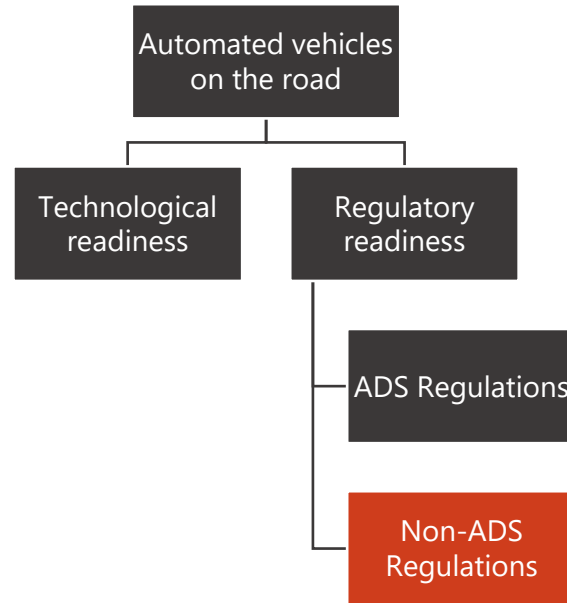# Fitness of UN Regulations and UN Global Technical Regulations for their application to automated vehicles

Short reminder on the context of the screening

```
         Automated vehicles
            on the road
         ┌────────┴────────┐
   Technological        Regulatory
     readiness          readiness
                            │
                      ADS Regulations
                            │
                        Non-ADS
                       Regulations
```

- Contracting Parties and the industry need a Regulatory environment for automated vehicles

- Existing Regulations must be checked to determine which ones may be applicable to automated vehicles

- Screening taskforces were established by WP.29 for each GR to determine the overall status of all Regulations

Mandate (given by WP.29 186th session):

- Scan all **166** UN Regulations and **23** Global Technical Regulations to determine their relevance for fully automated vehicles, and whether changes are needed.

Focus (given by GRVA 14th session):

- All use cases should be considered, especially dual-mode vehicles, vehicles without manual driving capabilities and vehicles without occupants
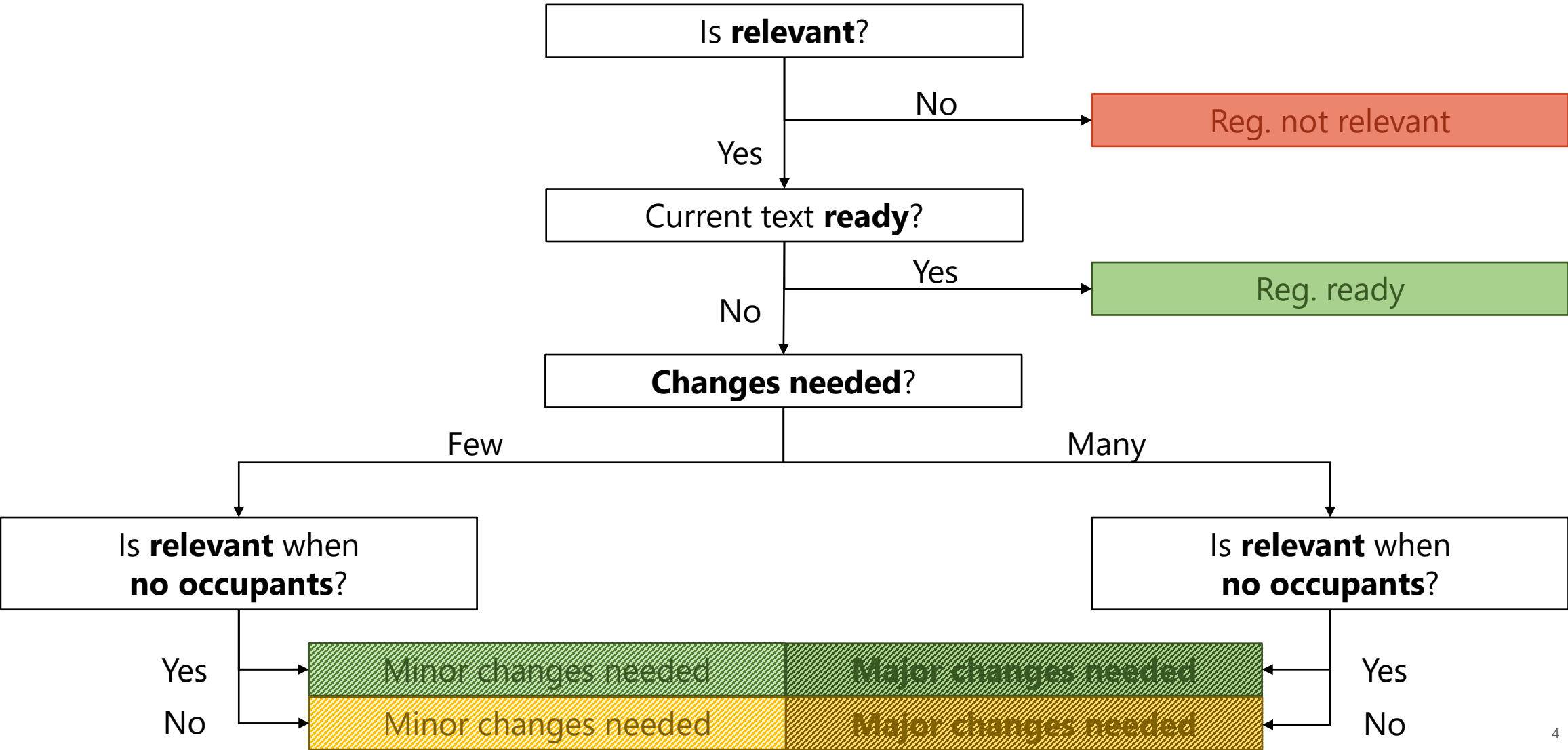
Organization of the screening

