



SIP-adus – Automated Driving Systems FOT with Dynamic Map

15th Open Auto Drive Forum Event

Online, May 6, 2021

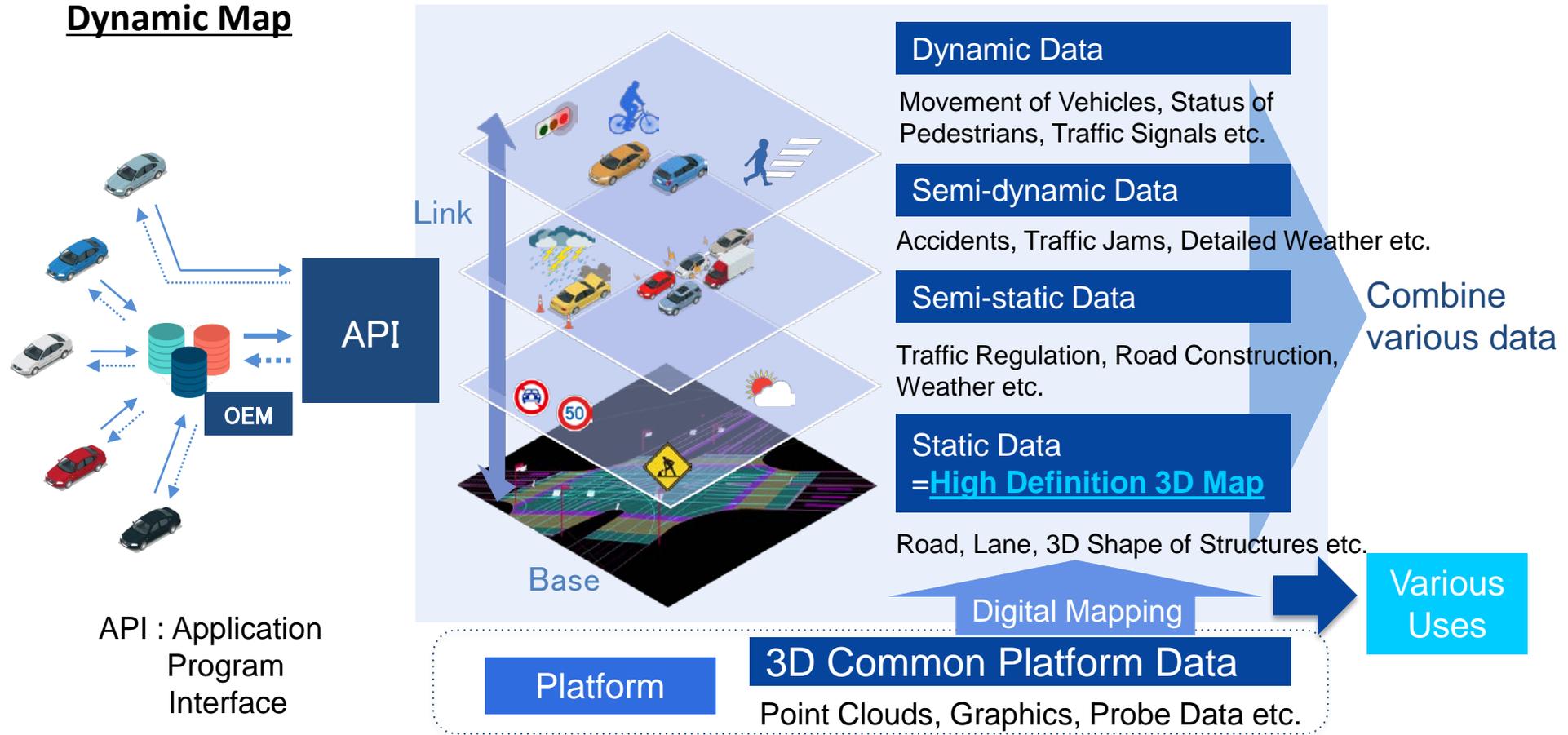
Satoru NAKAJO, the University of Tokyo, a member of SIP-adus



- 1. Overview of SIP-adus and the FOT**
- 2. Status of FOT 2020 and plan of 2021**
- 3. Related activities**

1. Overview of SIP-adus

Dynamic Map



Test Participants:

For a wide variety of people including overseas OEM, parts and system suppliers, universities, research organizations and venture companies.

