



March 25, 2021

Bureau of Science, Technology and Innovation  
Cabinet Office

**Call for Participants for FOTs in the Tokyo Waterfront Area  
– Achieving Smooth Automated Driving by Distribution of Traffic  
Environmental Data through Public Wide Area Network–**

To achieve safe and smooth automated driving, SIP-adus will conduct field operational tests (FOTs) on general public roads in the Tokyo waterfront city area and the Metropolitan Expressway by building a system for distributing traffic environmental data such as traffic signal, emergency vehicle, vehicles involved in accidents, traffic congestion by using probe vehicle data etc. SIP-adus has started to calls for participants for the FOTs.

**1. Background**

In the second phase of the Cross-Ministerial Strategic Innovation Promotion Program —Automated Driving for Universal Services (hereinafter, “SIP-adus”), R&D on common issues (cooperative areas) to be addressed through industry-academia-government collaboration has been promoted to implement and deploy automated driving, contribute to solving social issues (e.g., reducing traffic accidents and congestion, ensuring mobility for vulnerable road users, mitigating the driver shortage and reducing the cost of logistics and mobility services), and thereby raising the quality of life throughout society.

A driving environment for safer and more comfortable automated driving has been develop and FOTs have been conducted to help solve issues related to technologies, systems, and public acceptance, thereby accelerating implementation and deployment.

To realize advanced automated driving vehicle-cooperative connected automated driving using traffic environmental information, infrastructure has been developed since October 2019, including ITS roadside units for providing traffic signal information on general public roads in the Tokyo waterfront area, road side sensors for supporting automated driving vehicle to merge main lane on the Metropolitan Expressway, and high-precision 3D map. FOTs have been conducted with the participation of automobile manufacturers, suppliers, universities, and other research institutions from Japan and the other countries.

Data collected from both FOT participants and infrastructure equipment have been used to analyze and verify the effectiveness of providing information from infrastructure to automated driving vehicles, the requirements of the infrastructure, and the impact assessment of automated driving vehicles on road traffic, etc.

## **2. Efforts to be made in the FOTs**

In FY2021, to promote the use of traffic environmental information in large areas and introduce in society a system for distributing various kinds of information to vehicles through the public wide area network, SIP-adus will develop environments for using the information from the infrastructure that has been developed, as well as developing new diverse traffic environmental information.

The environments for the FOTs will be developed to use the new traffic environmental data such as traffic congestion at the lane level, traffic regulation, and fallen objects by using probe vehicle data, as well as weather, emergency vehicle, and vehicles involved in accidents by using information available from other operators.

SIP-adus calls for participants who wish to be involved in the FOTs. For details of the conditions, etc. for participating, please refer to the application guidelines and rules, etc. released by New Energy and Industrial Technology Development Organization (hereinafter, "NEDO"), the management agency of SIP-adus.

## **3. Overview of call for participants in the FOTs**

### (1) Schedule of the FOTs

FOTs will start in autumn 2021 or later as soon as the required environments are in place.

### (2) Areas where FOTs will be conducted

- Tokyo Waterfront City area (general roads)
- Haneda Airport area (general roads)
- Metropolitan Expressway that connects Haneda Airport and the Waterfront City area, etc. (and general roads around the expressway)

### (3) Overview of FOTs

SIP-adus will provide environments for the FOTs to distribute traffic environmental data, such as traffic signal, traffic congestion at the lane level, traffic regulation, and fallen objects by using probe vehicle data, as well as weather, emergency vehicle, and vehicles involved in accidents, etc. by using information available from other operators through the public wide area network(V2N), in addition to distributing information of traffic signal and merging lane assistance from infrastructure that has been developed (V2I), in the Tokyo Waterfront City area and Haneda Airport area and on the Metropolitan Expressway that connects Haneda Airport and the Tokyo Waterfront City, etc. (including general public roads).

SIP-adus aims to conduct internationally open FOTs. Efforts will be made to verify issues related to the establishment of standard specifications of technologies in the cooperative areas and to build consensus in order to promote practical applications and standardization, international cooperation and collaboration, etc.

Participants in the FOTs are requested to prepare suitable automated vehicles for the FOTs environment and drivers responsible for driving the vehicles in the FOTs. The participants are also requested to obtain and analyze test data and report the test results to SIP-adus.

SIP-adus will request the participants to report the results of the FOTs at opportunities for disseminating information by the Cabinet Office and relevant ministries, and at meetings to discuss technical specifications of infrastructure and any technical and implementation issues.

(4) Eligible participants

Eligible participants are organizations, such as automobile manufacturers, suppliers, universities, and other research institutions from Japan and the other countries that are engaged in research and development of automated driving technology.

