



Initiatives for Realization of Automated Driving by Japan Police

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TRANSFORMATION BY TRANSPORTATION | #ITSWC2022

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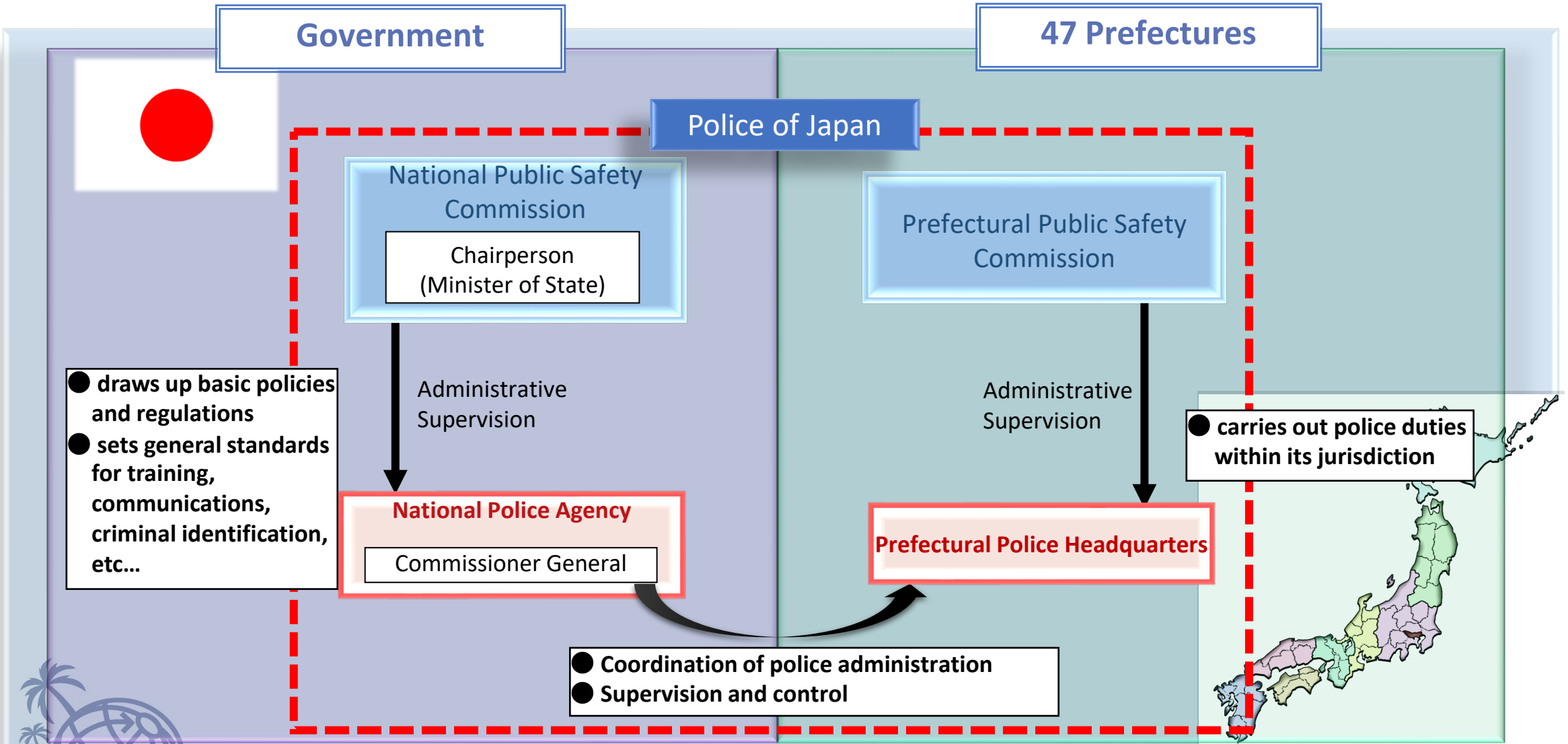


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Police as the manager of road traffic