Period:**1st stage field operational test (2019 to 2020)**

- **Field tests of necessary cooperative infrastructure technologies** to achieve level 4 autonomous driving on freeways and ordinary roads.

2nd stage field operational test (2021 to 2022)

- **Modifications to the cooperative infrastructure technologies** that came to light in the 1st stage FOT
- **Field operational testing for new R&D issues** in preparation to establish a test environment for the legacy cooperative infrastructure system

Schedule

FY2018	FY2019	FY2020	FY2021	FY2022
★ Start of SIP Phase Two ★ Participant recruitment	First stage FOT		Second stage FOT	
	Test Preparation	FOT Tokyo Olympics and Paralympics	Test Preparation	FOT

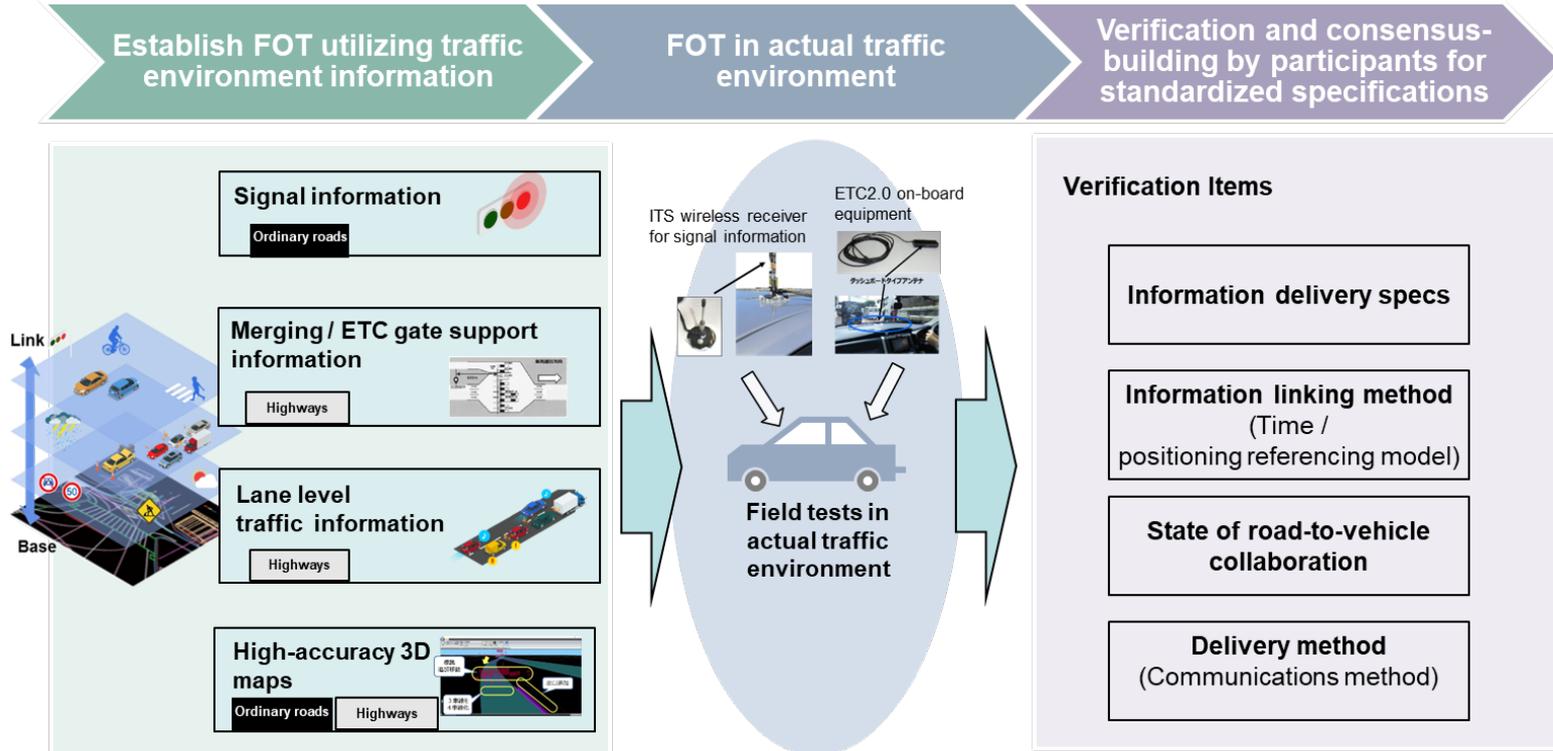
*There is the possibility the FOT will not take place during the Tokyo Olympics and Paralympics.

