



Current status of AV Regulation in Europe

Symposium on International Rulemaking for
Automated/Autonomous Connected Vehicles

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EU General Safety Regulation (EU) 2019/2144

NEW RULES ON VEHICLE SAFETY AND AUTOMATED MOBILITY *6th July 2022*

PRESS RELEASE: [New Vehicle General Safety Regulation \(europa.eu\)](https://europa.eu/press-release/new-vehicle-general-safety-regulation)



Further measures to be progressively introduced between
JULY 2024 TO JULY 2029

The new EU type approval framework for connected and automated vehicles

**AUTOMATED
VEHICLES
UN R157**



KEY CHARACTERISTICS:

- Driver present
- Automated driving mode limited to motorways up to 60 km/h, up to 130km/h from January 2023
- No limitation to size of vehicle series
- Cybersecurity measures

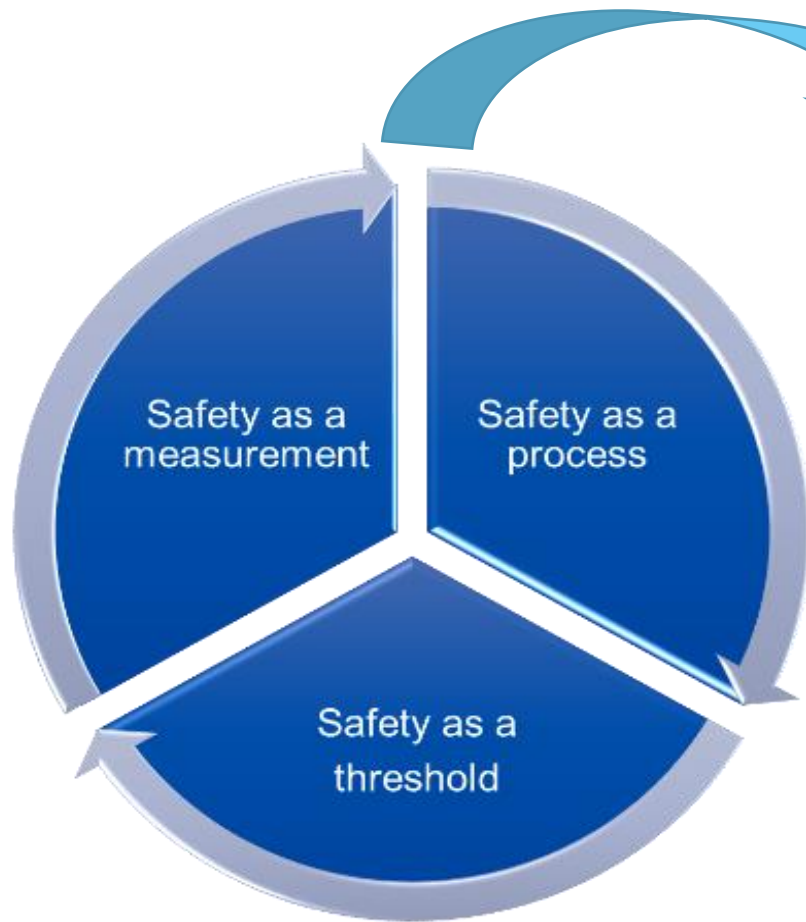
**FULLY DRIVERLESS
VEHICLES
EU ADS Reg**



