

Efforts of Road Transport Bureau, MLIT For Automated Driving

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Efforts by Automated Driving Strategy Headquarters, MLIT

Main effort

1. Improving the environment to realize the automated driving

- (1) Safety regulations formulation and system development related to cars
- (2) System / environment improvement to realize the automated driving

2. Promoting of development and spreading of automated driving technology

- (1) Car technology
- (2) Road and cars cooperation technology

3. Demonstration experiments and social implementation to realize the automated driving

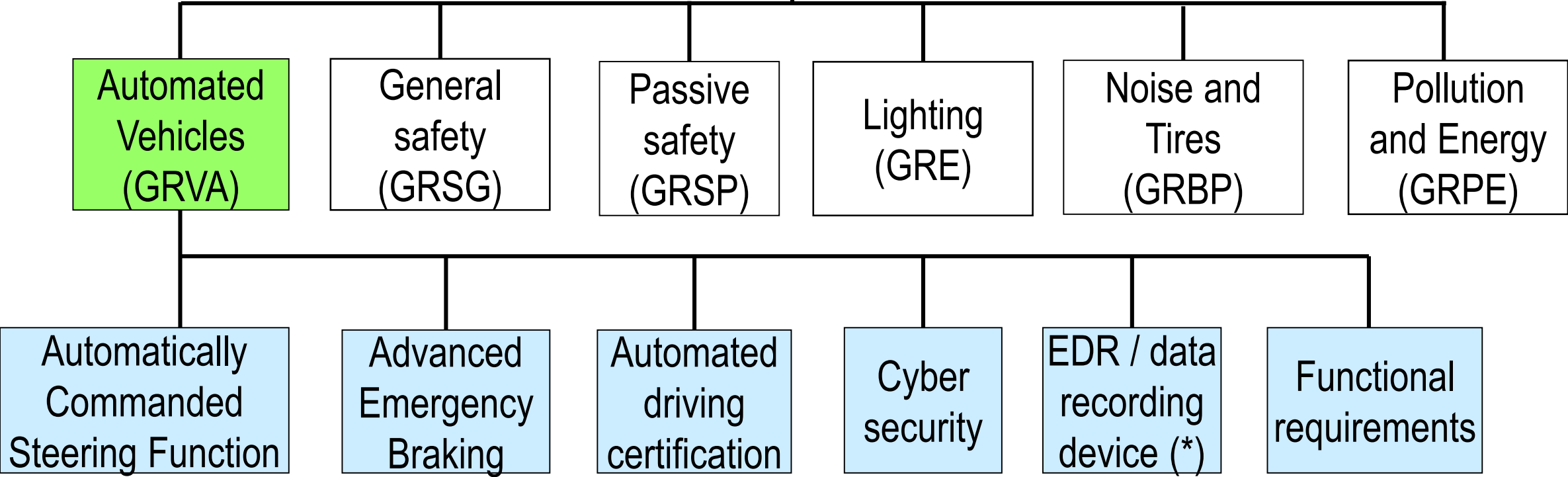
- (1) Improvement of moving services
- (2) Improvement of logistics productivity

Safety Regulations Formulation and System Development for Cars

International regulations examination system and items for automated driving technology

World Forum for Harmonization of Vehicle Regulations (**WP29**)

(Japan, US, EU, China etc. joined)



Guidelines for Safety Technology of Automated Cars [Overview]

Basic concept of safety for automated cars

- “Aiming to realize a society where human accidents caused by automated driving systems are zero” is set as the target.
- The definition of car safety that an automated car should satisfy is set as "an automated driving system causes no reasonably foreseeable and avoidable personal accidents in Operational Design Domain (ODD) for an automated car." The car safety requirements that automated cars should meet are set and their safety are ensured.

Guidelines for Safety Technology of Automated Cars [Overview]

Requirements for safety of automated cars (10 items)

Automated driving cars must ensure their safety by meeting the following safety requirements.

- ① Operational Design Domain (ODD) setting
- ② Safety of the automated driving system
- ③ Compliance with security regulations, etc.
- ④ Human-machine interface (equipping driver status monitoring function, etc.)
- ⑤ Equipping data recording device
- ⑥ Cyber security
- ⑦ Safety of cars for unmanned moving services by automated driving
(the additional requirement)
- ⑧ Safety evaluation
- ⑨ Ensuring safety during the use process
- ⑩ Provision of information to users of automated cars

