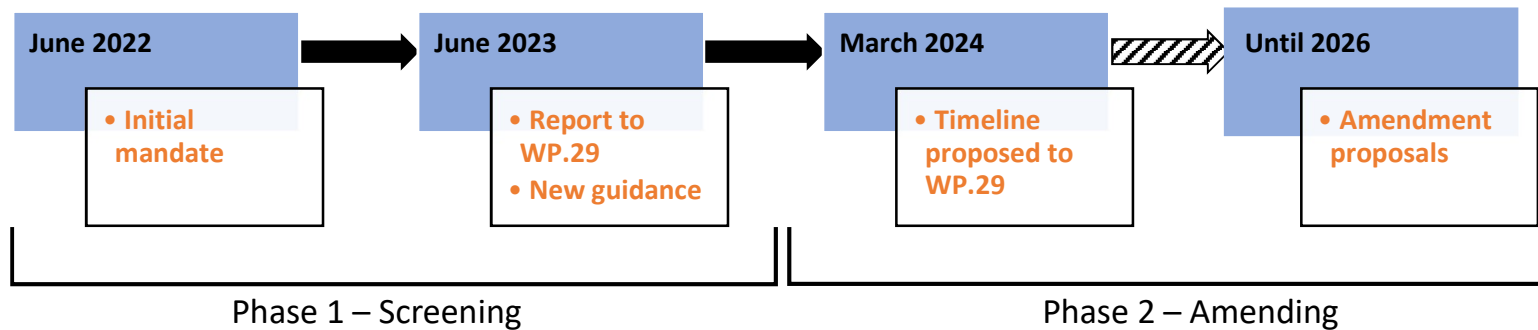
Fitness of UN Regulations and UN Global Technical Regulations for automated driving



- Activity of a global task force
- Most of current regulations are based on a human driver
- Screening of relevant vehicle regulations of UNECE to make it fit for automated driving systems
- All working groups of WP.29 are involved (GRBP, GRE, GRPE, GRSG, GRSP, GRVA)
- Each regulation was analysed
- Updates and amendment or relevant regulations was started in 2024 in several phases, based on the complexity

UNECE WP.29 - GRVA

Update of relevant regulations – Timeline Fitness ADS



Automated vehicle categories



- Review of R.E.3 and S.R.1 for definitions of vehicle categories
- New category elements X (for occupants) and Y (no occupants) are proposed
- Decision to be taken with completion of regulatory text for ADS
- R.E.3 draft proposals:

2.9. Category X

2.9.1. Definition

Category X vehicles are vehicles of categories M, N, L and T meeting all of the following conditions:

- (a) They are equipped with an ADS
- (b) They are not capable of being driven manually at speeds exceeding 6 km/h
- (c) They are designed to carry occupants

2.10. Category Y

2.10.1. Definition

Category Y vehicles are vehicles of categories N, L and T meeting all of the following conditions:

- (a) They are equipped with an ADS
- (b) They are not capable of being driven manually at speeds exceeding 6 km/h
- (c) They are not designed to carry occupants at any time

2.11. Combined designations

Symbols M, N, L and T may be combined with symbols G, X and Y, as applicable. For example, a vehicle of category N2 which meets the criteria of 2.10.1 may be designated as N2Y; a vehicle of category M1 which meets the criteria of 2.9.1 and is suited for off road use may be designated as M1GX.

Data Storage System for Automated Driving (DSSAD)



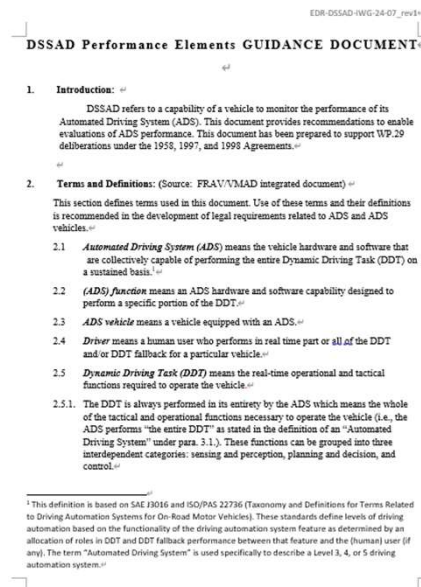
- Status of the automated/autonomous driving system and the status of the driver
- Define DSSAD requirements
 - categories of data recorded
 - events triggering recording
 - technical specifications in terms of system performance (endurance, accessibility, storage capacity, security etc.)
 - required privacy and data protection by design features
- June 2025: Delivery of DSSAD performance elements for ADS

DSSAD – Structure of guidance document



- The guidance document consists of the following chapters:

1. Introduction
2. Terms and Definitions
3. Data Storage and Security
4. Data Format
5. Data Retrievability/Availability
6. Performance Elements
7. Misc. Specifications



Further steps

Further development of ADAS (DCAS) regulation

ADS Regulations of UNECE to be completed in 2026

Continue collaboration to establish harmonised international regulations for ADS





/ Thank you for your attention!

/ Legal notice

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Automated Driving

AD Strategy in Germany

Since 2014

- Activities on national level
- Participation in activities on European and International level
- Strategy on automated and connected driving of Federal Government in 2015
- Report of Ethics Commission on AD in 2017
- Research funding and support of digital test beds

Legal step in 2017 (L3 package)

- Road Traffic Act (2017) - „Act for **automated** driving“ (L3)

Legal steps in 2021 and 2022 (L4 package)

- Road Traffic Act (2021) - „Act for **autonomous** driving“ (L4)
- Ordinance (2022) – „Regulation for autonomous driving - vehicle and ODD“



AD Strategy in Germany – Latest development

November 2024

- Publication „Autonomous driving in public transport“
- Published on 28 Nov. 2024
- Handbook for cities, municipalities, traffic carriers

December 2024

- Update of strategy of the Federal Government
- Published on 04 Dec. 2024
- Title - „The future drives autonomously“
- Framing of implementation of AD technology