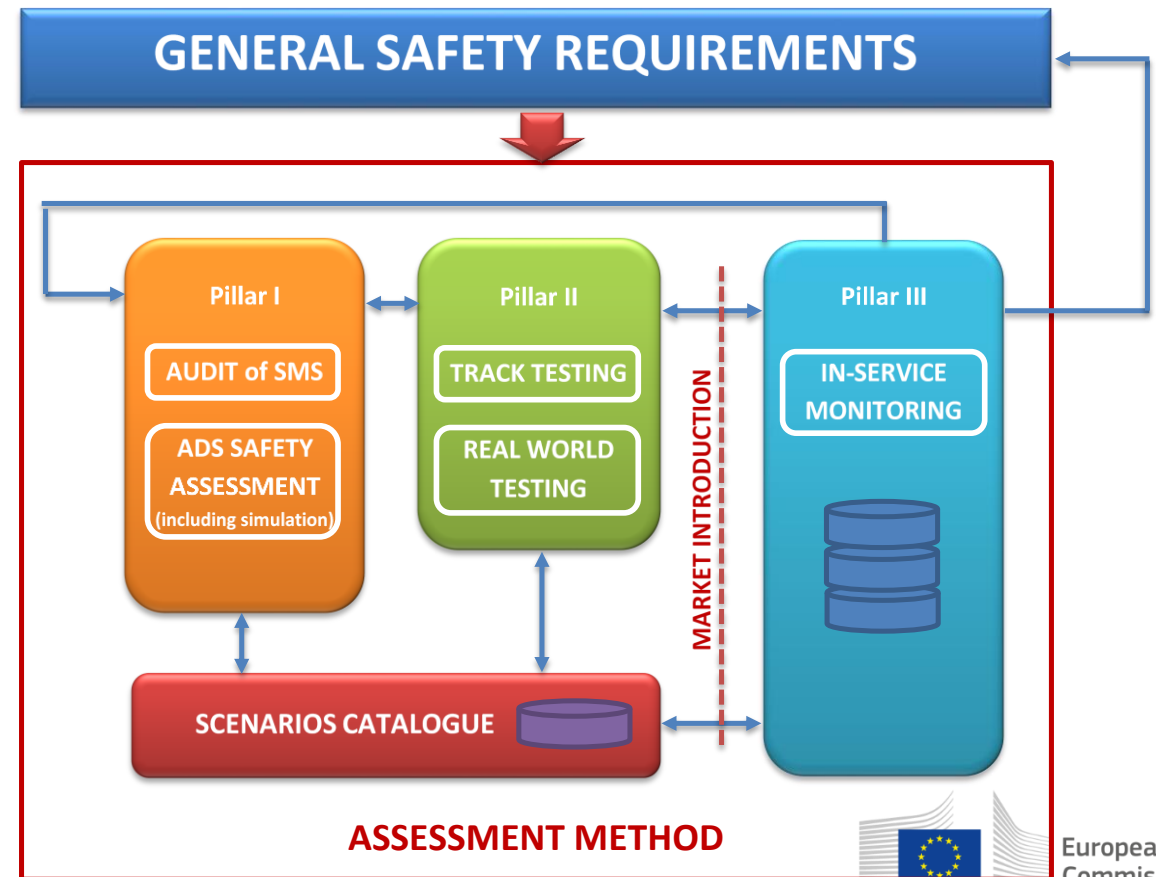
KEY CHARACTERISTICS:

- No driver present
- Automated driving permitted in defined areas
- Limit on size of vehicle series to max. 1500 vehicles per model per year
Review of limit by July 2024
- To be allowed from September

The new EU ADS Regulation (EU) 2022/1426



New Assessment Method



The new EU ADS Regulation (EU) 2022/1426

Commission Implementing Regulation laying down rules for the application of Regulation (EU) 2019/2144 of the European Parliament and of the Council as regards uniform procedures and technical specifications for the type-approval of motor vehicles with regard to their automated driving system (ADS)

ANNEXES to the Commission Implementing Regulation

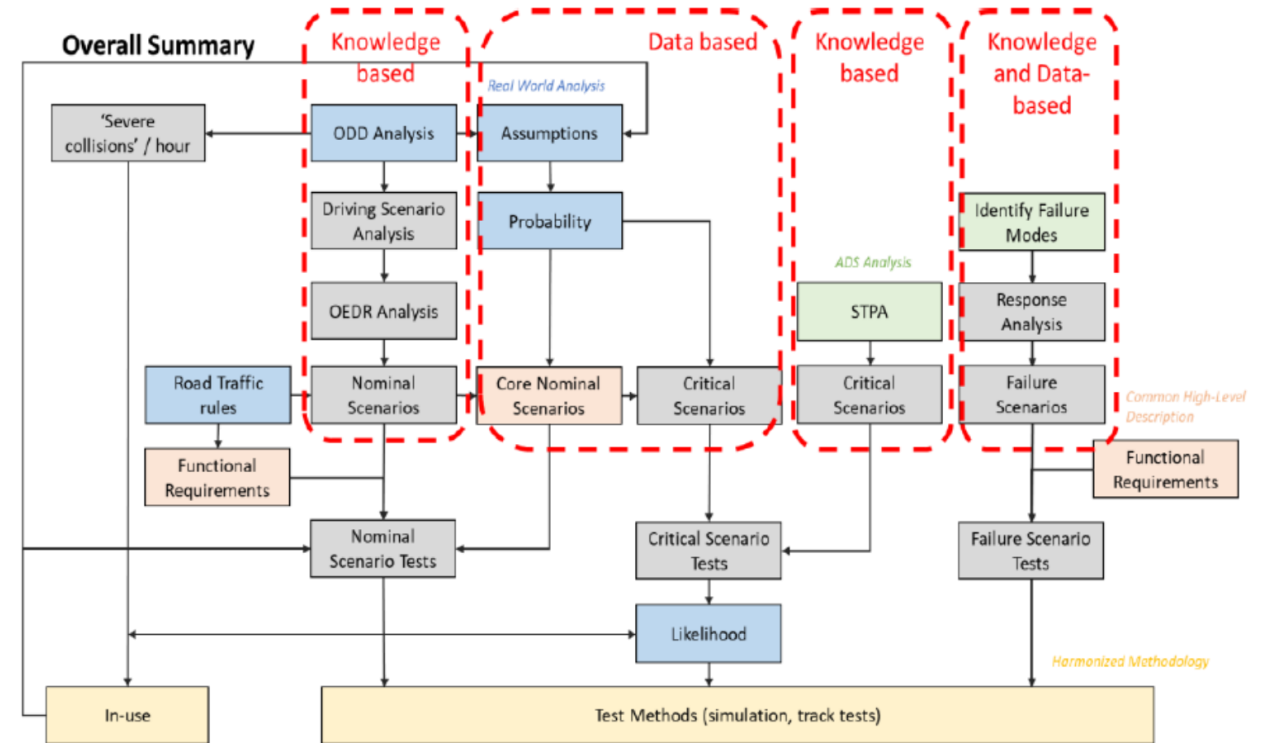
- 1) Information Document
- 2) Performance Requirements
- 3) Compliance Assessment
 - PART 1 Traffic Scenarios
 - PART 2 Audit of SMS and safety assessment
 - PART 3 Tests
 - PART 4 Guidelines for the credibility assessment
 - PART 5 In-service reporting
- 4) EU Type approval certificate

