

“Business investigation into the strengthening of information transmission capabilities in preparation for the realization of automated driving systems”

in “Phase 2 of the Cross-Ministerial Strategic Innovation Promotion Program — Innovation of Automated Driving for Universal Services”

Annual Report

Executive Summary

March 31, 2021



Contents

1. Objectives of the project	3
2. Hosting of SIP-adus Workshop 2020	4
(1) Overview of event	4
a. Summary	4
b. Status report meeting	6
c. Online symposium	7
d. Online streaming page	8
e. On-demand streaming	9
f. Poster session	10
(2) Verification of results	12
3. Transmitting information using the website	19
(1) Overview of information transmission	19
(2) Verification of effectiveness	20
4. Final thoughts	22

1. Objectives of the project

Objective (1) International cooperation in SIP-adus

The Cabinet Office has been working to solve social issues, such as reducing traffic accidents and congestion and offering means of mobility to individuals who have limited access to road transportation (including elderly persons who live in local areas), through the Strategic Innovation Promotion Program — Automated Driving for Universal Services (SIP-adus) since FY2014. SIP Phase 2, which commenced in FY2018, aims to expand the implementation of automated driving from expressways to general roads, with 2020 set as a milestone.

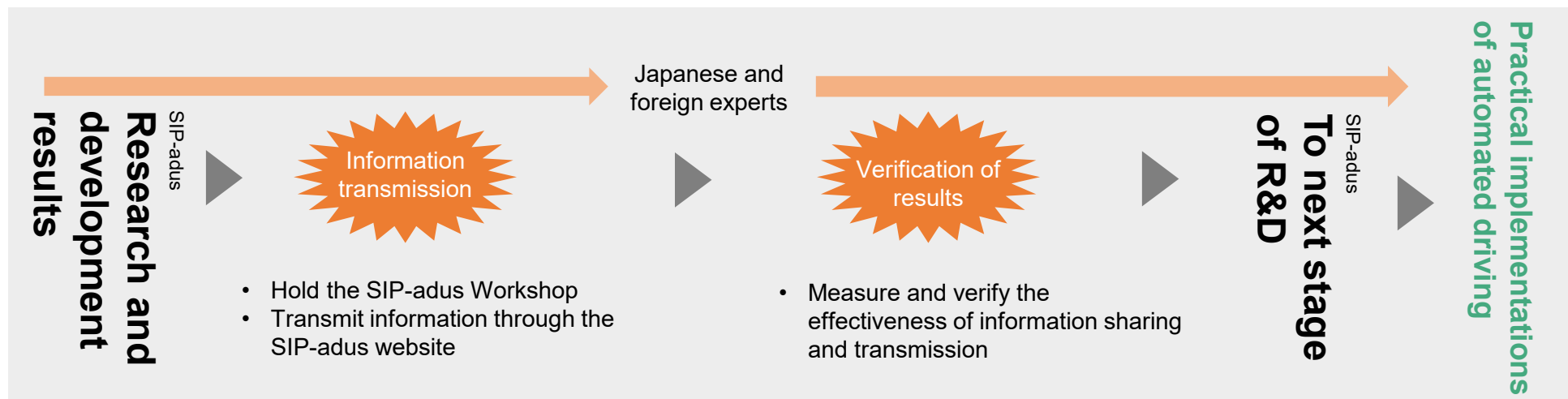
One of the priorities of this R&D project is international cooperation along with planning and promotion of FOTs, technology development, and fostering of public acceptance.

The International Cooperation Working Group of the Cabinet Office has been promoting bilateral and multilateral joint research. Meanwhile, this project provides Japanese and foreign experts with opportunities to share information and conduct joint research by regularly holding the SIP-adus Workshop in order to enhance international cooperation and promote international standardization.

Objective (2) Enhancement of information transmission and verification of results

To implement automated driving in society, it is important to strengthen information transmission capabilities and utilize opinions and responses in promoting R&D in the future.

In this project, questionnaire surveys of participants are conducted after the SIP-adus Workshop is held. The opinions of participants are compiled, and the results of verification are provided as a reference for organizing the program the next fiscal year. Meanwhile, the SIP-adus website is used to actively disseminate information. The content of the SIP-adus Workshop is updated in stages, reports on R&D promoted by SIP-adus are posted, events held in connection with SIP-adus are reported, and information on large-scale FOTs in the Tokyo waterfront area is updated promptly. The web access logs are analyzed throughout the year to measure how effectively the website transmits information.



