

ADAS L2 developments

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Overview

- ADAS L2 developments
- Article 39 (EU 2018/858) approach
- Questions

ADAS L2 developments

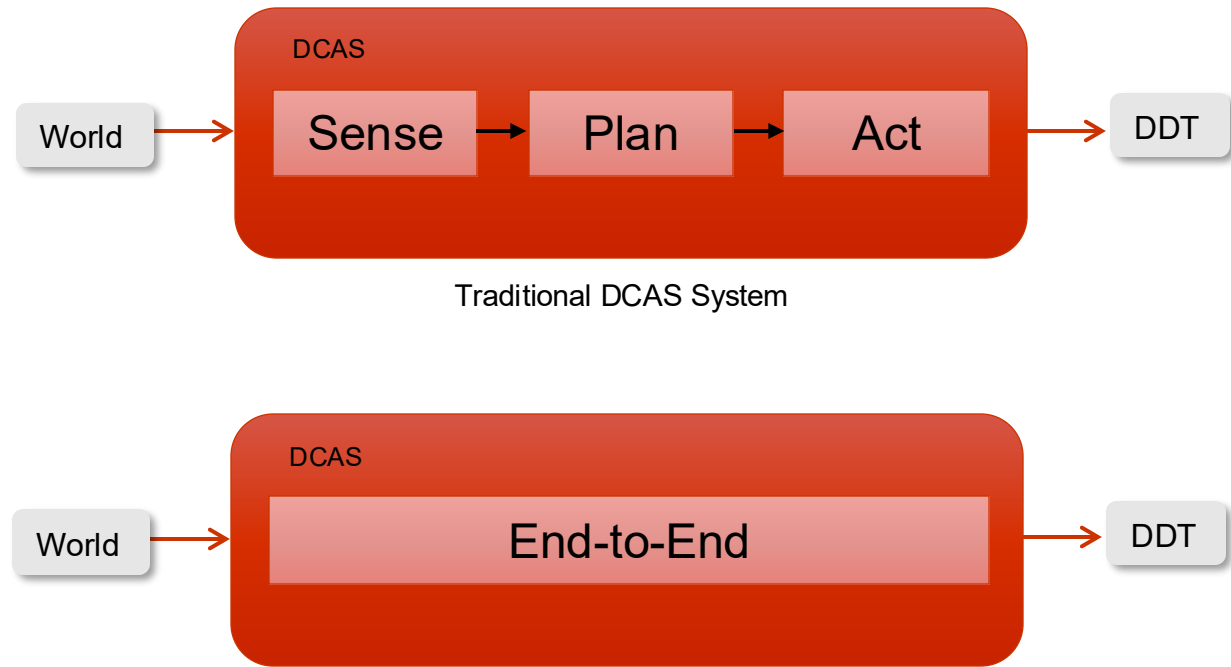
- Intention for technology-neutral requirements in regulations for ADAS
- Technologies like end to-end cannot fully fulfil current regulatory frameworks
- EU 2018/858 art. 39 process for exemptions to those technologies

New technology introduction

- New systems incorporating End-to-End (E2E)
- New considerations from regulatory aspect and assessment criteria

End-to-End is a large machine learning model. As an input it takes in sensory data and produces actuation signal. Such systems may not meet all UN-R 171 regulatory requirements because:

1. Sometimes cannot practically be bound by specific limits (prescriptive requirements vs real world driving)
2. Criteria for testing – traditional test approach and repeatability limitations



Article 39

1. The manufacturer may apply for an EU type-approval in respect of a type of vehicle, system, component or separate technical unit that incorporates new technologies or new concepts that are incompatible with one or more regulatory acts listed in Annex II.