AISAN TECHNOLOGY CO.,LTD.
Valeo Co., Ltd.
SB Drive Corp.
Epitomical Limited
Kanazawa University
Continental Automotive Corporation
Saitama Institute of Technology
JTECT CORPORATION
SUZUKI MOTOR CORPORATION
SUBARU CORPORATION
Sompo Japan Nipponkoa Insurance Inc.
DAIHATSU MOTOR CO., LTD.
Chubu University
Tier IV, Inc

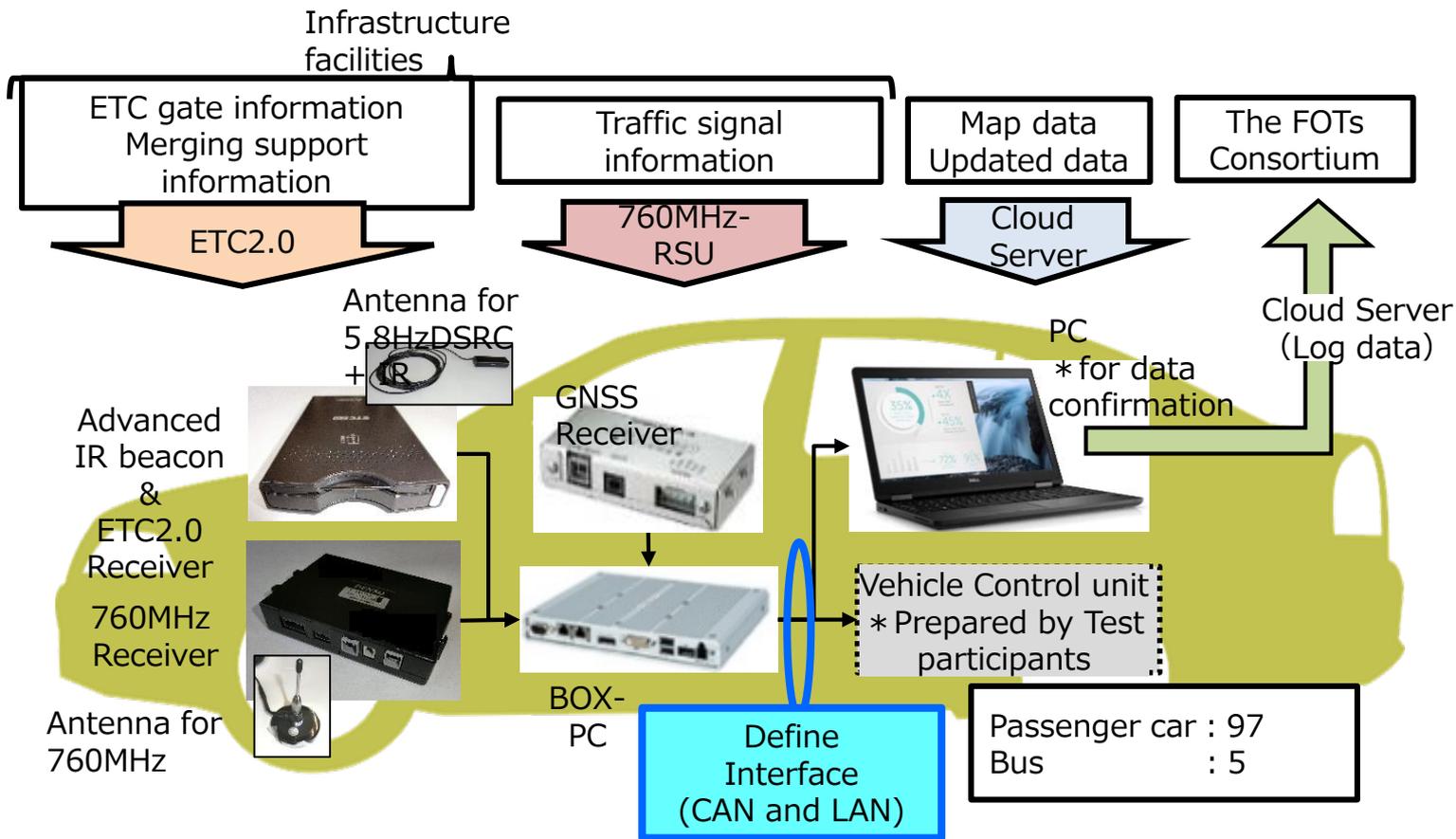
TOYOTA MOTOR CORPORATION
Nagoya University
NISSAN MOTOR CO.,LTD.
BMW Group
Hino Motors, Ltd.
Field auto Inc.
Volkswagen Group
Bosch Corporation
Honda Motor Co., Ltd.
Mazda Motor Corporation
MITSUBISHI MOTORS CORPORATION
Mitsubishi Electric Corporation
Meijo University
Mercedes-Benz Co., Ltd.
Advanced Smart Mobility Co., Ltd.

