



Considerations for an ADS Regulation

- Basic principles and conceptual overview -

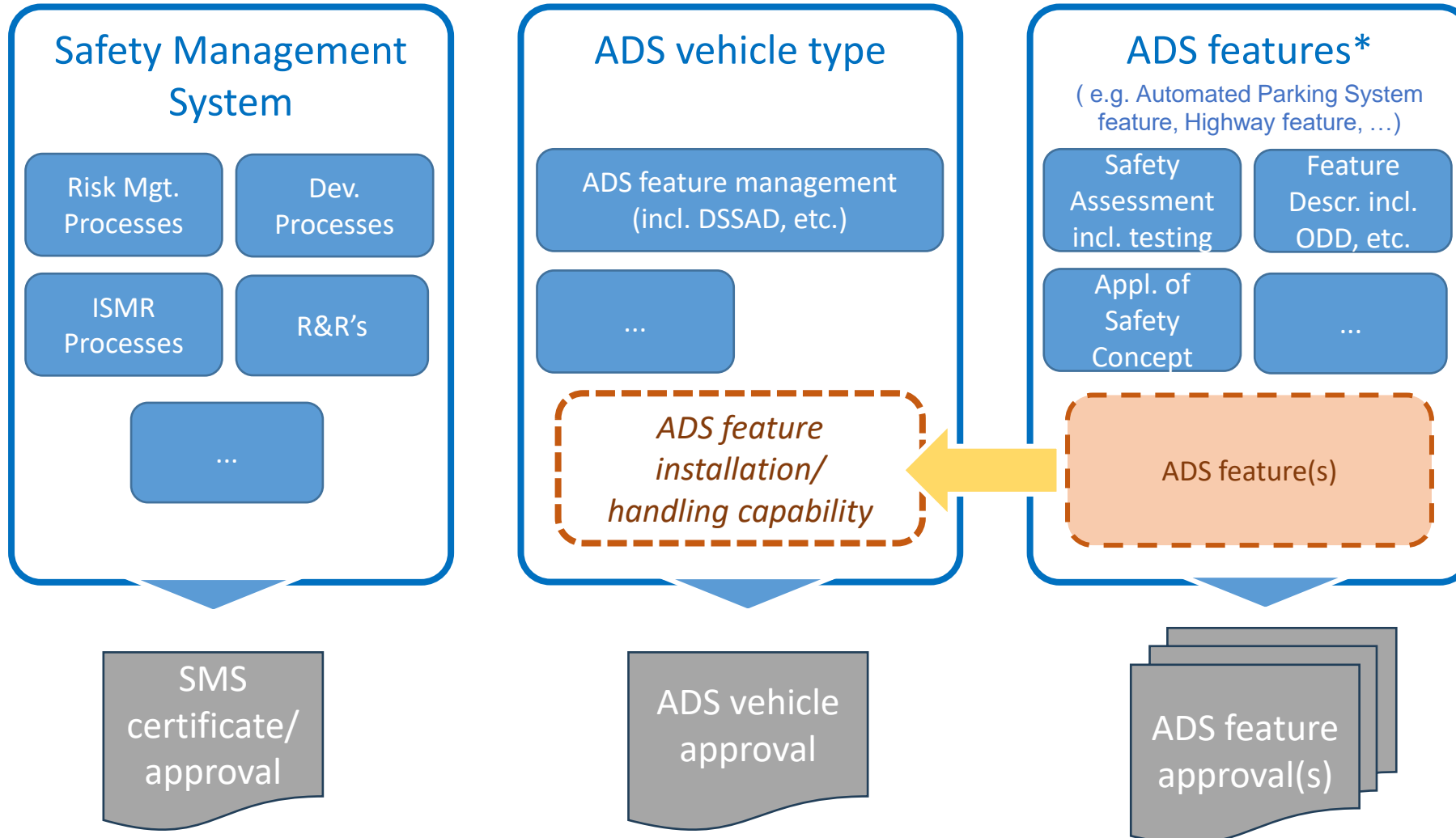
ADS Regulations: Application and basic assumptions

Key elements identified:

