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Secretariat of Science, Technology and Innovation Policy
Cabinet Office

Participants for FY2021 FOTs in Tokyo Waterfront Area Decided
— For the distribution of traffic environmental data with V2N —

SIP-adus has announced that 22 institutions are going to participate in the field operational tests (FOTs), which will be carried out in FY2021 over Tokyo Waterfront City area, Metropolitan Expressway and so on. Through the tests, traffic signal information, weather information, traffic regulation information, road traffic information and others will be generated and distributed with the public wide area network(V2N)*¹. Also the results of FOTs in Tokyo waterfront area conducted from October 2019 to the end of FY2020 were published.

1. Overview of SIP-adus

The Second Phase of SIP- Automated Driving for Universal Services *² (hereinafter referred to as "SIP-adus") is promoting the research and development for the common issues as the cooperative area tackled by industry-academic-government collaboration toward the society where each of us can appreciate safe and secure mobility with automated vehicles to be implemented, widely recognized and used, by working on reducing the number of traffic accidents, alleviating traffic congestion, securing mobility for vulnerable road users, mitigating shortages of drivers in logistics and mobility services as well as improving their cost efficiency.

2. Field Operational tests (FOTs) in Tokyo waterfront area

(1)Participants in FY 2021 FOTs selected

In order to promote the more widespread use of traffic environmental data, we decided to add information provided from the public wide area network (V2N) for the test, other than that provided from the infrastructures which had been installed during our past operations.

From March 25th to May 6th in this year, we opened a public call for the test, and selected a total of 22 institutions including domestic and foreign automobile manufacturers, auto parts manufacturers as well as universities (See attachment 1 for the detail).

The additional traffic environmental data based on collected probe vehicle data, such as traffic congestion data at the lane level, traffic regulation information, falling objects information, weather information, (simulated) emergency vehicle information and vehicle breakdown information and others, will be able to be provided in this test scheduled to get started after this fall .

(2)Building up virtual space for safety assurance

SIP-adus is promoting the development of more realistic models to simulate a variety of traffic environments in virtual space in order to construct a platform that enables us to verify altogether various sensors such as cameras, radar and LiDAR as connection with the automated driving system and its outside.

Moreover, we are going to start another test after this fall with additionally selected participants on virtual space for safety assessment to be built in and around Waterfront City area included in our Tokyo waterfront test fields.

(3)Publication of the report of the FOTs in Tokyo waterfront area in 2020

SIP-adus has promoted, with automobile and parts manufacturers, universities, and start-up companies from inside and outside of Japan, the FOTs based on the infrastructures installed for this test, such as ITS roadside units for traffic signal information and high-precision 3D maps on general roads over Tokyo waterfront area, and sensors for merging lane assistance on the Metropolitan Expressway. Today we release the report by 29 institutions, who run through the total of about 65,000 km during this test from early October 2019 through the end of February 2021 to collect and analyze the test data, then who worked on clarification of the merits brought with the additionally introduced infrastructures and study of how to install necessary infrastructures for automated vehicles and of positive-negative impacts given with these infrastructures and vehicles on the road traffic.

(See attachment 2 for the outline).

<Major outcomes for each test area>

(1)Tokyo Waterfront City area

- ITS roadside units as well as high-precision 3D maps, which provides traffic signal light color information in real time and remaining seconds information on traffic signal to show timing when the signal color changes, were installed and used to verify the effectiveness of the traffic signal information as impact assessment on general roads, even under the actual traffic conditions mixed with conventional and automated vehicles, pedestrians, and others.

(2)Haneda Airport area

- The Public Transportation Priority Systems (PTPS) utilizing magnetic markers and ITS roadside units, an environment where traffic signal information can be provided as well as a high-precision 3D map were

installed and used to study how to control the arrival of automated buses at each stop, on a right position, in timely manner (to prevent delay) and expeditiously (to take shorter average time to a goal).

(3)Metropolitan Expressway including general roads connecting Haneda Airport and the Waterfront City area, etc

- Infrastructures to distribute merging lane assistance information, which can provide main lane traffic data to vehicles on a merging lane, and ETC gate status information especially in blind spot were installed and verified whether these can realize safer and smoother driving at merging points on express ways.

3. Related efforts

SIP-adus holds seminars and events related to the legal system and research results related to automated driving from the perspective of fostering public acceptance. You can also refer to the seminars held in the past on the web. Please refer to the SIP-adus homepage for details.

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

[Notes]

*1 public wide area network (V2N)

The exchange of communication between vehicles and data network distributed from base stations

*2 Second Phase of the SIP Automated Driving for Universal Services

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

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