Objective:

The purpose of the FOT and consensus-building is to create standardized specifications for how information is delivered, how to link information and information delivery specifications by establishing a test environment utilizing traffic environment information.

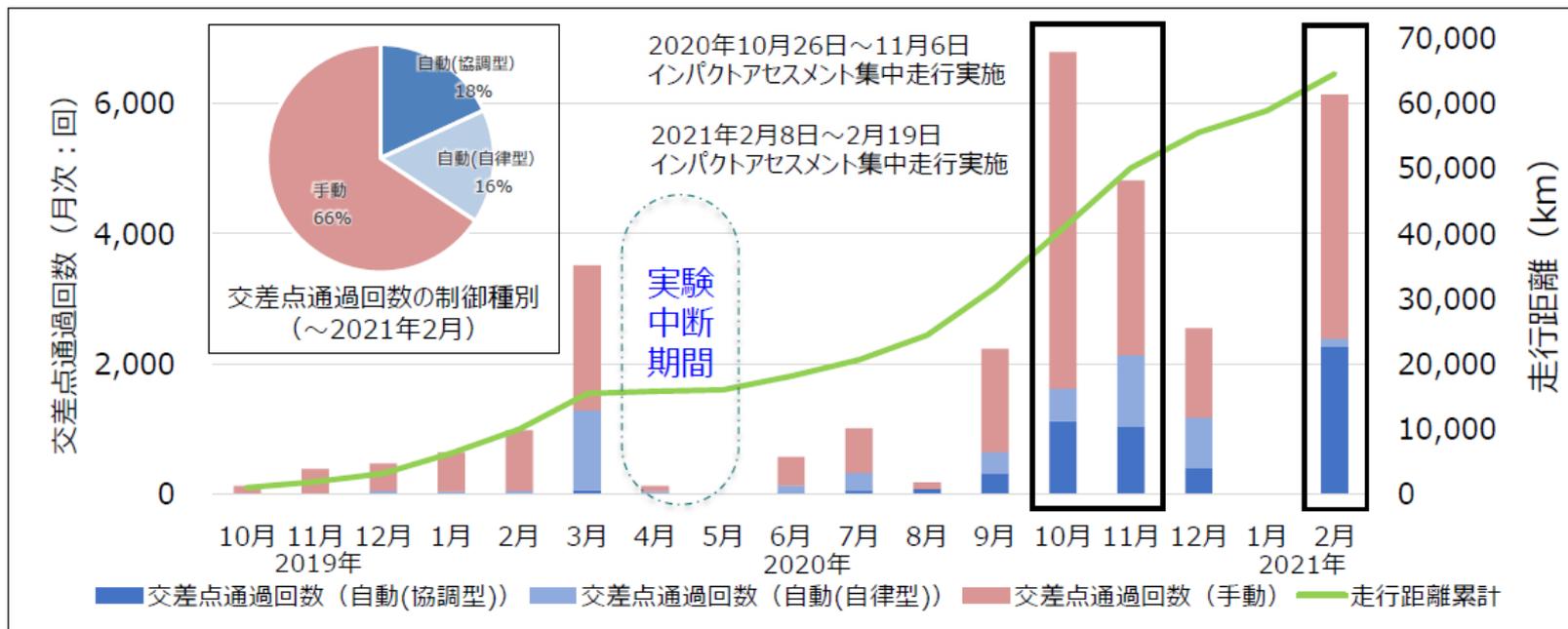


*The technological topics may increase/decrease according to R&D progress



2. Status of FOT 2020 and plan of 2021

- ✓ Total traveled distance was over 64,000km in 16 months in waterfront area.
 - detected by vehicle behavior management devices, original plan was 54,000km.



走行実績 (2021年2月末時点で確認済データの集計値)