Summary of the bill

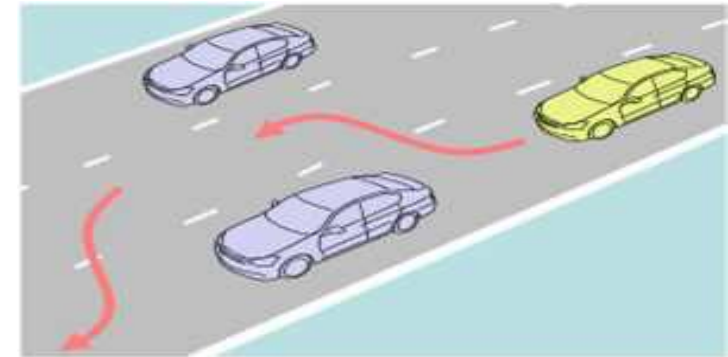
1. Addition of automatic operation devices to security regulations targeted devices
2. Organizing corporations that conduct administrative work related to the management of technical information necessary for electronic inspection of automobiles
3. Mandatory provision of technical information necessary for expanding the scope of maintenance by disassembly / inspection
4. Establishment of a permission system related to remodeling, etc. by modifying programs incorporated in automatic operation devices, etc.
5. Others

Summary of the bill

1. Addition of automatic operation devices to security regulations targeted devices *1

- "Automated operation device" is added to the targeted device of the safety regulations.
- The Minister of MLIT shall provide conditions (running environment conditions) for using the automated operation device.

Car lane changes on highways



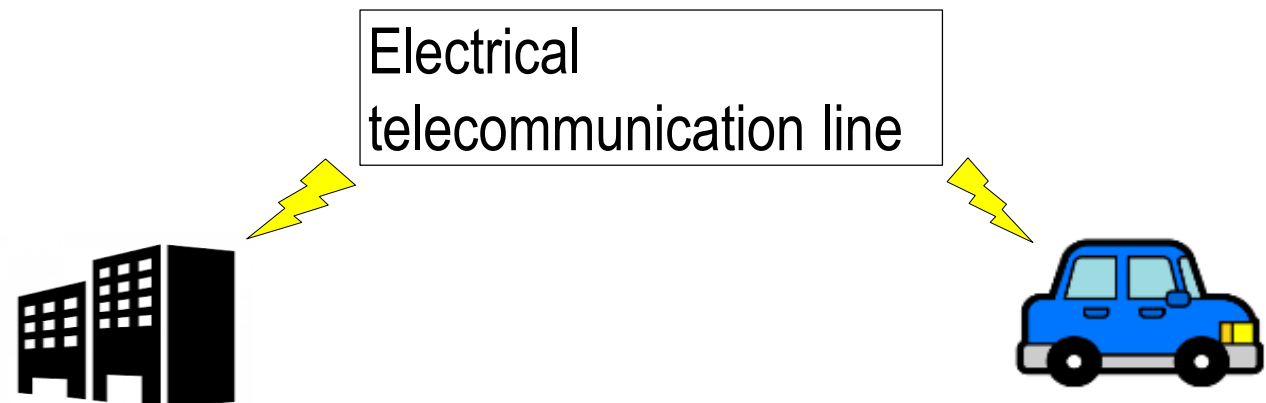
Automated operation device

- Necessary equipment for operating a car automatically according to the program, and the equipment with the function of substituting all of the capabilities related to the recognition, prediction, judgment and operation of the person, who operates the car, when it is used under the conditions which given by the Minister of MLIT
- Including measures to record information necessary for confirmation of operating status

Summary of the bill

4. Establishment of a permission system related to remodeling, etc. by modifying programs incorporated in automatic operation devices, etc. *4

- Establishment of permitting system related to acts such as the use of telecommunication lines, etc. that are modifications, by changing of programs incorporated in automatic operation equipment, etc. It is also the modification, if the contents are not appropriate, the car may not comply with the safety regulations.
- Let NALTEC conduct a technical review of the work related to permission



[Effective date] * 4: Within one year and six months from the date of promulgation

Guidelines for Ensuring Safety and Convenience by Passenger Car Operators in Unmanned Automated Driving and Moving Services in Limited Areas

Target of guidelines

- ① Unmanned automated driving and moving services in a limited area on the premise of safety assurance measures such as remote monitoring, operator monitoring and etc.
- ② Unmanned automated driving and moving services in a limited area, after establishment of technologies and systems related to Level 4

Items to be addressed

- Ensuring operational safety in compliance with traffic rules
- Ensuring passenger safety
- Ensuring car safety through inspections, maintenance and etc.
- Confirmation of pre-service inspection
- Responding to emergencies and establishing a communication system
- Accident records
- Operation records
- Responses based on accidents and near-miss cases
- Establishing a system for carrying out transportation
- Securing passenger convenience