2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

a. Summary Results of SIP-adus Workshop 2020

In the SIP-adus Workshop this fiscal year, a status report meeting was held on the first day where experts presented the results of SIP-adus. On the second and third days, an online symposium (corresponding to the plenary session in the past) was held. The poster session held by the Cabinet Office as well as ministries and agencies was also made available on the web. Due to the COVID-19 pandemic, the status report meeting was held in a hybrid format (real and virtual), while the online symposium was held virtually. The program of the online symposium was reorganized under the initiative of the project director, and the sessions of Service & Business Implementation and Impact Assessment were newly added.

The number of participants was 1,152, which was more than double that of the past. The number of participating countries and regions increased by six to 29 in total, which was a substantial result. To meet the requests from many participants, the entire program was streamed again as an on-demand service from December 14 to January 4. The virtual conference made it possible to publicize the development vision of automated driving by the Japanese government and SIP as well as the R&D results to a wider audience than before. This contributed to fostering public acceptance required for the social implementation of automated driving.

Overview

Overview of SIP-adus Workshop2020	
Sponsor	Cross-Ministerial Strategic Innovation Promotion Program, Council for Science, Technology and Innovation, Cabinet Office, Government of Japan
Period	November 10-12 (Tuesday - Thursday) 2020 SIP-adus Status Report Meeting (November 10) Online Symposium (November 11, 12) *On-demand streaming: December 14 2020 - January 4 2021
Venue	Online *Status Report Meeting was held at Tokyo International Forum
Participants	1152 individuals from 29 countries (FY2019: 511 individuals from 23 countries)
Speakers	76 including 28 speakers from overseas (FY2019: 166 including 62 speakers from overseas)
Themes	Utilization and exchange of data for implementation of Society5.0
Status Report Mtg	Development and utilization of traffic environmental information Toward realization of safe automated driving Society with automated driving for universal services
Themes	Regional Activities Service & Business Implementation Dynamic Map Connected Vehicles Safety Assurance Cybersecurity Human Factors Impact Assessment
Official website	https://www.sip-adus.go.jp/evt/workshop2020/
Survey	Respondents: 82 from online, 18 from speakers, 91 from status report mtg participants

Program

Status report meeting (Live)	Online symposium (Recorded)	
Tuesday, November 10 Start at 9:30 (JST)	Wednesday, November 11 Start at 9:00 (JST)	Thursday, November 12 Start at 9:30 (JST)
9:30~9:55 Opening	9:00~9:30 Opening	9:30~10:30 Japanese Government
9:55~10:45 Session1 Utilization and exchange of data for implementation of Society 5.0	9:30~11:10 Regional Activities	10:45~12:25 Safety Assurance
11:00~12:20 Session2 Development and utilization of traffic environment information	11:10~12:15 Break	12:25~13:30 Break
12:20~13:20 Break	12:15~13:30 Service & Business Implementation	13:30~14:55 Cybersecurity
13:20~15:00 Session3 Toward realization of safe automated driving	13:45~15:00 Dynamic Map	15:15~16:15 Human Factors
15:15~17:15 Session4 Society with automated driving for universal services	15:15~16:45 Connected Vehicles	16:30~18:00 Impact Assessment
17:15~17:25 Closing		18:00~18:05 Closing

※ The program is subject to change due to circumstances

for Central European Time (CET)		JST 17:30~*0:30	CET 9:30~16:30	JST 19:00~*2:50	CET 11:00~18:50
for Eastern Standard Time (EST)		JST *1:30~*8:30	EST 11:30~18:30	JST *4:00~*11:50	EST 14:00~21:50

* The time will be the next day

2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

Production of a leaflet

In response to requests from participants for a time schedule last fiscal year, a program leaflet was created for the SIP-adus Workshop 2020 this fiscal year. The leaflet was distributed to on-site participants of the site report meeting on November 10, and was also posted on the official website.

Image of the leaflet (bi-fold)

11月12日(木) オンラインワークショップ プログラム	
9:30~10:30	
日本政府	交通安全の自律運転に関する取組
Moderator	交通安全の自律運転に関する取組
Speaker	交通安全の自律運転に関する取組
Moderator	Safety Assurance Session (5分)
Speaker	Safety Assurance Session (5分)
Moderator	Cybersecurity
Speaker	Cybersecurity
Moderator	Human Factors
Speaker	Human Factors
Moderator	Impact Assessment
Speaker	Impact Assessment
Moderator	Closing for SIP-adus 2020