Article 39

2. *The approval authority shall grant the EU type-approval referred to in paragraph 1 where all of the following conditions are met:*

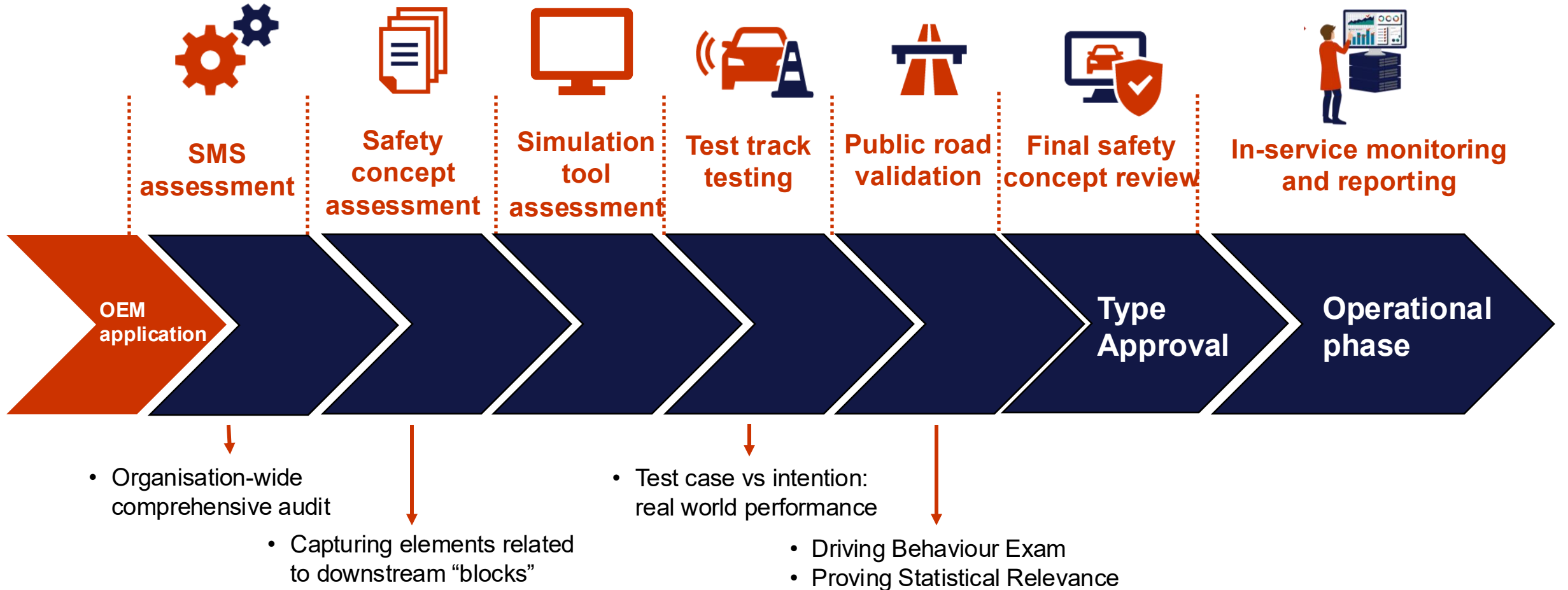
- (a) The application for the EU type-approval states the reasons why the new technologies or new concepts make the vehicles, systems, components or separate technical units incompatible with one or more regulatory acts listed in Annex II;*
- (b) The application for the EU type-approval describes the safety and environmental implications of the new technology or new concept and the measures taken in order to ensure at least an equivalent level of safety and environmental protection to that provided by the requirements in respect of which an exemption is sought;***
- (c) Test descriptions and results are presented proving that the condition in point (b) is met.*

Assessment of specific exemptions under art. 39 based on current regulations

1. Assessment of technology in relation to current regulation
2. Definition of exemptions that are needed due to new technology
3. Assessment of the evidence for art. 39 exemptions
 - a. Data
 - b. Studies
 - c. Test reports
4. Verification and validation of the evidence
 - a. Simulation tool verification
 - b. Test track
 - c. Public road
5. Final decision → type approval with exemptions



Type Approval Process → Multi Pillar



Key Takeaway:

- This approach requires close-collaboration between 3 key parties: TAA - TS – Manufacturer
- Criticality of as early as possible engagement: Significant effect for compliance demonstration timeline



Post approval in relation to art. 39 exemptions

- Continued interaction between TAA and OEM post approval
 - Initial step (approval) covers specific territory (Member State)
- In-service monitoring and reporting
 - Exemption-specific requirements and approach to monitoring
 - Close collaboration between All Parties – especially TAA and Manufacturer
- Software updates impact assessment on art. 39 exemptions

Further work:

- With the approval, Art 40 will initiate public discussion with all stakeholders on new or amendments of a regulation to enable the new technology



Questions and answers

Questions related to the process can be sent to:

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**Thank You for
your
attention!**

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