Planning of road traffic rules



Traffic control & management



Provision of traffic information



Traffic safety education & campaigns

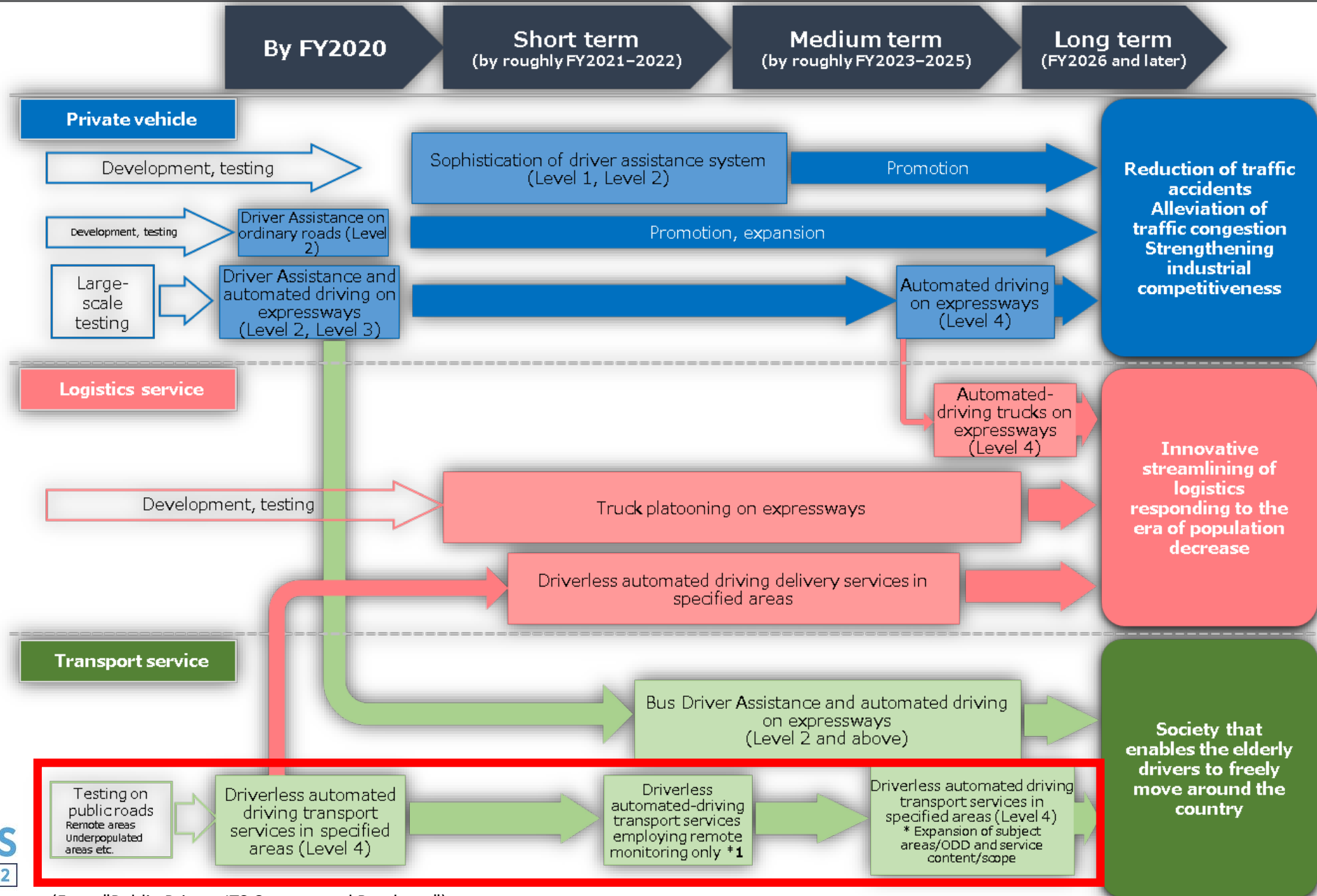


Law enforcement



Driver's license

Government's target for realization of automated driving



(From "Public-Private ITS Concept and Roadmap")

Expected benefits of automated driving and our efforts

■ Reduction of traffic accidents

Cause of traffic accidents (2021)



Automated Driving System

substitutes for the entire ability of a person for...



