



EU 2022/1426 & interpretation document and transition to large series

**High Level Dialogue on Connected and
Automated Driving (CAD)**

*DG GROW
Ghent, 18 June 2024*

EU Type-approval framework for driving automation



UNR171

L2 DCAS

(Driver Control Assistance System)

Driver present, engaged and responsible

Wide range of operations

No vehicle series limitation



UNR157

L3 ALKS

(Automated Lane Keeping System)

Driver present not engaged

Motorways

No vehicle series limitation

Cybersecurity measures



EU 2022/1426

L4 ADS

(Automated Driving System)

Driver not present

Operations in specific areas

Vehicle series limitation (max. 1500)

Multi-pillar validation method

Fostering CCAM deployment in the EU



1. Interpretation Document 2022/1426 (16:35-17:45)
2. Updates of national rules and legislation (11:00-12:10) and initiative by Member States
3. Guidelines on harmonised testing (16:35-17:45)
4. Large series (16:35-17:45)

1. Interpretation Document EU 2022/1426 ([link](#))

ISSN 1831-9424



Interpretation of EU Regulation
2022/1426 on the Type Approval of
Automated Driving Systems

Cluffo, B., Dona, R., Galassi, M., Giannotti, W.,
Sollima, C., Terzuoli, F., Vass, S. (eds.)

2024

Joint
Research
Centre

EUR 31842 EN

- **Interpretation Document for Regulation 2022/1426**

- Including Technical Guidelines on selected topics based on identified priorities
- not to add or modify requirements

- The aim is to

- **Facilitate the harmonized implementation of the regulation across MSs**
- **Ensure the highest common level of safety in the EU**
- **Promote the EU single market & level playing field**



Interpretation & Guidance

	Chapter	Page
	Preamble	1
	Note regarding evidencing the requirements	1
Interpretation	Guidance on the requirements of Regulation 2022/1426	2
	ANNEX I - Information document for EU type-approval of fully automated vehicles with regard to their automated driving system	2
	ANNEX II - Performance Requirements	2
	ANNEX III - Compliance assessment	5
	APPENDIX 1 Technical Guidance on ODD description	10
Technical Guidance	APPENDIX 2 Technical Guidance on Scenario Generation and Completeness	11
	APPENDIX 3 Technical Guidance on Safety Targets and Acceptance Criteria	12
	APPENDIX 4 Technical Guidance on Safety Assessment (Annex III – Part 4)	30
	APPENDIX 5 Technical Guidance for the Credibility Assessment of Virtual Toolchain	31
	APPENDIX 6 Technical Guidance on In-service Reporting	78

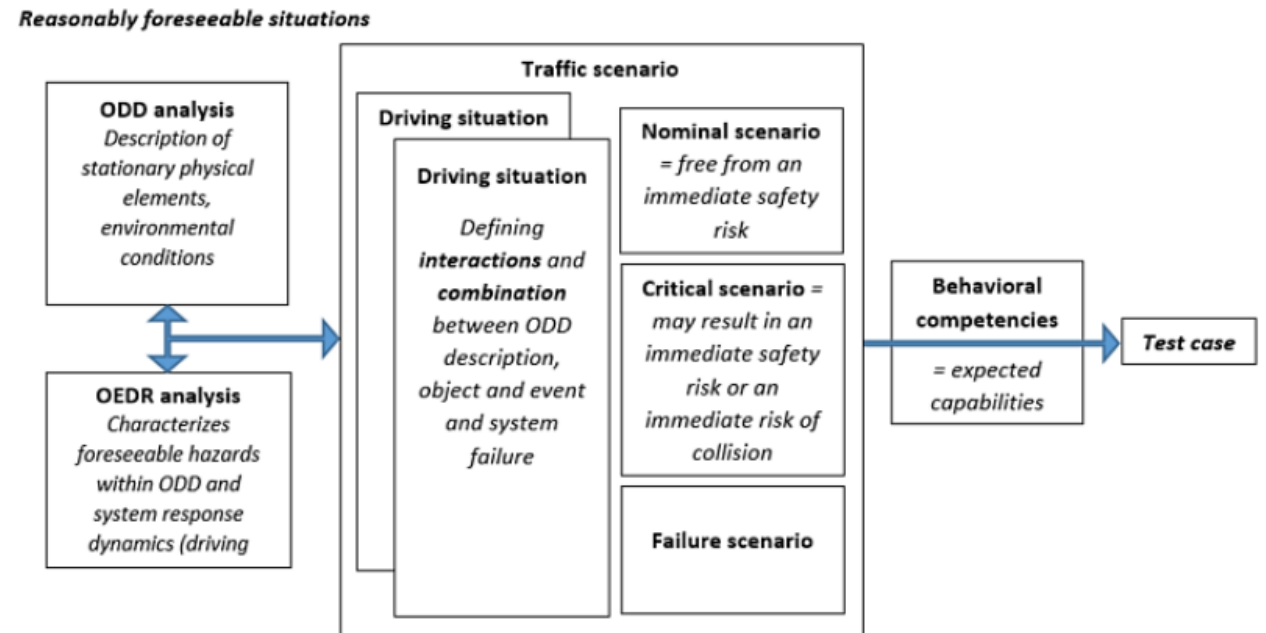
Example: Guidance on scenarios generation