<Waterfront area>

- ✓ 16 teams (21 participants) ran.
- ✓ Approx. 30,000 times cross the intersections (automated driving 1/3).
 - Enough data was collected to evaluate the effectiveness of infra. data.

<Metropolitan expressway>

- ✓ 8 teams (8 participants) ran.
- ✓ Approx. 250 times cross the merging section (automated driving 17 times).
 - The data may not enough to evaluate.

<Haneda airport area>

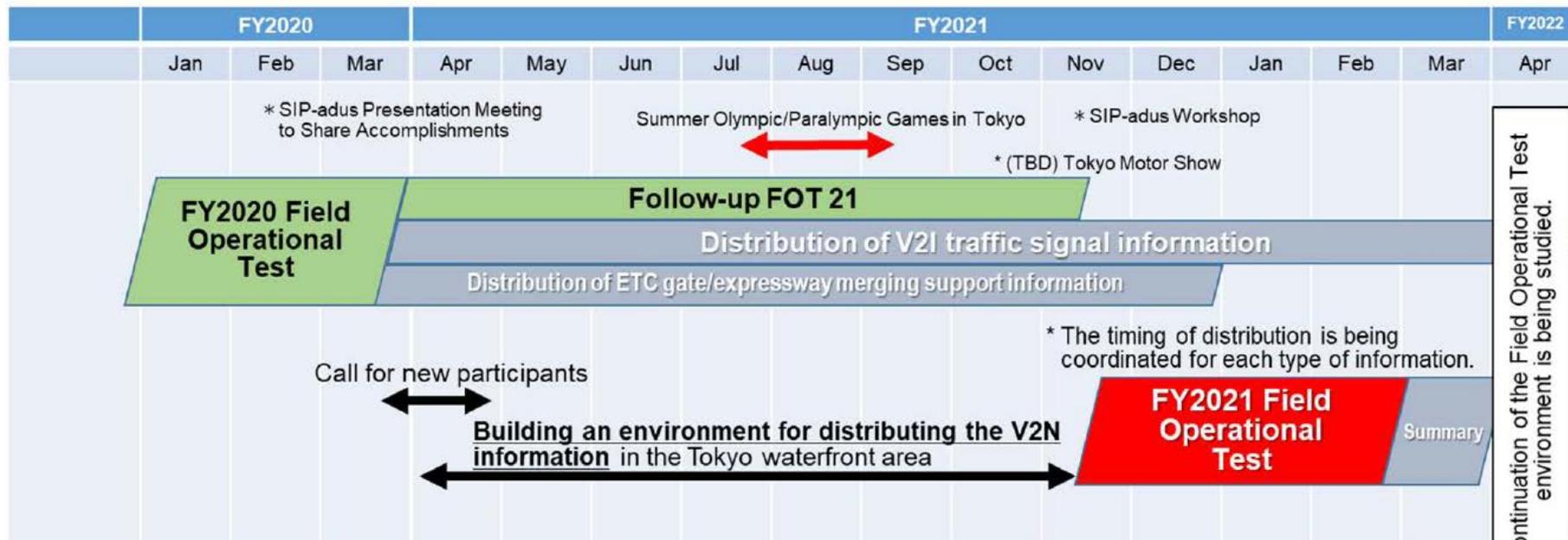
- ✓ 3 teams (4 participants) ran.
- ✓ Approx. 300 laps and over 400 correct arrival control tests.
 - Enough data was collected to evaluate the effectiveness of infra. data.