reduces traffic accidents caused by human errors

■ Reduction of traffic congestion

Major cause of traffic congestion



Automated Driving System

V2V/V2I communication



reduces traffic congestion by creating smooth traffic flow

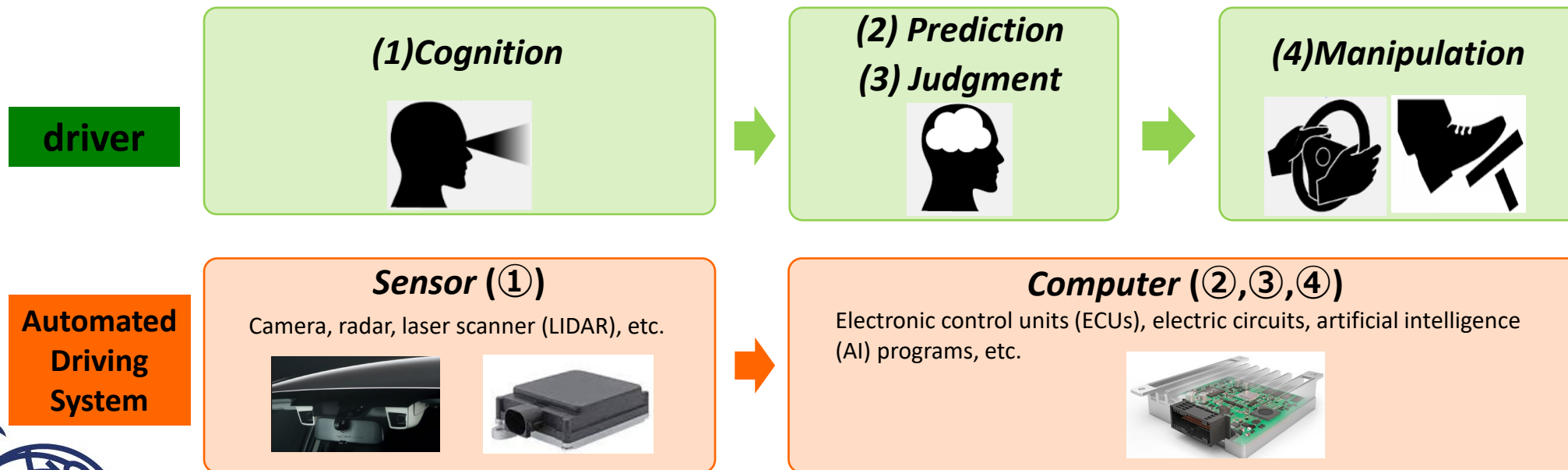
Initiatives

- Improvement of traffic rules
- Establishment & clarification of testing framework
- R & D
- PR and awareness

Definition of automated operation device (AOD)

An “Automated Operation Device(AOD)” constituted of ... means a device which, when used under the conditions specified by the Minister of Land, Infrastructure, Transport and Tourism for each device (ODD), has a function to substitute for the entire ability of a person operating a vehicle for the cognition, prediction, judgement and manipulation of the vehicle, and has a device to record information required to ensure the operation of the functions.

(Article 41(2), Road Transport Vehicle Act)



2019 Amendment to the Road Traffic Act for SAE Lv3 automated driving

(Rules to be observed by drivers of motor vehicles equipped with AODs)

Article 71-4-2, Road Traffic Act

- (1) The driver of a motor vehicle equipped with an AOD **must not drive** the vehicle using that device **if the operational design domain (ODD) of the AOD is not met**.
- (2) In the event a driver of a motor vehicle equipped with an AOD drives the vehicle using the AOD, **under the condition that all of the following items are applied**, the provisions of **Article 71, item (v)-5 shall not apply** to the driver.
 - (i) **The vehicle does not** qualify as **an improperly maintained vehicle**.
 - (ii) **The ODD of the AOD is met**.
 - (iii) In the event **the preceding two items become inapplicable**, the driver is **in a state of readiness to immediately recognize** this fact and to **immediately and reliably operate the vehicle's equipment** other than the AOD.



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When a Lv3 AOD is working appropriately



You are allowed

- ✓ Not to check what is in front of the vehicle and its surroundings
- ✓ To talk on a mobile phone held by hand
- ✓ To watch a display continuously

] Prohibited by Art.71(v)-5

When the ODD (*) is not met

- * e.g.
- The vehicle is traveling on a highway at low speeds due to traffic jams
 - The vehicle is not in bad weather conditions such as heavy rainfall, snowfall, or fog
 - Conditions do not make stable driving difficult due to road freeze or other reasons



The AOD issues a take over request (TOR) to the driver.

Def. of Specified automated operation (SAO):

Operating on a road a motor vehicle equipped with an AOD (but only one which may immediately stop that motor vehicle automatically in a safe manner when that motor vehicle has become an improperly maintained vehicle or when the use of that AOD has become unable to satisfy the ODD dedicated to that AOD), which is used under the ODD dedicated to that AOD

(Article 2-17-2 , RTA)

2022 Amendment to the Road Traffic Act for SAE Lv4 automated driving

(1) Permission for a SAO

- A person seeking to conduct a SAO must obtain **permission from a Prefectural Public Safety Commission (PPSC)**.
- A person seeking to obtain the permission must submit a written application containing **a plan concerning the SAO**.
- SAOs must comply with the permitted SAO plan.

