ASAM – Test Study Group Input Technical Services

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Functional and operational safety for ALKS (Annex IV)

ALKS-Requirements

- Human-Machine-Interface
 - Activation
 - Availability
 - Override
- Normal Operations
 - Misuse
- Traffic Rules
- Emergency Manoeuvre
- Minimum Risk Manoeuvre
- Object Event Detection

Document checks / reviews

- UNECE R157 requires:
 - System functionality and control strategies
 - System layout and schematics
 - Safety concept of the manufacturer
 - Analysis support of concepts
- Formal documentation regs.

Audit

- Audit of safety management system
 - Overlap with QM
 - Overlap with supporting processes from ISO26262
 - Communication
 - Field monitoring
 - Supplier management
 - Internal audits

Verification by tests

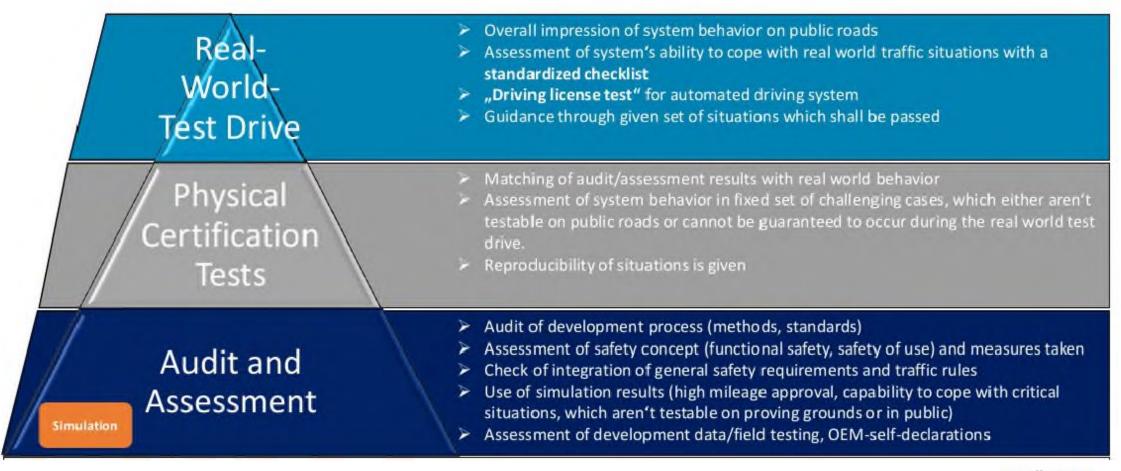
- Test by type approval authority to confirm documentation
 - Non-failure
 - Safety concept
 - Critical scenarios
- Allowed methods
 - Real world testing
 - Proving ground
 - Simulation

Output

Report by technical service

- Integrity and performance of the system
- Effectivity of safety concept
- Process capability

Multi pillar approach

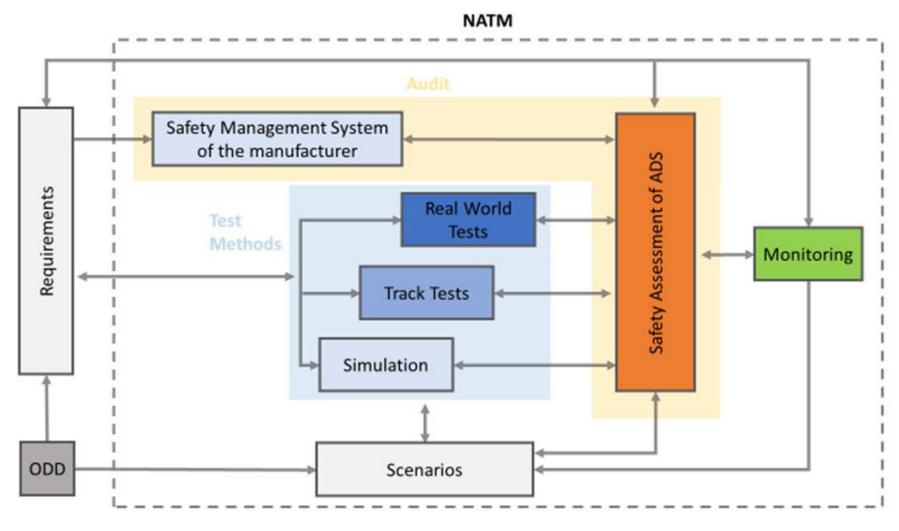






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New Assessment/Test Method for Automated Driving (NATM)



https://unece.org/sites/default/files/2021-01/GRVA-09-07e.pdf



(O) OICA solves the challenge:

State of play of vehicle regulation

The multi-pillar approach

The "Multi-pillar approach" augments the "classical" certification approach

Real Drive Emissions

Real World Test Drive



Audit / Assessment **Complex Systems** Annex (incl. TESTS)

Audit / Assessment ENLARGED Complex Systems Annex (incl. TESTS)

Audit / Assessment of full SAFETY CONCEPT

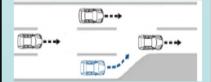


Physical Certification Tests

Physical Certification Tests

Physical Certification Tests

Physical Certification Tests



EARLY YEARS

YESTERDAY

TODAY

PR Olivier Fontaine **OICA**