(5) Dates for call for participants

March 25, 2021 - May 6, 2021 (Submitted documents must arrive by this date.)

(6) NEDO, as the management agency of SIP-adus, is responsible for the call for participants. Details are available on the NEDO's website:

[https://www.nedo.go.jp/english/news/ZZCD\\_100015.html](https://www.nedo.go.jp/english/news/ZZCD_100015.html)

Applicants who wish to participate are requested to download necessary documents from the above URL, fill out the application forms, and submit them to NEDO during the period to accept applications. Participants will be decided in mid-May 2021.

#### **4. Related events**

To disseminate information about the results obtained in SIP-adus, including FOTs in the Tokyo waterfront area, and foster public acceptance of automated driving, etc., the summit of local regions for implementing automated driving, etc. will be held on March 25, and the exhibition event for interim outcome of the second phase of SIP-adus will be held on March 25 and 26. For details, refer to press releases issued by the Cabinet Office and relevant ministries and agencies on March 8.

<Contact information>

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About the call for participants  
New Energy and Industrial Technology Development Organization  
(NEDO)

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E-mail: sip-adus-fot@ml.nedo.go.jp

Website of the Council for Science, Technology and Innovation  
<https://www8.cao.go.jp/cstp/english/index.html>

Website for SIP-adus  
<https://en.sip-adus.go.jp/>

# Overview of FOTs in the Tokyo Waterfront Area

in the Second Phase of the Cross-Ministerial Strategic  
Innovation Promotion Program  
–Automated Driving for Universal Services (SIP-adus)

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# Overview of the FOTs in the Tokyo Waterfront Area

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## **1. Organizer**

Promoting Committee, Cross-Ministerial Strategic Innovation Promotion Program – Automated Driving for Universal Services (SIP-adus)

## **2. Objective and outline of the FOTs**

- Verification of automated driving technology in cooperative areas on general public road by using traffic environmental information distributed through the public wide area network (e.g., traffic signal, traffic congestion at the lane level, etc. using probe vehicle data, weather, emergency vehicles, etc.)
- Promotion of research and technology development in Japan by providing opportunities and sites for FOTs where participants can verify the information through the infrastructure and the public wide area network as well as their own vehicles.
- Evaluations in open sites by involving many experts to give feedback to future R&D
- Rallying of organizations in and outside Japan (e.g., manufacturers outside Japan), to promote international standardization, to enhance of industry-academia-government collaboration, and to foster public acceptance, etc.

## **3. Schedule**

**March 25, 2021 (today): Call for participants (public offering)**

**Around autumn of FY2021 to the end of FY2022: FOTs will be conducted.**

(The details of the schedule will be announced separately.)

## **4. Planned areas**

- (1) Tokyo Waterfront City area (general public roads)
- (2) Haneda Airport area (general public roads)
- (3) Metropolitan Expressway that connects Haneda Airport with the Tokyo Waterfront City area, etc. (and general public roads around the expressway)

## **5. Expected participants**

Automobile manufacturers, suppliers, universities and other research institutions from Japan and other countries.

(The test vehicles used, personnel who test them, and vehicle insurance premiums will be prepared by respective participants.)

