Panel on Business Strategies for Automated Driving
"Action Plan for Realizing Automated Driving" Version2.0 <Summary>

1. Introduction (Panel on Business Strategies for Automated Driving)

- So that Japanese automobile industry can lead the world in the field of Automated Driving and contribute to resolving social problems, the Panel was established as a panel of the METI, Director-General of the Manufacturing Industries Bureau and the MLIT, Director-General of the Road Transport Bureau in February 2015. As necessary actions in "all-Japan" industry-academia-government collaboration, the panel held discussions on [1] clarifying the ideal future vision for Automated Driving of general cars, [2] identifying areas requiring cooperative initiatives, [3] developing an institutional system to strategically respond to the creation of international rules (criteria and standards), and [4] promoting industry-academia collaboration, and publicized a report titled "Action Plan for Realizing Automated Driving" (March 2017).
- In FY2017, **the panel studied safety evaluation methods based on the results of research and development made so far, and deepened and expanded cooperative areas**.

2. Future Automated Driving (Levels 2, 3 and 4) of General Cars

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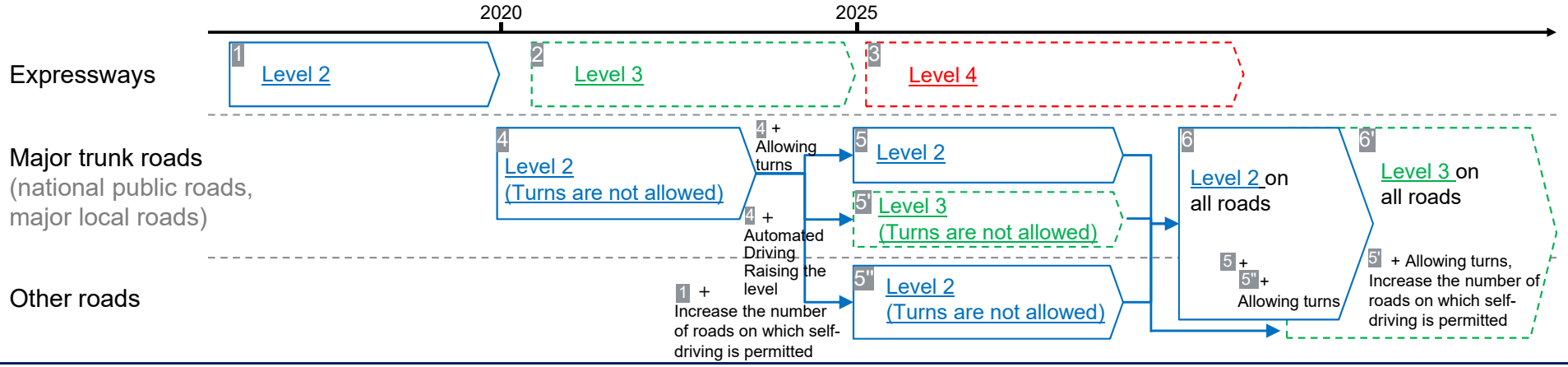
※ As to the feasibility and period of Levels 3 and higher, further legal and technological discussions are required and the information was included as reference.



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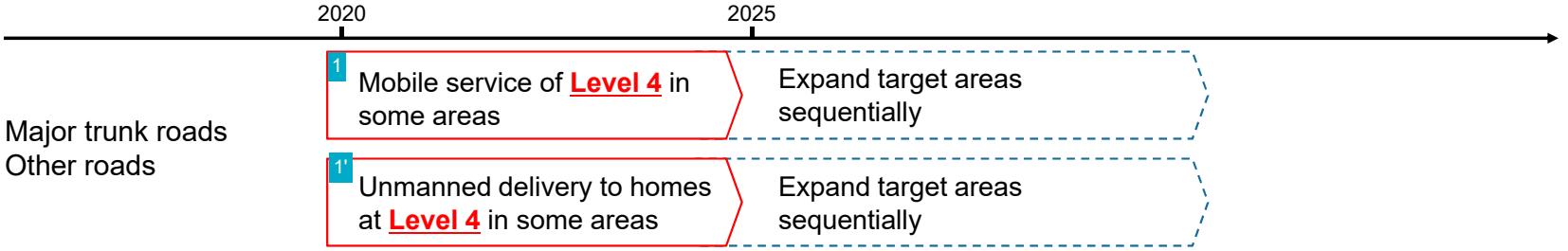
※ In around 2020, realize Level 4 in some areas and sequentially thereafter increase the number of roads on which self-driving is permitted.

