ITS Development Policies in Japan

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Mr. Koji Hachiyama
Counsellor, National Strategy Office of ICT
Cabinet Secretariat, Japanese Government

SIP

Cabinet Office

ITS-Policy Challenge and objective

1. Policy challenge

Japan is experiencing a aging society.

- ✓ Increasing elderly citizens (especially in rural area)
- ✓ Shortage of workforce

2. Policy Objective

(1) Secure transportation in rural areas

(2)Improve shortage of drivers

Expectation for automated driving

◆ By automated driving, we expect that;

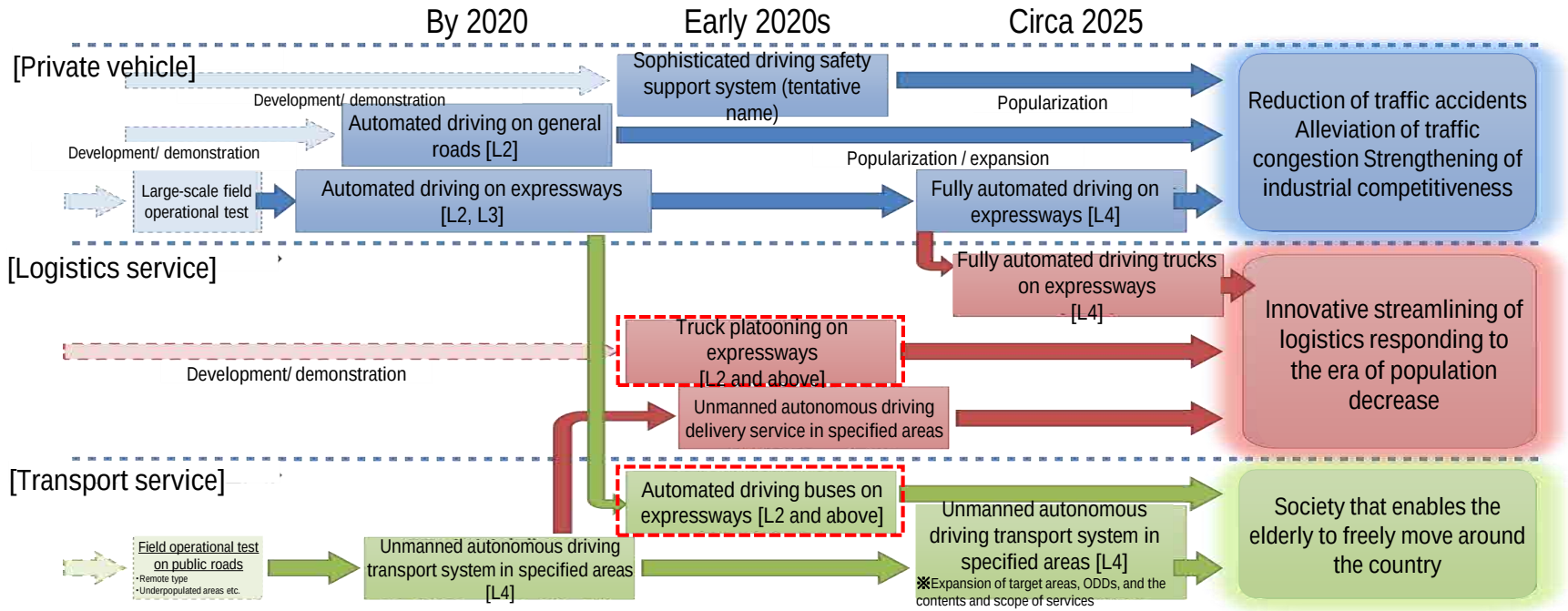
1. To realize a safe and smooth road traffic society
2. To create a new mobility service
3. To revitalize regional community and economy
4. To strengthen international competitiveness of the auto industry

Invoke a “*transport revolution*” and that will thereby allow us to live “*affluent lives*” by solving many of our society’s issues.