Annex III- PART 1: Scenarios

Minimum set of scenarios

- Lane change
- Crossing, turning
- Emergency manoeuvre
- Pedestrian/cyclist crossing (urban&rural, motorway)
- Hub-to-hub (motorway entry, exit, toll station, ...)

Appendix 1: Methods to generate scenarios relevant to the ADS ODD and not covered in PART 1

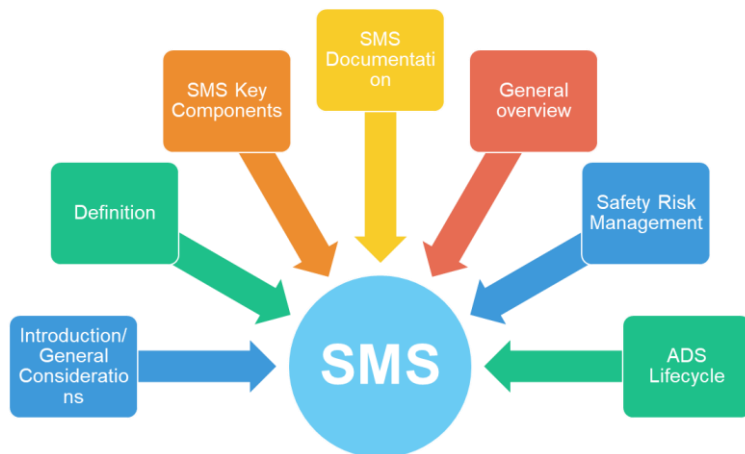


Source: JRC

Interpretation Document 2nd Ed.

Ongoing work

- Guidance on Safety Management System
- Interpretation and Guidance on Remote Management



Next Steps

	Apr-24- Jun-24	July-Sep24	Oct24-Dec-24	Jan25- Mar-25	Apr-25- Jun-25	July25-Sep25	Oct25-Dec-25	Jan26- Mar-26
SMS (including HCD)								
Remote Management								
Scenarios		TBD after UNECE/GRVA Workshop on scenario in May						
Virtual Testing					If examples available			
Operating Manual					If examples or templates available			
Safety thresholds					Linked with Scenarios			
Public Road					To be further discussed			
Test Track					To be further discussed			
Roadworthiness								Non included in the ID activities
ISR Process								Non included in the ID activities

Alignment with UNECE IWG ADS

4. Moving to large series approval

ANNEX V

AUTOMATED PARKING SYSTEM (APS)

The structure of the annex is as follows:

- Part 1: Scope and definitions.
- Part 2: Performance requirements.
- Part 3: Compliance assessment.

PART 1: SCOPE AND DEFINITIONS

- 1. Scope of application**
 - 1.1. This set of requirements applies to ADS features with a restricted ODD, which perform the DDT ~~with regard to~~ parking and manoeuvring systems for use in publicly accessible parking areas.
- 2. Definitions,**
for the purposes of this annex.
 - 2.1. 'Automated Parking System (APS)' is an ADS feature for the parking of a fully automated vehicle within an ODD.
 - 2.4. 'APS trip' includes the verification of all safety-related conditions in the APS feature for APS activation, the subsequent execution of the DDT and the APS deactivation.
 - 2.5. 'Transition location' is a designated area located within the ODD, which is appropriate to start or stop the APS feature (e.g. fully automated vehicle drop-off or pick-up, electric vehicle charging areas, car washes, etc.).
 - 2.6. 'Smallest relevant object' means the smallest vulnerable road user that the APS feature is able to detect and react to while carrying out the DDT.
 - 2.7. 'Safety distance' is a distance to which the fully automated vehicle shall react by an appropriate way. Reaction to front, side or rear objects may vary based on their distance (e.g. speed decrease, stopping or evasive manoeuvre).
 - 2.8. 'Permanent object' means unmoveable objects within the ODD (e.g. structural installation like walls, pillars, limiting stones, guard rails, traffic light masts, etc.).
 - 2.9. 'Static object' means potential moveable objects within the ODD, which do not move in the relevant period (e.g. a vehicle braked or parked at standstill, a VRU, a suitcase or an object hanging into the driving corridor).