SIP-adus Workshop 2020																																					
SIP-adus Workshop 2020へようこそ!																																					
<p>会期：11月10日(火)~12日(木) 開催概要：産業界(1日目)：SIP自動車の実用化を専門家から見直し、最先端を実施。 オンデマンド(2日目、3日目)：日本政府代表からの自動運転政策に関するロードマップとSIP自動車の8の重点テーマについて、内外の専門家からの発表等を実施。日本政府の政策担当者から自動運転の取組を発表。 スケジュール：(プログラムの詳細は次ページをご覧ください)</p>																																					
産業界(1日目)	オンデマンド(2日目)																																				
9:30~9:55 オープニング	9:00~9:30 Opening																																				
9:55~10:45 セッション1 Societyの発展に向けた自律運転の取組	9:30~10:10 Japanese Government																																				
11:00~12:20 セッション2 交通環境の改善に向けた取組	10:45~12:25 Safety Assurance																																				
12:30~13:20 昼休み	11:00~12:15 Regional Activities																																				
13:30~14:00 セッション3 安全な自律運転の実現に向けて	12:15~13:30 Service & Business Implementation																																				
14:00~14:30 セッション4 自律運転の実現に向けた取組	13:30~14:55 Cybersecurity																																				
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<p>※プログラムは都合により変更の可能性がございます。</p> <table border="1"> <thead> <tr> <th>セッション</th> <th>セッション1</th> <th>セッション2</th> <th>セッション3</th> <th>セッション4</th> <th>セッション5</th> <th>セッション6</th> <th>セッション7</th> <th>セッション8</th> </tr> </thead> <tbody> <tr> <td>会場</td> <td>NTT</td> <td>CET</td> <td>NTT</td> <td>CET</td> <td>NTT</td> <td>CET</td> <td>NTT</td> <td>CET</td> </tr> <tr> <td>開始時刻</td> <td>9:30~9:55</td> <td>9:30~10:10</td> <td>9:30~10:10</td> <td>10:45~12:25</td> <td>11:00~12:15</td> <td>12:15~13:30</td> <td>13:30~14:55</td> <td>16:45~18:00</td> </tr> <tr> <td>終了時刻</td> <td>10:00</td> <td>10:45</td> <td>10:45</td> <td>12:25</td> <td>12:15</td> <td>13:30</td> <td>14:55</td> <td>18:05</td> </tr> </tbody> </table>		セッション	セッション1	セッション2	セッション3	セッション4	セッション5	セッション6	セッション7	セッション8	会場	NTT	CET	NTT	CET	NTT	CET	NTT	CET	開始時刻	9:30~9:55	9:30~10:10	9:30~10:10	10:45~12:25	11:00~12:15	12:15~13:30	13:30~14:55	16:45~18:00	終了時刻	10:00	10:45	10:45	12:25	12:15	13:30	14:55	18:05
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<p>＜本日の成果報告会について＞</p> <ul style="list-style-type: none"> ● 講演者のご発表は、オンラインによる配信となります。お手持ちのスマートフォン等で、QRコードから入力画面を表示し、ご質問いただけます。(質疑応答上、すべての質問にお答えできませんことをご了承ください) ● 講演者のご発表は、講演終了後の質疑応答時間内にぜひご参加ください。 ● 11/11、12開催のオンデマンドプログラムへの参加登録がまだお済みでない方は、ぜひ下記QRコードより登録いただきご参加ください。 																																					