6 screening task forces were established as follows :

- **Working Party on Noise and Tyres (GRBP): chaired by the Netherlands and secretariat provided by OICA**

- **Working Party on Lighting and Light-Signalling (GRE) : Co-chaired by Germany and the United Kingdom, and secretariat provided by the International Automotive Lighting and Light-Signalling Expert Group (GTB)**

- **Working Party on Pollution and Energy (GRPE): Chaired by the Netherlands**

- **Working Party on General Safety (GRSG) provisions: Chaired by the Netherlands, and secretariat provided by OICA**

- **Working Party on Passive Safety (GRSP): Chaired by Germany, and secretariat provided by OICA**

- **Working Party on Automated/Autonomous and Connected Vehicles (GRVA): Co-chaired by France and China**

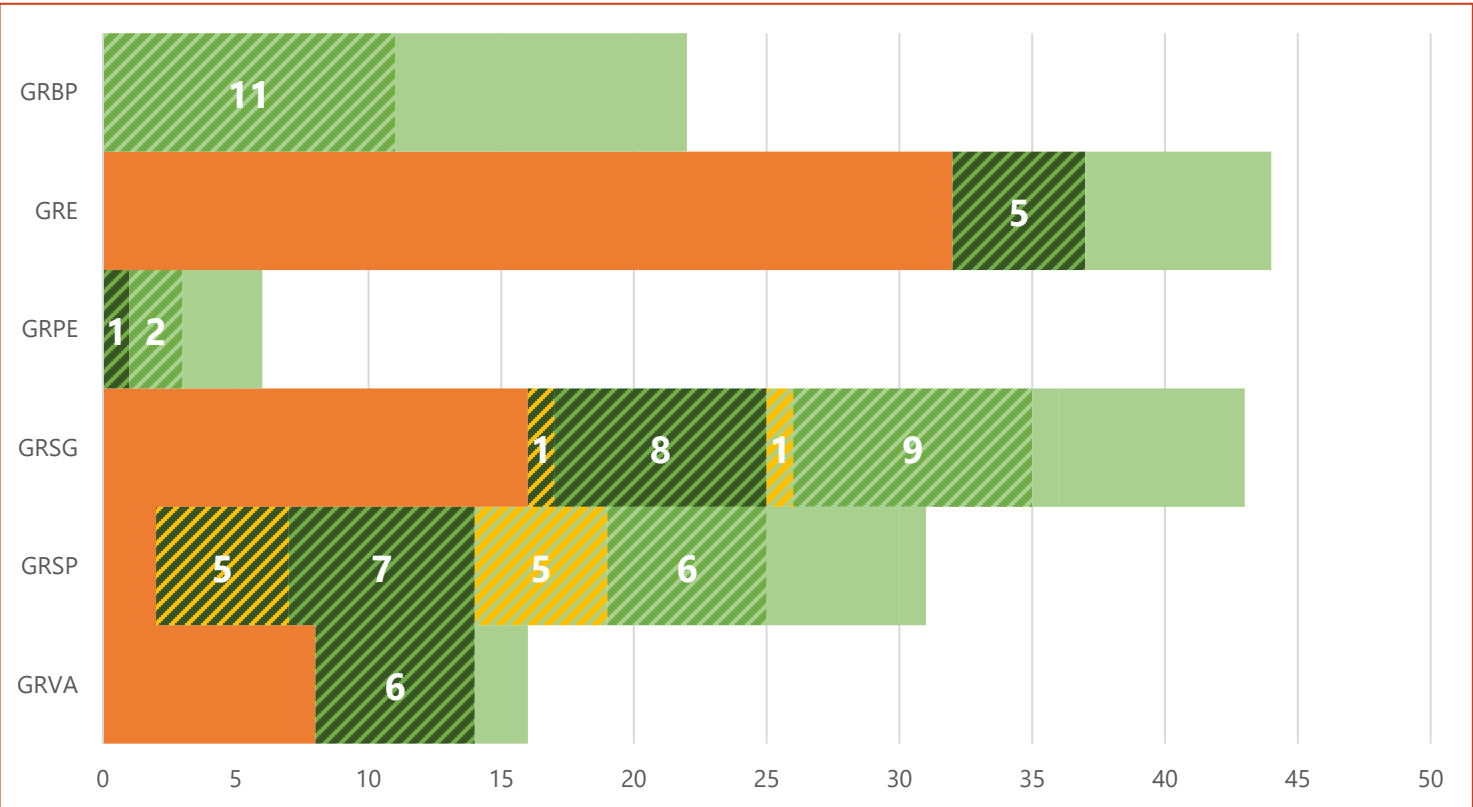**Plenty meetings at each GRs level + coordination meeting of TF chairs**