Public-Private ITS Initiative/Roadmap 2018

- Update the Public-Private ITS Initiative/Roadmap on a yearly basis
- Develop a popularization scenarios and expected timing of commercialization

〈Scenario for the realization of commercialization and service of fully automated driving by 2025〉



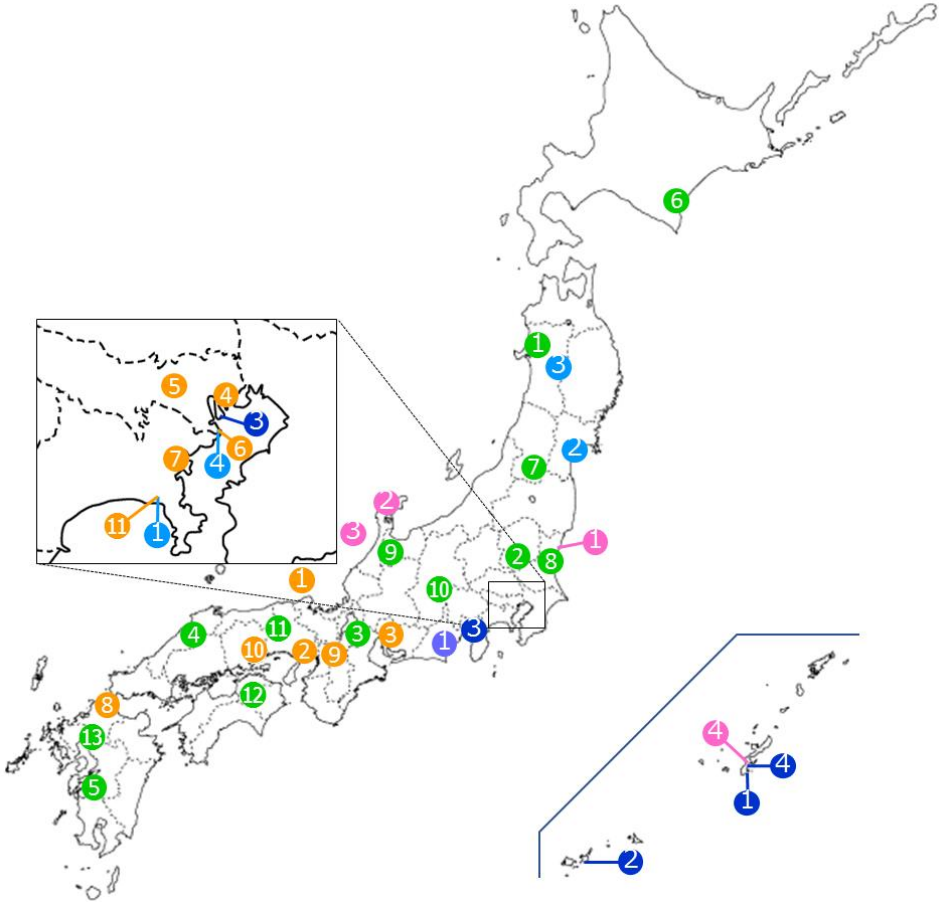
Expected timing for commercialization

- By 2020, we expect to realize automated driving on expressways(L3) and unmanned autonomous driving transport system in limited areas(L4)

〈Expected timing of commercialization and service of automated driving systems〉

		Level	Technology expected to be realized (example)	Expected timing of commercialization etc.
Sophistication of automated driving technologies				
	Private vehicle	Level 2	Semi-autopilot	By 2020
		Level 3	Autopilot	Circa 2020
		Level 4	Fully automated driving on expressways	Circa 2025
	Logistics service	Level 2 and above	Truck platooning on expressways with the trailing vehicle manned by a driver	By 2021
			Truck platooning on expressways with the trailing vehicle unmanned	From 2022
		Level 4	Fully automated driving of trucks on expressways	From 2025
	Transport service	Level 4	Unmanned autonomous driving transport services in specified areas	By 2020
		Level 2 and above	Automated driving of buses on expressways	From 2022

Automated driving Field Operational Tests(FOTs)



- Automated Driving Services at Roadside Stations and Other Locations (MLIT / Cabinet Office - SIP)
- Last-Mile Automated Driving (METI / MLIT)
- SIP Projects (Cabinet Office)
- National Strategic Special Zone Projects (Cabinet Office)
- Truck Platooning (METI / MLIT)
- Projects Conducted by a Local Government, Private Company, or University

Classifying Field Operational Tests(FOTs)

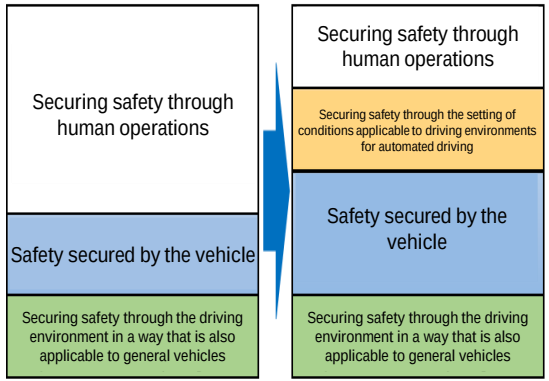
- We classified verification items for FOTs conducted by concerned ministries and agencies.
- FOTs will continue to be promoted based on the results of verification tests conducted to date.