## 6. Main items to be implemented in the FOTs

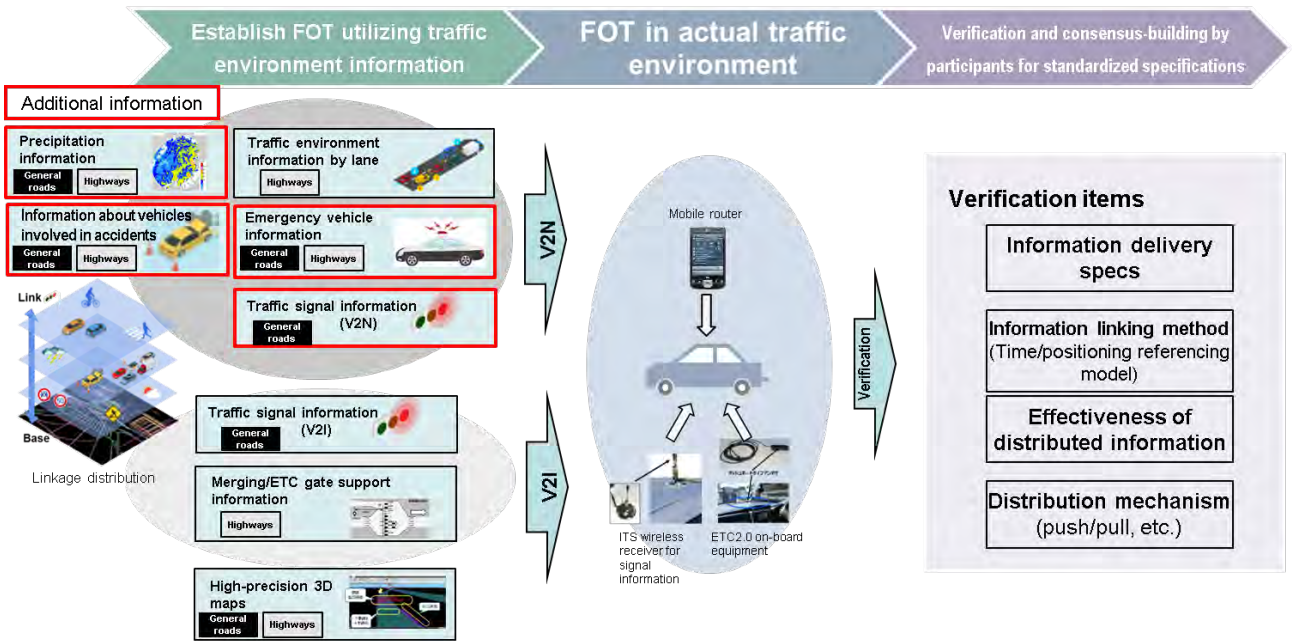
Environments for the FOTs to be newly provided

	Environments for the FOTs (planned)	Items to be demonstrated by participants (examples)
Tokyo Waterfront City area (general public roads)	<ul style="list-style-type: none"> <li>• Environment to provide the following information by using the public wide area network (V2N), etc.               <ul style="list-style-type: none"> <li>○ Traffic signal information</li> <li>○ Lane congestion information, traffic restriction information, and information about fallen objects using probe vehicle data (only the Metropolitan Expressway)</li> <li>○ Weather information, emergency vehicle information, information about vehicles involved in accidents, etc. using information available from other business operators</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Verification of effectiveness of lookahead processing of traffic environmental information on smooth automated driving</li> <li>• Verification of effectiveness of the traffic signal scheduling information distributed by V2N on determining the display color and lookahead judgment of the color transition timing</li> <li>• Comparison and verification of effectiveness, applications, etc. of information obtained by V2I and V2N</li> </ul>
Metropolitan Expressway that connects Haneda Airport with the Tokyo Waterfront City area, etc. (and general public roads around the expressway)		

Environments for the FOTs to be provided as before

	Environments for the FOTs
Tokyo Waterfront City area (general public roads)	<ul style="list-style-type: none"> <li>• An environment to provide traffic signal information from traffic signals (ITS roadside wireless communication equipment)</li> <li>• High-precision 3D maps, etc.</li> </ul>
Haneda Airport area (general public roads)	<ul style="list-style-type: none"> <li>• An environment to provide traffic signal information from traffic signals (ITS roadside units)</li> </ul>
Metropolitan Expressway that connects Haneda Airport with the Tokyo Waterfront City area, etc. (and general public roads around the expressway)	<ul style="list-style-type: none"> <li>• An environment that provides merging support information</li> <li>• An environment that provides ETC gate information</li> <li>• An environment that provides traffic environment information for each lane</li> <li>• High-precision 3D maps, etc.</li> </ul>
Common	<ul style="list-style-type: none"> <li>• On-board equipment (e.g., traffic signal information, merging support information) (only for applicants)</li> </ul>

# Overview of implementation



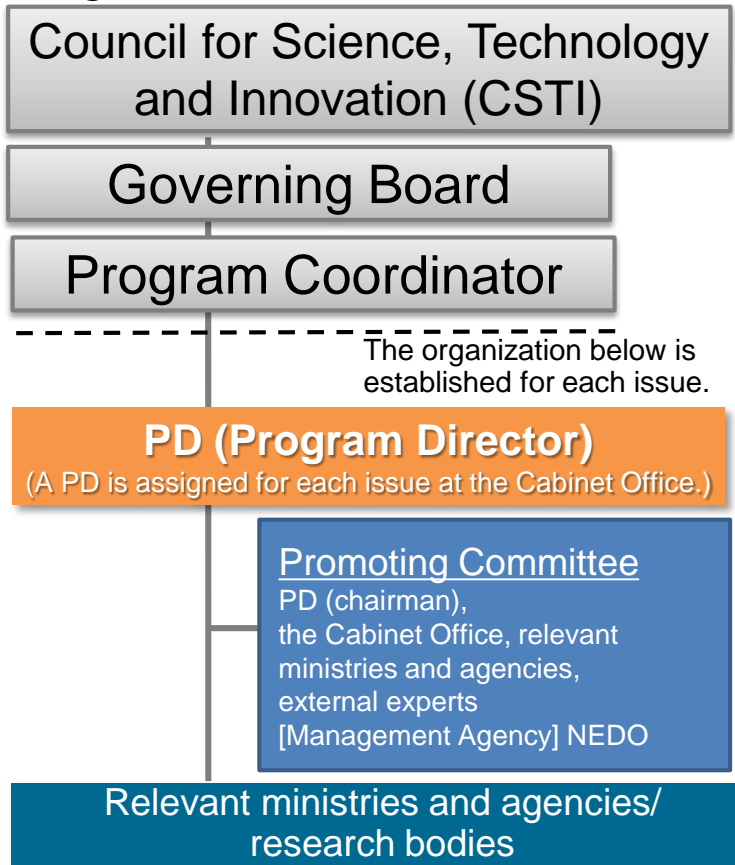
\*The technological topics may increase/decrease according to R&D progress