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



PART 2 – AUDIT SMS & SAFETY ASSESSMENT

- **AUDIT of the SMS**

The Manufacturer shall demonstrate that effective processes, methodologies, training and tools are in place, up to date and being followed within the organization to manage the safety and continued compliance throughout the ADS lifecycle.

- **SAFETY ASSESSMENT**

The manufacturer shall provide a documentation package which gives access to the design and validation of the ADS.



PART 3 - TESTS



- These tests shall confirm the minimum performance requirements
- Tests scenarios to assess the performance of the ADS **on a test track** (e.g. lane keeping and changing, response to road infrastructure, collision avoidance, cut-in, etc...)
- The ADS shall also be tested **on-road** in accordance with the applicable law of the Member State granting the type-approval and provided that tests can be carried out safely and without any risk to other road users.

PART 4 - CREDIBILITY ASSESSMENT

- Provides a general description of the main aspects considered for assessing the credibility of a M&S solution together with guidelines of the role played by third parties assessors in the validation process with respect to credibility.
- Team's Experience and Expertise is also assessed
- **“Simulation Handbook”** providing evidence of the credibility assessment



PART 5 – IN-SERVICE REPORTING



- The manufacturer shall report relevant occurrences during ADS operation:
 - within one month: short-term report, on occurrences which needs to be remedied by the manufacturer → to the type-approval authorities, market surveillance authorities and the Commission
 - every year: periodic report, to provide evidence of the ADS performance on safety relevant occurrences in the field → to the type-approval authority that granted the approval

List of occurrences to be reported

OCCURRENCE	SHORT-TERM REPORTING	PERIODIC REPORT
1. Occurrences related to the ADS performance of the DDT, such as:		
1.a. Safety critical occurrences known to the manufacturer	X	X
1.b. Occurrences related to ADS operation outside its ODD	X	X
1.c. Occurrences related to ADS failure to achieve a minimal risk condition when necessary	X	X
1.d. Communication-related occurrences (where connectivity is relevant to the ADS safety concept)		X
1.e. Cybersecurity-related occurrences		X
1.f. Interaction with remote operator(if applicable) related to major ADS or vehicle failure		X
2. Occurrences related to ADS interaction with fully automated vehicle users, such as:		
2.a. User-related occurrences (e.g. user errors, misuse, misuse prevention)		X
3. Occurrences related to ADS technical conditions, including maintenance and repair:		
3.a. Occurrences related ADS failure resulting in a request to intervene to the operator or the remote intervention operator		X
3.b. Maintenance and repair problems		X
3.c. Occurrences related to unauthorized modifications (i.e. tempering)		X
4. Occurrences related to the identification of new safety-relevant scenarios	X	X

Concluding remarks

- Automated vehicles type approval possible in EU (highway chauffeur, shuttles, robotaxis, hub-to-hub, AVP)
- Guidance for harmonized implementation
 - Ensure the highest common level of safety
 - Single regulatory and certification process
 - Facilitate the EU single market & level playing field
 - Improve accessibility and use of safety information
- NEXT: unlimited series approval



Thank you!

JRC SAFETYPE Team

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