- While supplementing technologies with institutional systems and infrastructure, beginning with simple scenes and advancing to more complicated scenarios, aim at achieving the highest level in the world in this field.



3. Strategic Separation of Competitive Areas from Cooperative Areas in Developing Automated Driving (Policies)

Cooperative Areas	Ideal future vision and policies
I. Maps	Aim at prompt development based on the marketing period of high-accuracy maps to enhance the performance of identifying the vehicle's position and recognition. **Presented the direction at the end of FY2017 for deciding the plan based on demonstrations on general roads in specific areas. Complete the specifications verification and evaluation in specific areas in FY2019 and decide the expansion plan into development areas by 2021**.Continue international development and cost reduction by automated mapping.
II. Information and communication infrastructure	To realize advanced Automated Driving at an early stage, aim to improve safety in coordination with information and communication infrastructure in addition to autonomous automotive technologies. **Set cases of use and decide applicable infrastructure and demonstration sites in FY2017. It is necessary to set specifications and design requirements in FY2018 in cooperation with related organizations, and develop necessary infrastructure in specific areas and start demonstration tests at least within FY2019**.
III. Recognition technology **IV. Path planning technology**	It is necessary to sequentially establish minimum required performance criteria and their test methods in accordance with overseas trends. To improve development efficiency, aim at strategic cooperation in creating databases and providing test facilities and evaluation environments**. Promote the use of sensing, drive recorders, driving behavior and traffic accident data.**
V. Ergonomics	Aim at sharing development and evaluation infrastructure to improve development efficiency. **The identification of the driver's physiology and behavior indexes and the basic concept of the driver's monitoring system were completed in FY2017. Based on the verification of large-scale demonstration tests in FY2017 and FY2018, promote international standardization of various requirements in view of global development**.
VI. Safety	Aim at sharing development and evaluation methods to improve development efficiency. **Formulated cases-of-use scenarios, derived sensor target performance and extracted design requirements, and these have been proposed to be considered as international standards in FY2017. Establish evaluation methods in the event of vehicle system failures, performance limits of sensors and misuse.**
VII. Cyber security	Aim at sharing development and evaluation methods to improve development efficiency. **Set the minimum required standards and proposed such standards to be considered as international standards, and formulated the industry guideline in FY2017. Aim to put the evaluation environment (testbed) into practical use by FY2019. Strengthen the information-sharing system and study the cyber security framework**.
VIII. Human resources for software engineering	Aim to discover, secure and train human resources for software engineering including cyber security, which is the core of development, to resolve the shortage thereof. **Classified and arranged software skills and conducted a survey on the discovery, securing and training of human resources for software engineering in F2017. In FY2018, promote the formulation of skills standards. Provided courses on cyber security in FY2017. Study efforts of cooperation among the automobile industry in advertising the need of cyber security human resources and attractive features of their jobs in the future**.
IX. Social acceptance	Show the effects and risks of Automated Driving and promote development of the system according to people's needs with the aim of developing the environment required for societal implementation. For its realization, formulate an "Outline of Institutional Development of Automated Driving", **present the effects of Automated Driving and define where the responsibilities lie, which is a precondition of the spread of Automated Driving, and continuously report on the state of things**.
X. Safety evaluation	**Aim to create safety evaluation technology that utilizes the technologies that have been developed through the Panel on Business Strategies for Automated Driving, etc. Create scenarios that show traffic environments in Japan in cooperation and use the scenarios for international discussions. Also, study the handling of data concerning accidents that will occur in the future and use the data for safety evaluations.**

4. Demonstration Projects

- Automated Driving projects that are expected to be realized from 2020 to 2030
  (1) Vehicle platooning
  (2) Last mile Automated Driving system
  (3) Fully automatic parking
  ※Only projects of METI and MLIT are described.

5. Strategic Initiatives Concerning Rules (Criteria and Standards)

- Promote the initiatives using the Automated Driving Criteria Institute as a place for collaboration on criteria and standards.
- The Japan Automobile Manufacturers Association (JAMA) presented the "strategic standardization areas and prioritized themes". Accelerate securing of resources such as human resources and funding.

6. Promotion of Industry-Academia Collaboration

- It is necessary to accelerate collaboration with universities that have various kinds of human resources.
- Started the discussions for establishing the academia system that can support “cooperative areas".
- To expand the scale of joint research, presented the "Guidelines for Strengthening Joint Research in Industry-Academia-Government Collaboration"