- ✓ The report (in English) will be released soon on SIP-adus website.

<https://en.sip-adus.go.jp/rd/>

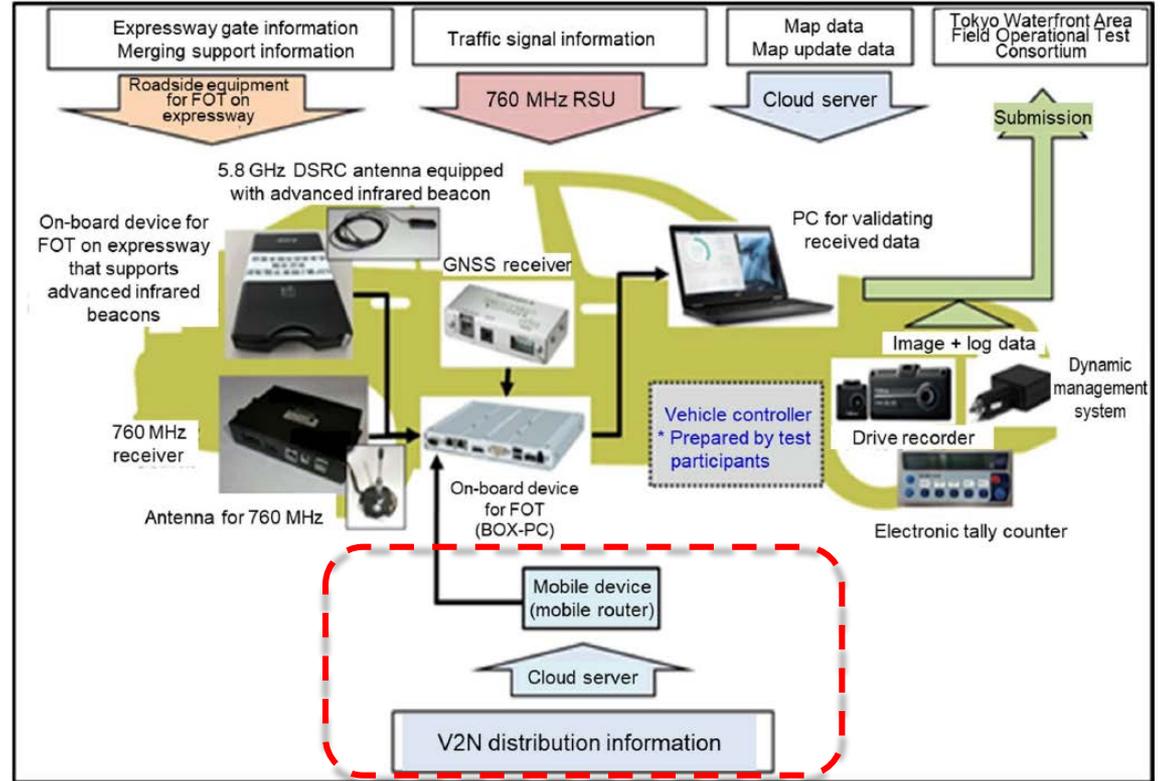
✓ Call for FOT 2021 is opened (till 6 May. (today..))

https://www.nedo.go.jp/english/news/ZZCD_100015.html



Continuation of the Field Operational Test environment is being studied.