11月10日(火) 産業界 プログラム		11月11日(水) オンラインワークショップ プログラム	
9:30~9:55		9:00~9:30	
オープニングセッション	9:30~9:55	オープニングセッション	9:00~9:30
Welcome Speech	内閣府 特命担当大臣 (科学技術政策) 岸上 信夫	Welcome Speech	内閣府 SIPプログラム課長 法橋 浩 産業界代表 Diana Elizabeth Furdgott-Roth
Keynote Speech	米産業界代表 Diana Elizabeth Furdgott-Roth	Keynote Speech	SIP自動車の取組 野村 秀夫 SIP自動車 プログラムディレクター
Keynote Speech	欧州産業界代表 Patrick Child	Regional Activities	9:30~11:15
Keynote Speech	SIP自動車 プログラムディレクター 野村 秀夫	Regional Activities	Level 4: Mobility Services提供に向けた取組、自動運転の社会実装に向けた取り組み、自律運転の社会実装に向けた取り組み
セッション1: Societyの発展に向けた自律運転の取組	9:55~10:45	Moderator	Challenge to establish sustainable mobility ecosystem - Academic collaboration and practice- 東京大学 / 山口 聡
Societyの発展に向けた自律運転の取組	9:55~10:45	Speaker	自動運転に向けた自律運転の取組、自律運転の社会実装に向けた取り組み、自律運転の社会実装に向けた取り組み 東京大学 / 野村 秀夫 SAN PROJECT: SAFETY & ACCEPTABILITY OF AUTOMATED MOBILITY VECOVA / Nadeau Paul The SHOW project in a nutshell UTP-International Association of Public Transport / Henriette Cornet A Snapshot on Automated Mobility Policies UTP-International Association of Public Transport / Henriette Cornet
セッション2: 交通環境の改善に向けた取組	11:00~12:20	Speaker	Automated Driving in Germany German Test Bed and UNICARlagi as a Flagship Project RWTH Aachen University / Timo Wopen Deploying Automated Vehicles An Overview HNTB / Jeffrey Ansh USA Perspective: Automated Goods Movement Richard Bishop Consulting / Richard Bishop 日本の自動運転実用化に向けた取組：オーストラリアの取組 BOLDLY / 佐藤 拓子
セッション3: 安全な自律運転の実現に向けた取組	13:30~14:00	Moderator	Closing for Regional Activities session 三井物産研究所 / 山本 圭雄
セッション4: 自律運転の実現に向けた取組	14:00~14:30	Service & Business Implementation	9:15~9:30
セッション5: 自律運転の実現に向けた取組	14:30~15:15	Moderator	Automated shuttle service acceptance and business case effects University of Florence / Nessimani Adriano 人への自律運転の社会実装に向けた取組に向けた取組、自律運転の社会実装に向けた取組、自律運転の社会実装に向けた取組
セッション6: 自律運転の実現に向けた取組	15:15~16:15	Speaker	自律運転の実現に向けた取組、自律運転の社会実装に向けた取組、自律運転の社会実装に向けた取組 筑波大学 / 伊藤 誠 Autonomous Vehicles Programme in Singapore 理化学研究所 / 藤田 啓 Closing for Service & Business Implementation session LTA / Lam Wae Shann
セッション7: 自律運転の実現に向けた取組	16:15~16:45	Moderator	Closing for Connected Vehicles session 三井物産研究所 / 山本 圭雄
セッション8: 自律運転の実現に向けた取組	16:45~18:00	Dynamic Map	17:15~18:00
セッション9: 自律運転の実現に向けた取組	18:00~18:05	Moderator	Dynamic Map Closing
セッション10: 自律運転の実現に向けた取組	18:05~18:05	Connected Vehicles	15:15~16:45
セッション11: 自律運転の実現に向けた取組	18:05~18:05	Moderator	Opening for Connected Vehicles session マツダ / 小川 徹也
セッション12: 自律運転の実現に向けた取組	18:05~18:05	Speaker	French and Europe V2X communication progress Renault / Christian Rousseau U.S. DOT Cooperative Driving Automation Research Toyota Motor North America, Inc. / John Kenney U.S. DOT Cooperative Driving Automation Research Toyota Motor North America, Inc. / John Kenney 自律運転の実現に向けた取組、自律運転の社会実装に向けた取組、自律運転の社会実装に向けた取組 USDOT / Kevin Doherty フランス (V2X) 自律運転の実現に向けた取組、自律運転の社会実装に向けた取組、自律運転の社会実装に向けた取組 日産自動車 / 野村 秀夫 自律運転の実現に向けた取組、自律運転の社会実装に向けた取組、自律運転の社会実装に向けた取組 マツダ / 小川 徹也
セッション13: 自律運転の実現に向けた取組	18:05~18:05	Moderator	Closing for Connected Vehicles session マツダ / 小川 徹也

2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

b. Status report meeting

On the first day of the event (November 10), experts presented the results of SIP-adus and opinions were exchanged. The speakers delivered presentations at the Tokyo International Forum, to which only relevant personnel were invited; the presentations were also streamed live online. The session was held based on four themes. Twenty four experts from Japan delivered presentations.

Shinji Inoue, Cabinet Office Minister of State for Science and Technology Policy, gave a welcome speech. Videos of speeches by Diana Elizabeth Furchtgott-Roth (United States Department of Transportation) and Patrick Child (Belgium, European Commission) were streamed.

Presentation materials used by Japanese experts were made available on the official website, allowing them to be disseminated widely.

Overview

Session name	Time	No of Speakers
Opening Session	9:30-9:55	4
Utilization and exchange of data for implementation of Society5.0	9:55-10:45	3
Development and utilization of traffic environmental information	11:00-12:20	5
Toward realization of safe automated driving	13:20-15:00	5
Society with automated driving for universal services	15:15-17:15	7
	Total	24



2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

c. Online symposium

Results of the online symposium

On Wednesday, November 11 and Thursday, November 12, speeches were given by government representatives from Japan, the U.S., and Europe regarding automated driving policies. Japanese and foreign experts made online presentations on the eight priority themes of SIP-adus. All the presentations were prerecorded for streaming.

