

DRAFT

Vehicle categorization under R.E.3

New categories for Automated Vehicles (AV's)

Designed primarily for the carriage of people

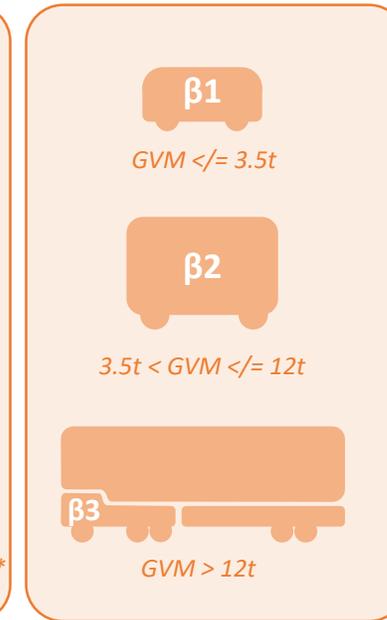
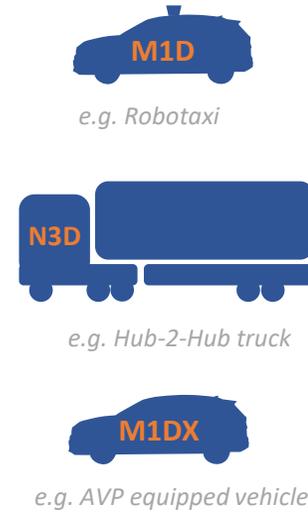
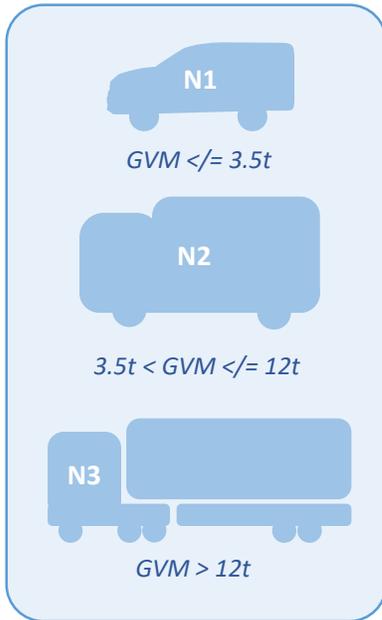
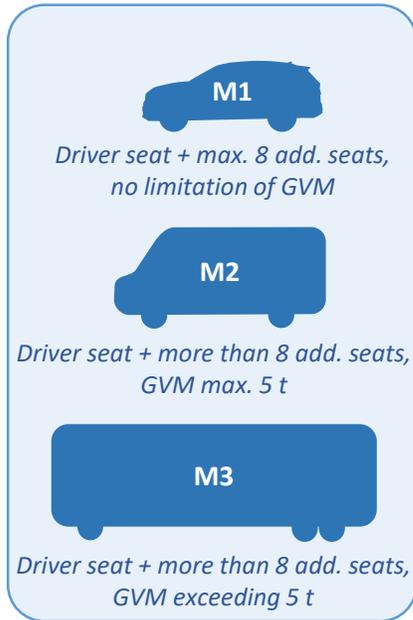
Designed primarily for the carriage of goods

Subcategory D „Dual Mode vehicles“
e.g.

Designed to carry occupants

Designed to carry no occupants (freight only)

Subcategories X & Y „Low speed AV's“
e.g.