- ✓ Plan to distribute traffic signal info. through V2N.
- ✓ Possibility to use ADASIS standard will be discussed.



Q1. Which derivable would you like to expect most for the result of SIP-adus FOT?

- 1) Detailed report (in English)**
- 2) Deployment in Japan (to start real service)**
- 3) Standards**
- 4) No special expectation**

3. Related activities

Route information included

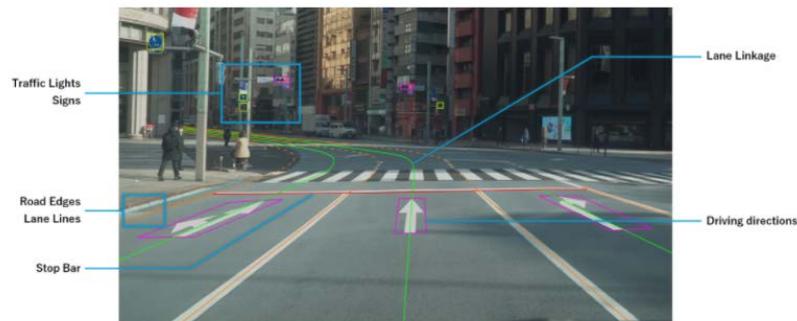
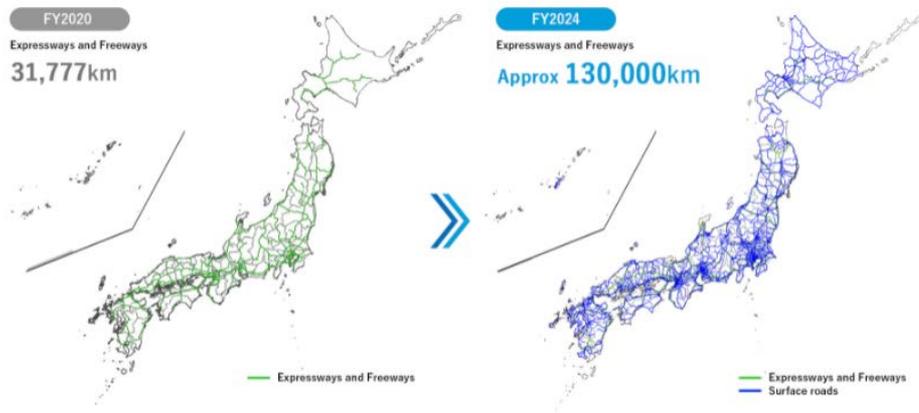


- ✓ A private company to provide the basic HD map.
- ✓ Start providing map data for expressways and highways from Mar. 2019. (total 31,777km)
- ✓ Automated vehicle with DMP data have been released from 2019.



✓ Introducing Next-Generation High-Precision 3D Map Data with Coverage Expansion from Expressways to Surface Roads. (news release on 7 Apr. 2021)

- FY2023: Approx. 80,000 km
- FY2024: Approx. 130,000 km



Next-Generation HD maps feature example^{*5}

- ✓ **The activities of SIP-adus are Open basis.**
 - Focus on FOTs with real data.
 - Open the results of the project (in English).

- ✓ **SIP-adus workshop 2021 is planed.**
 - ✓ 9 Nov. to 11 Nov. 2021
 - ✓ Info. will be released on SIP-adus website
<https://en.sip-adus.go.jp/>

- ✓ **Keep in touch!**



Thank you

snakajo@csis.u-tokyo.ac.jp