- The ADS regulations (GTR & UN R) should be generic and allow for a certification of ADS over a broad range of ODD's, use-cases, etc.
 - => it shall not be use-case by use-case based
 - => it is not possible to define a use-case prioritization, given the different needs of various manufacturers
 - => GTR and UN R to share same technical requirements and testing/validation approach, incl. documentation (differences limited to the administrative provisions linked to the different approval schemes)
- The regulations should support dynamic ADS feature management
 - => incl. registered vehicles (in use) over lifetime
- No double certification of common elements
 - => the Safety Management System is not vehicle dependent but demonstrates the manufacturer's capability
 - => ADS vehicle type related elements
 - => ADS feature related elements
- Concept of individual ADS feature approvals (similar to component approvals) => 58A
- ADS vehicle certification/approval shall cover minimum content only, while a more detailed assessment and demonstration of the safety case apply to the ADS features based on the ODD, use-case, etc.

UN Reg on ADS (58A)

Regulatory approach

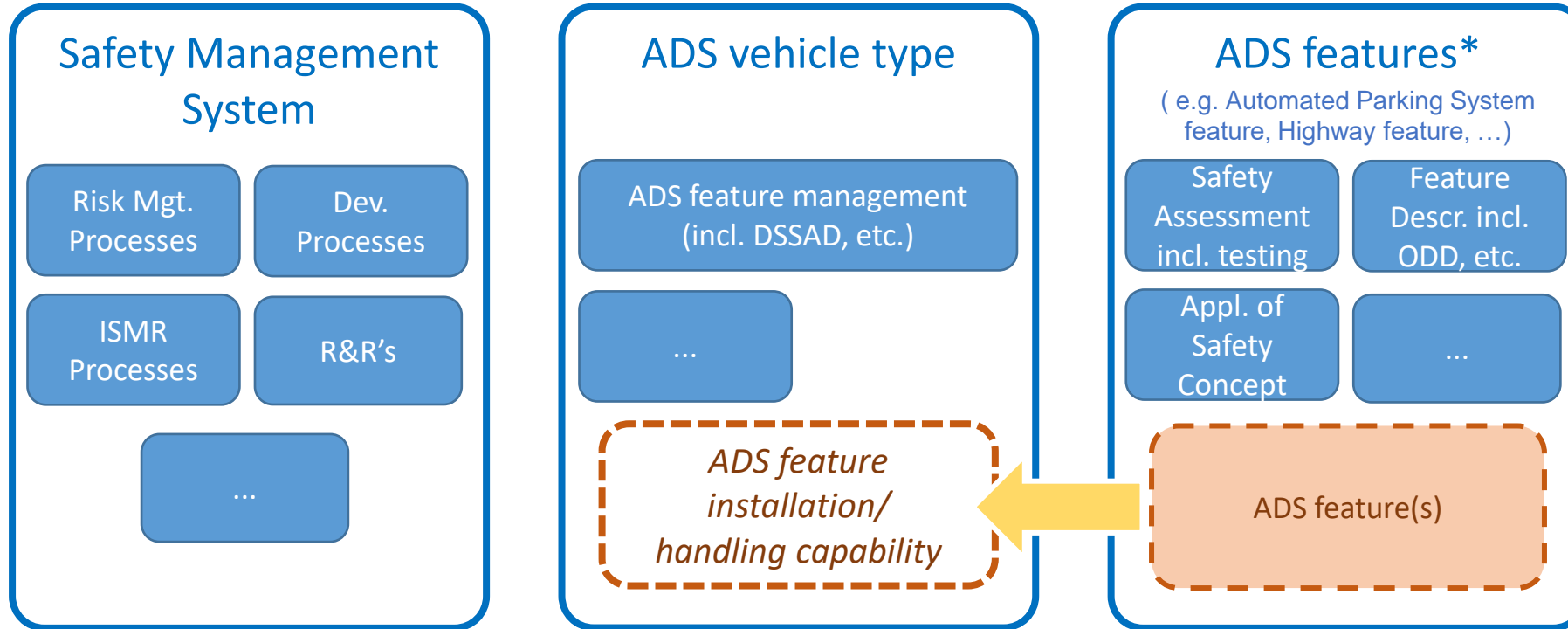


*Reminder (WP.29/2024/39):
 3.1.3. "ADS feature" means an application of an ADS designed specifically for use within an Operational Design Domain (ODD).