*Class I, II, III and Class A, B can be carried over for α2 and α3

Vehicles which can be driven manually under nominal conditions

AV's which do not require a driver/fallback-user

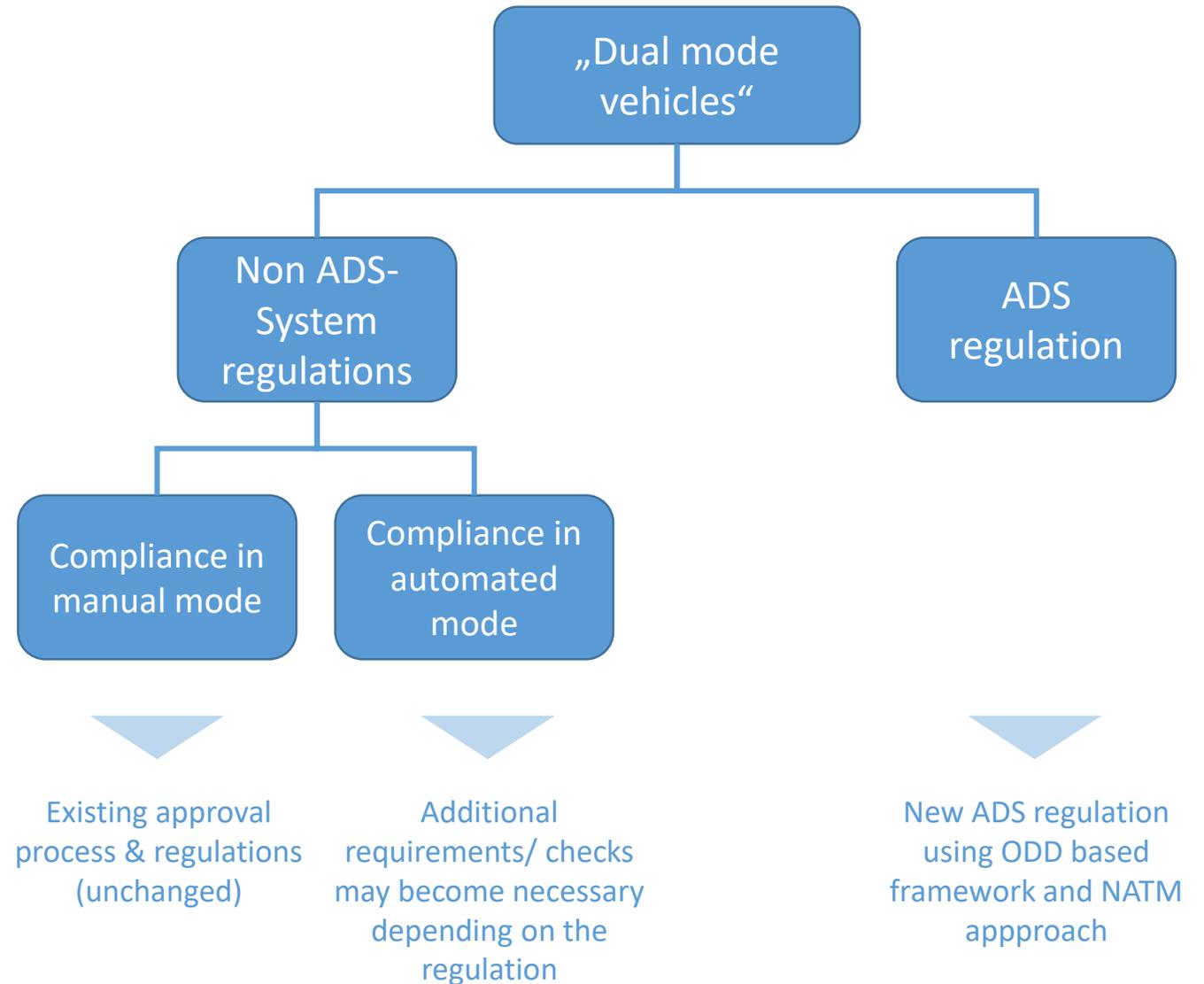
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Vehicle categorization: „Dual Mode vehicles”*

Since the main vehicle design from a vehicle category point of view is „driven“ by the manually operated vehicle, it may be appropriate to use existing categories + an addition subclassification comparable to „off road“ => „G“, e.g. „D“ for „dual mode automated vehicles“ => M1D, N1D, ...

Which „specifics“ will have to be considered under automated mode for non-ADS system regulations?

- 1) Replace „driver reference“ adequately
- 2) HMI (incl. warnings) to consider passengers in general (where applicable)
- 3) Amending/supplementing e.g. testing conditions as appropriate (=> testing?, self assessment/ declaration?) Additionally considering ADS performance assessment (performing DDT in the ODD)



* AV's which do not require a driver/fallback-user

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Add "Dual Mode" sub category definition

Vehicle categorization: Definitions

- Category „Alpha“- Power-driven automated vehicles which [are not equipped with controls for manual driving / cannot be driven manually under nominal conditions] having at least four wheels and which are designed to carry occupants on board the vehicle
- Category „Alpha1“- Vehicles having a gross vehicle mass not exceeding 3500 kg and which are designed to carry seated passengers only
- Category „Alpha2“- Vehicles with seated passengers only having a gross vehicle mass exceeding 3500 kg and below 5000 kg or vehicles with standing or standing and seated passengers having a gross vehicle mass not exceeding 5000 kg
- Category „Alpha3“- Vehicles having a gross vehicle mass exceeding 5000 kg and which are designed to carry seated passengers and/or standing passengers
- Category „Beta“- Power-driven automated vehicles which [are not equipped with controls for manual driving / cannot be driven manually under nominal conditions] having at least four wheels and which are designed to not carry occupants on board the vehicle
- Category „Beta 1“- Vehicles having a gross vehicle mass not exceeding 3500 kg
- Category „Beta 2“- Vehicles having a gross vehicle mass exceeding 3500 kg and below 12000 kg
- Category „Beta 3“- Vehicles having a gross vehicle mass exceeding 12000 kg

“Low speed” sub categories:

- “X” - Vehicles of category Alpha, Beta or subcategory D having a maximum design speed not exceeding [25] km/h
- “Y” - Vehicles of category Alpha or Beta having a maximum design speed exceeding [25] km/h but not exceeding [45/50/60] km/h

Vehicle categorization: Classification

- x. Classes for vehicles of category Alpha 2 and Alpha 3
 - x.1. For vehicles having a capacity exceeding [23] occupants ~~22 passengers in addition to the driver~~, there are three classes of vehicles:
 - x.1.1. "Class I": Vehicles constructed with areas for standing passengers, to allow frequent passenger movement.
 - x.1.2. "Class II": Vehicles constructed principally for the carriage of seated passengers, and designed to allow the carriage of standing passengers in the gangway and/or in an area which does not exceed the space provided for two double seats.
 - x.1.3. "Class III": Vehicles constructed exclusively for the carriage of seated passengers.
 - x.1.4. A vehicle may be regarded as belonging in more than one class. In such a case it may be approved for each class to which it corresponds.
 - x.2. For vehicles having a capacity not exceeding [23] occupants ~~22 passengers in addition to the driver~~, there are two classes of vehicles:
 - x.2.1. "Class A": Vehicles designed to carry standing passengers; a vehicle of this class has seats and shall have provisions for standing passengers.
 - x.2.2. "Class B": Vehicles not designed to carry standing passengers; a vehicle of this class has no provision for standing passengers.