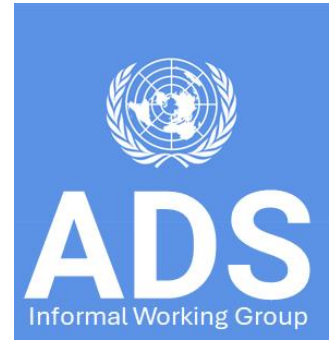
- Small series scheme was a first step towards ADS market deployment
- Collect evidence of ADS performance
- **Move to unlimited series approval**
- Automated Parking first
 - APS Annex (ref. "Technical Requirements Catalogue for AVP" and ISO 23374)
- **Consider additional use-cases**

Lifting the Small Series Scheme

- Commission Delegated Regulation (EU) 2022/2236 amending Annexes I, II, IV and V to Regulation (EU) 2018/858
- Amendments to UNECE regulations - map the progress in GR's
- Amendments to EU regulations for placing ADS product in the European market

Item	Subject	Regulatory Act
Mixed	Framework regulation on vehicle, systems and components type approval	Regulation (EU) 2018/858
Safety	Type-approval requirements for the general safety of motor vehicles	Regulation (EU) 2018/858 (till 06.01.2022)
Safety	Type-approval requirements for the general safety of motor vehicles	Regulation (EU) 2022/2236
Item	Subject	Regulatory Act
Safety	General products safety	Directive 2001/95/EC
Environment	Restriction of the use of certain hazardous substances in electrical and electronic equipment *	Directive 2011/65/EU
Environment	Waste electrical and electronic equipment *	Directive 2012/19/EU
Environment	Batteries and waste batteries *	Directive 2006/66/EC
Environment	Labelling of tyres with respect to fuel efficiency and other parameters *	Regulation (EU) 2020/740
Technical	Ecodesign requirements for energy-related products *	Directive 2009/125/EC
Technical	Simple pressure vessels *	Directive 2014/29/EU
Technical	Electrical equipment designed for use within certain voltage limits *	Directive 2014/35/EU
Technical	Machinery *	Directive 2006/42/EC
Technical	Electromagnetic compatibility *	Directive 2014/30/EU
Radio	Radio equipment *	Directive 2014/53/EU
Technical	Pressure equipment *	Directive 2014/68/EU
Technical	Transportable Pressure equipment *	Directive 2010/35/EU
Technical	Pyrotechniques *	Directive 2013/29/EU
Technical	Interoperability of Electronic Road Toll System *	Decision 2009/750/EC implementing Directive 2004/52/EC

Global harmonisation



UN Regulatory work on ADS

- WP.29 established the ADS informal group (ADS IWG) under GRVA to draft UN GTR and UN Regulation on ADS safety
- WP.29 directed GRVA to hold Workshops for development of aspects specific to GTR and UNR.
- WP.29 **June 2026** session set for adoption of GTR and UNR
- GTR and UN R to be based on the ADS guidelines and recommendations as approved by WP.29 during its June 2024 session (ECE/TRANS/WP.29/2024/39)

ADS IWG leadership

- Chairs: Canada, China, European Commission, Japan, United Kingdom, United States of America
- Liaison ambassadors for IWG-GRVA workshop coordination: Australia, Netherlands
- Secretariat: AAPC, JASIC, OICA, SAE

Concluding remarks

- **Automated Vehicles approval** already possible
- Guidance for harmonized implementation:
 - *Interpretation Document* to ensure a single regulatory process
- Gradually move to **large series ADS** approval (APS first)
- Working at United Nations to deliver ADS UN Regulation (and GTR) by 2026



Thank you!



© European Union 2024

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.