- UN Regulation covering the ADS features should be generic not use-case by use-case based
- Further consideration of how to structure the ADS Regulation to cover the three subjects

GTR on ADS (98A)

Regulatory approach

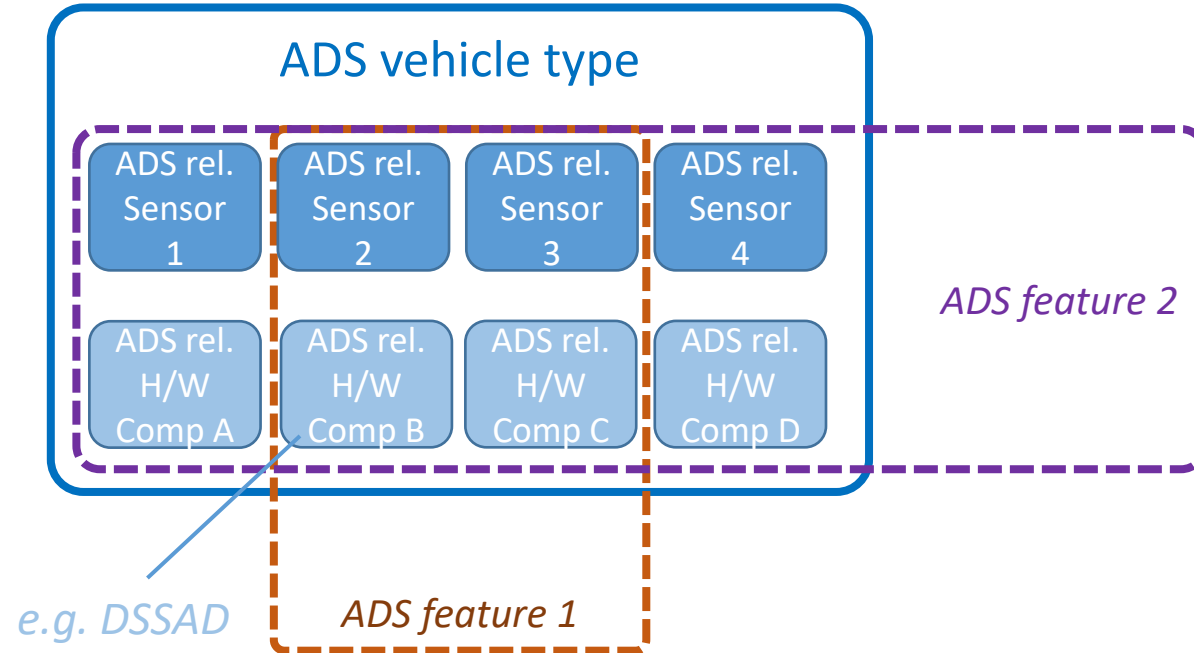


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3.1.3. "ADS feature" means an application of an ADS designed specifically for use within an Operational Design Domain (ODD).

- GTR covering the ADS features should be generic not use-case by use-case based
- Further consideration of how to structure the ADS GTR to cover the three subjects

The GTR on ADS could be structured in the same way to allow national implementation supporting a dynamic ADS feature management over the lifetime of an ADS vehicle in use

UN Reg on ADS (58A)



ADS feature:

=> The actual "ADS application", e.g. parking feature, highway feature,...

- ADS feature capability incl. ODD description, safety assessment, V&V, ...
- Required Sensor/H/W setup for the ADS feature
- Approved according to national, regional or UNECE requirements => similar to a component approval

ADS vehicle type:

=> Indicate that the vehicle is "ADS ready"

- Feature management:
 - Ensure that the ADS vehicle type is capable of handling ADS features
=> identification of valid ADS features
=> ADS features need to be approved (to national, regional or UN ECE requirements)
 - Integration aspects of ADS features in the ADS vehicle type
=> Similar to installation requirements for approved components
 - Allow to check for the ADS features installed
- ADS relevant Sensor/Hardware setup is part of the ADS vehicle type
=> information on the ADS relevant H/W layout
- Vehicle type definition to support ADS architectures to combine various vehicles in one ADS vehicle type approval (see UN R155 on Cyber Security)



Thank you