# [Reference] Cross-Ministerial Strategic Innovation Promotion Program – Innovation of Automated Driving for Universal Services (SIP-adus)

## [Organization]

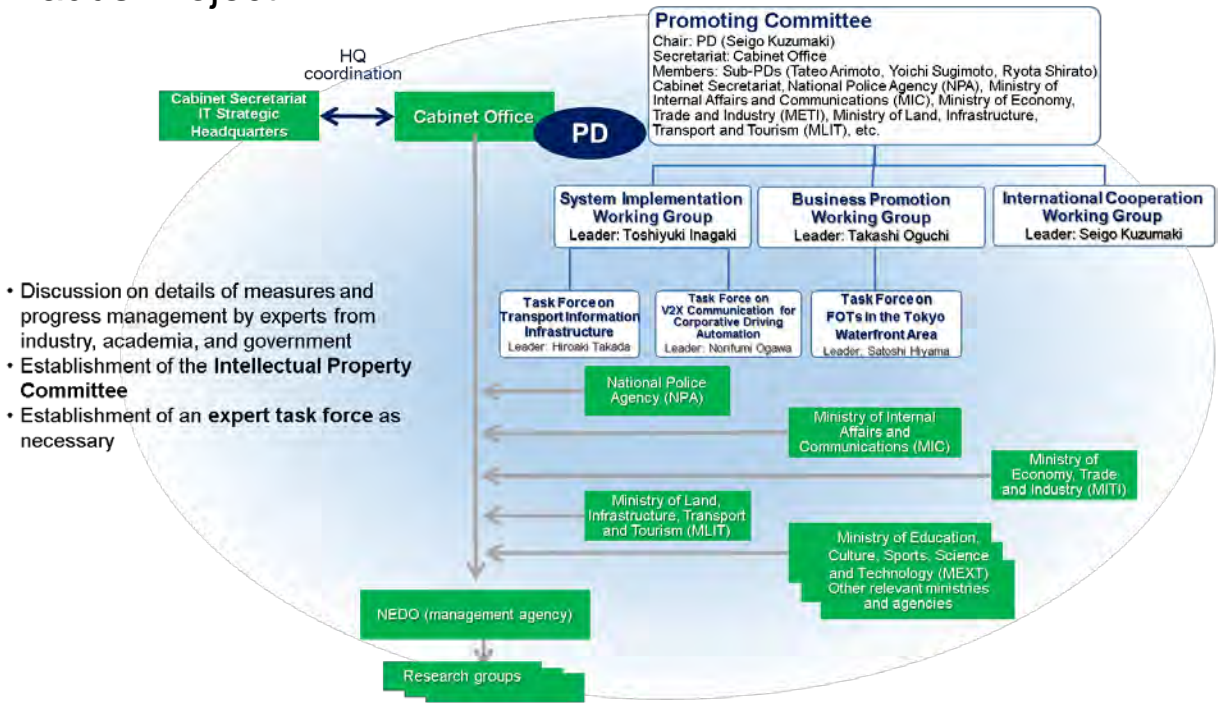


➤ **SIP-adus**  
 Cross-Ministerial Strategic Innovation Promotion Program  
 Innovation of Automated Driving for Universal Services

➤ R&D budget, etc.  
 FY2021: about 3.12 billion yen

[promoted through cooperation of relevant ministries and agencies (e.g., National Police Agency, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure, Transport and Tourism), etc. under the initiative of the PD]

## SIP-adus Project



- Discussion on details of measures and progress management by experts from industry, academia, and government
- Establishment of the Intellectual Property Committee
- Establishment of an expert task force as necessary