(2) Rules to be Observed While a SAO is Running

- The SAO implementer must take either:
 - (a) measures to equip a place to manage the SAO with a **remote-monitoring equipment** and **place a supervisor of SAO** there; or
 - (b) measures to **place a supervisor of SAO in that vehicle for SAO**.

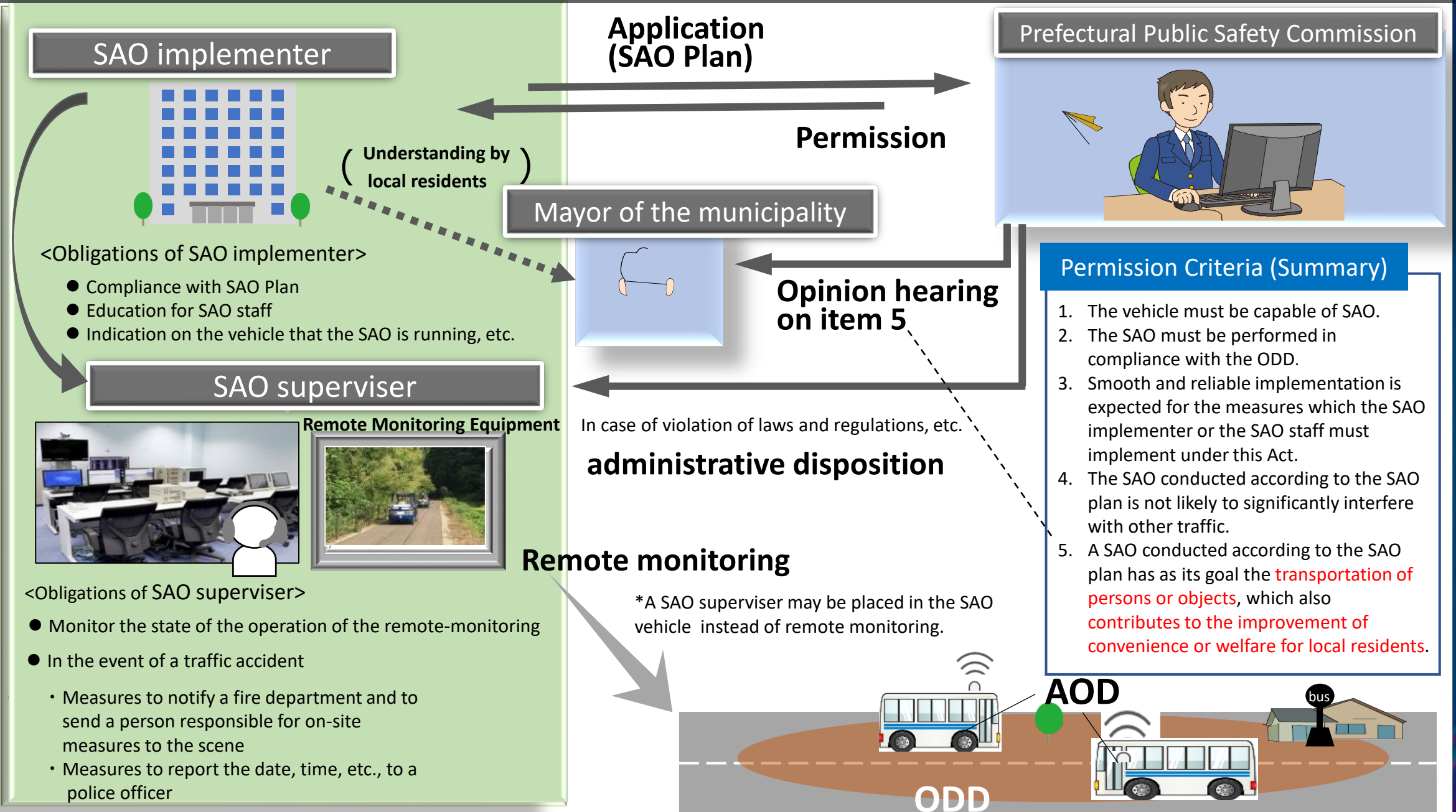
(3) Measures to be taken in the Event of a Traffic Accident during a SAO

- The SAO supervisor placed must immediately take measures to **notify a fire department** nearest to the scene and must **send a person responsible for on-site measures** to the scene.

(4) Administrative disposition to the SAO Implementer

- In a case where the SAO implementer or SAO staff violate laws and regulations in relation to SAOs, **a PPSC may instruct the SAO implementer to take necessary measures** concerning the SAO.
- **A PPSC may revoke the permission or suspend its validity for a period**, if a SAO implementer or SAO staff violate RTA, an order under RTA, or measures under RTA in relation to SAO, etc.