Purpose	Verification items
Verify vehicle performance	• Verifying the safety and reliability of remote monitoring (such as by checking compliance with safety standards and verifying that safety is ensured for measures that entail the easing of standards)
Verify the impact of weather conditions on vehicle performance	• Verifying the detection function of sensors under conditions of rainfall, snowfall, snow accumulation, and thick fog • Verifying the ability to travel during periods of snow accumulation; and more
Verify issues concerning technologies comprising automated driving	• Testing high-precision 3D maps • Testing HMI in terms of driver condition assessments; and more
Verifying the configuration, maintenance, and management of roads and surrounding facilities	• Verifying road structure conditions and road management levels • Verifying communication systems for remote monitoring; and more
Verifying service contents	• Shipping tests using vehicles carrying both cargo and passengers between roadside stations and other local sites and communities • Creating new tourist movement flows; and more
Verifying service operations	• Verifying the costs of maintaining and managing vehicles • Investigating operator models; and more
Verifying social receptivity	• Reliability of automated driving technologies, riding comfort, psychological response to a driverless state • Survey of social receptivity to public buses using automated driving technologies and last-mile mobility options; and more

Setting Conditions of driving environment

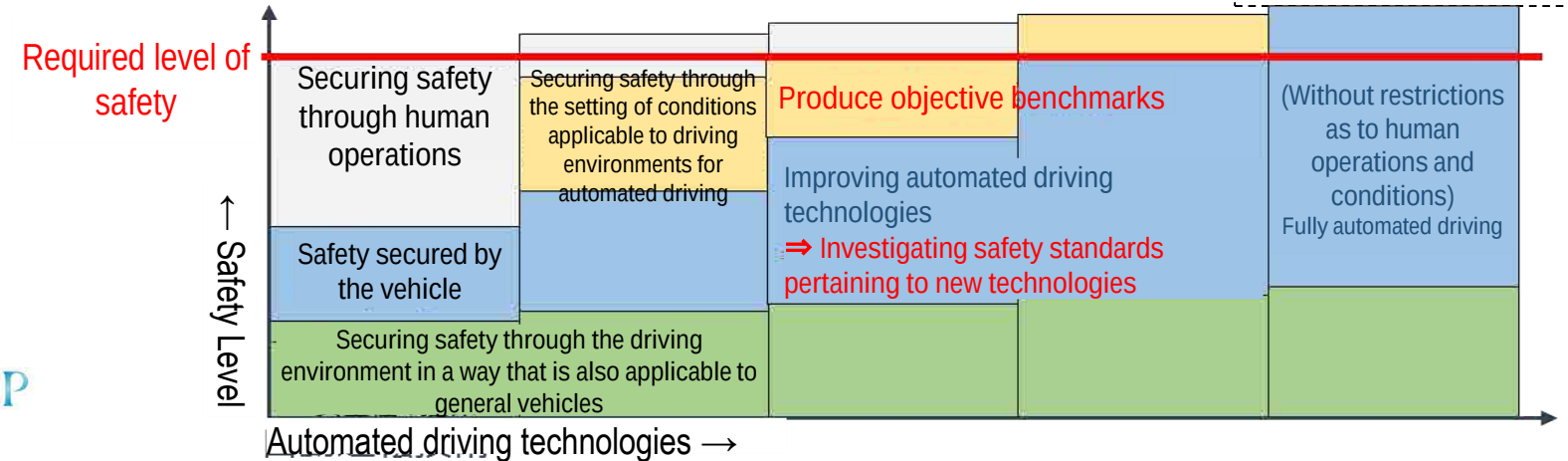
- To set conditions of driving environment (limited speed, route, time, etc.) to secure safety of automated driving

〈Direction of basic measures by field〉



Examples of conditions applicable to driving environments for automated driving

- Limiting traveling speeds to low values
- With respect to the traveling range, travel only on predetermined routes or configure dedicated space segregated from other traffic and travel within the corresponding range
- Limit weather and hours during which traveling can be undertaken
- Create communications protocols required for remote automated driving systems



Charter for improvement of legal system and environment for automated driving systems

■ **Establishment of Safety standard for automated driving vehicles**

① To establish vehicle safety requirements etc. as guideline by this summer

② To establish safety standard for automated driving vehicles

■ **Traffic rules**

③ To improve domestic traffic rules based on the progress of technology development and international discussion