Report in WP29 by GRVA TF chairs of behalf of other TF chairs

Screening process of a Regulation / Objectives

Result of the screening process (1/2)

Legend:
- Regulation ready for automated driving (although improvements might be desirable)
- Regulation not ready, but can be applicable after minor changes
- Regulation not ready, but can be applicable after major changes
- Regulation not ready, but can be applicable after minor changes to automated vehicles with occupants
- Regulation not ready, but can be applicable after major changes to automated vehicles with occupants
- Regulation not applicable to automated vehicles with no manual driving capabilities
- * Regulation not applicable, must be handled by the ADS
- Regulation waiting to be screened

Detailed files for each Regulation are available on the wiki pages of each screening taskforce:
GRBP GRE GRPE GRSG GRSP GRVA

Result of the screening process (2/2)

Number of Regulations by status

	Legend
:	Regulation ready for automated driving (although improvements might be desirable)
:	Regulation not ready, but can be applicable after minor changes
:	Regulation not ready, but can be applicable after major changes
:	Regulation not ready, but can be applicable after minor changes to automated vehicles with occupants
:	Regulation not ready, but can be applicable after major changes to automated vehicles with occupants
:	Regulation not applicable to automated vehicles with no manual driving capabilities

Main Open Issues

- ## Categories / sub-categories for automated vehicles

  - Depending of decision on that topic, a clear roadmap is needed in order to amend Regulations accordingly

- ## Impact of the ADS ODD on performance and testing provisions

  - Should vehicles with restricted Operational Design Domains benefit from adapted performance and testing provisions?

- ## Test mode

  - How can manufacturers enable Type Approval Authorities and Technical Services to perform testing scenarios for emissions measurement, braking, etc. for driverless vehicles?

- ## Unknown policies

  - Are children allowed to travel unattended in automated vehicles? Can automated vehicles carry dangerous goods? How should an ADS react to a passenger unfastening its seatbelt? Etc.

Next steps

- The Task Forces welcome AC.2's recommendations to the GRs to start amending the regulations, with the following priorities:

Subsidiary Working Party	*Regulations to be amended in priority*
GRBP	R9, R28, R51, R138, R165
GRE	R10, R48
GRPE	To be decided after all Regulations have been screened.
GRSG	R43, R107, R160, R.E.3[1], S.R.1[1]
GRSP	R11, R14, R16, R 17, R 21, R29, R94, R95, R100
GRVA	R13, R13-H, R79

[1]: In collaboration with GRVA

- The Task Force welcome AC.2's recommendation that the established coordination of task forces continue to provide coordination.