SAO permission framework

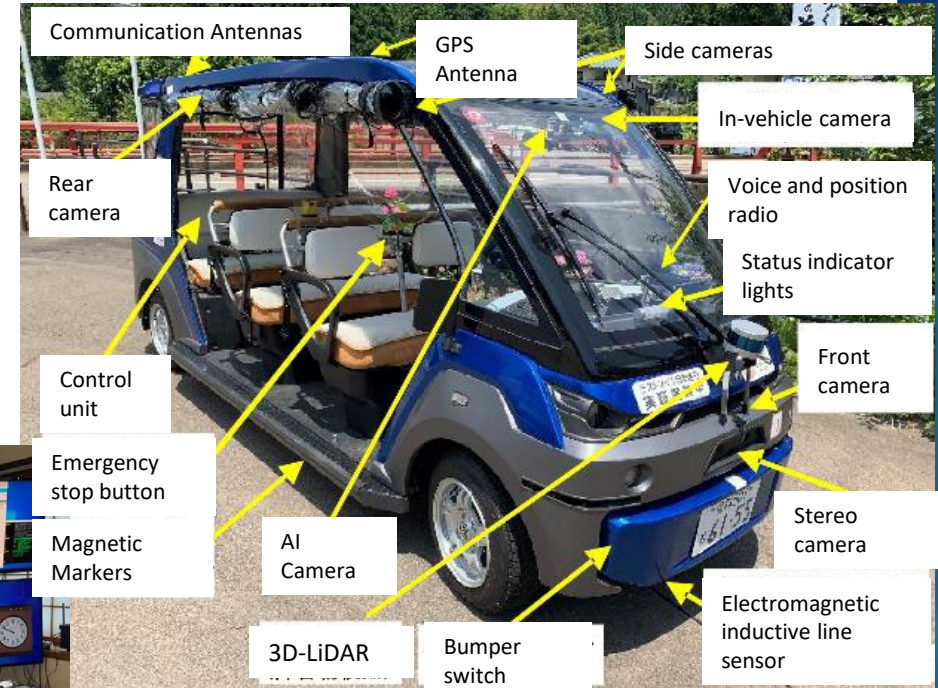
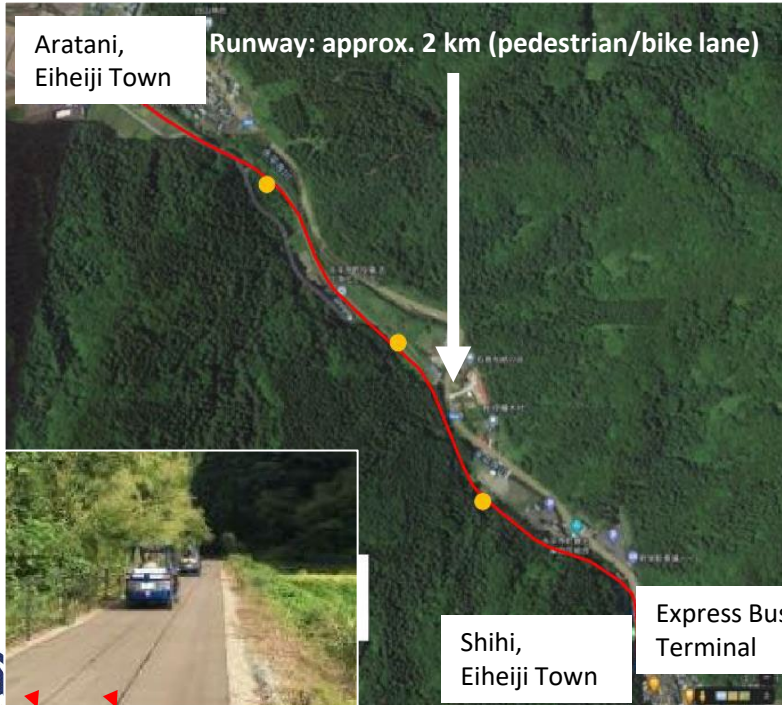


Automated driving for mobility service

in Eiheiji Town, Fukui Prefecture (Remote Type: Level 3)

summary

- ✓ Approved as a **vehicle equipped with an AOS (Level 3)** in March 2021 with permission to use the road for the testing of remote-supervised automated driving.
- ✓ One remote monitor/operator supervises max. 3 vehicles.
- ✓ Vehicles move on the **electromagnetic induction line** embedded on the route.



- ✓ **Electromagnetic induction line (outbound and inbound)** In Partnership With:
- ✓ **No alternating traffic, passing each other at waiting areas**

Thank you for your attention.



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