④ To consider necessary measures in order to make automated driving systems observe traffic rules

⑤ For the time being, unmanned autonomous driving transport system can be commercialized to utilize the current FOT framework

■ **Setting Conditions of driving environment**

⑥ To set conditions of driving environment (limited speed, route, time, etc.) to secure safety of automated driving

■ **Liability issues**

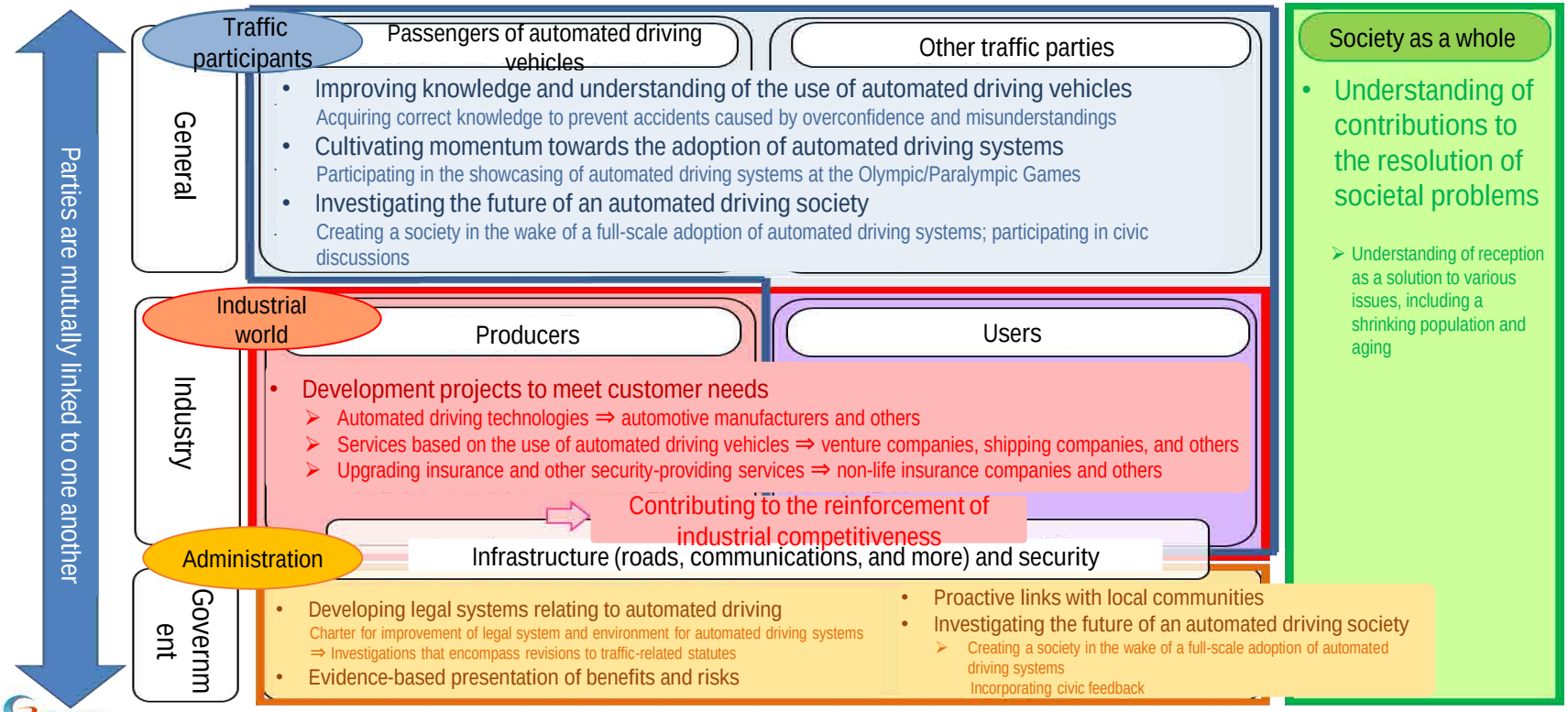
⑦ To relief victims rapidly using compulsory automobile liability insurance when an accident occurs

⑧ To consider of criminal liability

⑨ To consider obligation to install of driving record devices

Secure social receptivity for automated driving

〈Initiatives to be undertaken by each stakeholder to secure social receptivity〉



(Time axis) Benchmarks for measures should be quantified as much as possible to enable the visualization of progress towards the next step.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Thank you