The symposium was streamed three times a day in view of the time differences among countries (JST in Japan, CET in Europe, and EST in the U.S.).

Overview

(Units: People)

Session name	Date held	Time	Moderator	No. of speakers	Of which overse	Of which Japan
Opening	11th	9:00-9:30	—	4	2	2
Regional Activities	11th	9:30-11:10	Takashi Ohguchi	10	6	4
Service & Business Implementation	11th	12:15-13:30	Masayuki Kawamoto	6	2	4
Dynamic Map	11th	13:45-15:00	Satoru Nakajo	5	2	3
Connected Vehicles	11th	15:15-16:45	Hirofumi Ogawa	6	3	3
Japanese Government	12th	9:30-10:30	—	6		6
Safety Assurance	12th	10:45-12:25	Satoshi Taniguchi	8	6	2
Cybersecurity	12th	13:30-14:55	Shigeru Uehara	5	2	3
Human Factors	12th	15:15-16:15	Satoshi Kitazaki	3	2	1
Impact Assessment	12th	16:30-18:00	Takashi Ohguchi	8	3	5
Total				61	28	33



2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

d. Online streaming page

All the sessions were streamed online in English and Japanese, with the relevant information displayed on a single screen. The name, affiliation, facial photo, profile, and presentation title of a speaker and a button for downloading presentation materials were displayed on the player screen. To increase access to the poster data, a link was provided to the “exhibition panel” page of the website from the online streaming page.

During streaming of each session, viewers were invited to post questions online for each session. After the event, answers from the theme leaders and speakers were directly sent to those who asked questions.

Online Streaming Page: choosing a session to watch

This screenshot shows the main interface for selecting a session. At the top right, there are language selection buttons for 'English' and '日本語'. Below this is a link to the 'Japanese Government Poster Data'. The main area displays a grid of session cards, each with a 'セッション情報' (Session Information) button. The 'Impact Assessment' session is highlighted with a red dashed box and labeled 'Currently in session'. At the bottom right, there is a 'Program Schedule' button. A 'Session Information' pop-up window is shown at the bottom left, displaying details for a speaker, including their name, affiliation, and profile picture.

Annotations on the screenshot include:

- Link to 'Poster Data' page
- Select a language
- Currently in session
- View session details
- Link to 'Program Schedule'

Player Screen: watching a streaming video

This screenshot shows the player screen during a session. It features a video player with a play button and a volume icon. To the right of the video, there is a 'Speaker' section with a list of speakers, including their names, affiliations, and profile pictures. A red dashed box highlights the 'Download presentation material' button. Below the speaker list, there is a dropdown menu for selecting a speaker to ask a question, followed by a text input field and a play button. At the top right, there are language selection buttons for 'English' and '日本語'. A survey link 'アンケート' is also visible.

Annotations on the screenshot include:

- Select a language
- View a speaker's profile
- Download presentation material

Text below the screenshot: Viewers can select a speaker to whom they want to ask a question, type in the question, and press the arrow button on the right. They will then be asked to provide personal information such as name, organization, and email address.

2. Hosting of SIP-adus Workshop 2020

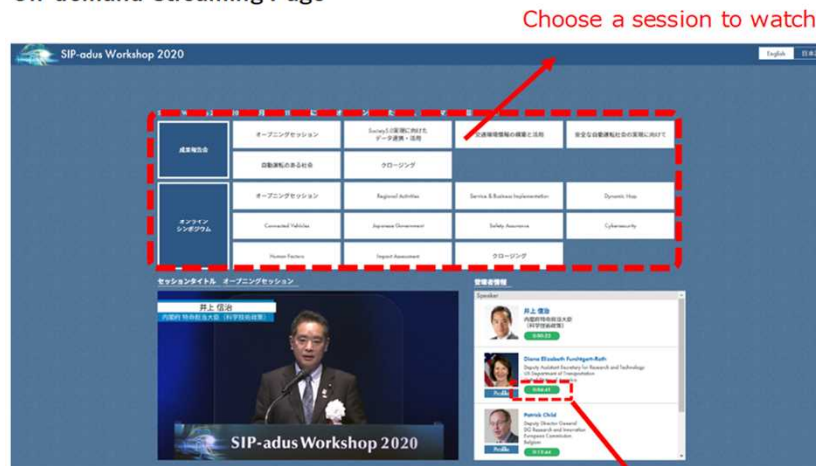
(1) Overview of event

e. On-demand streaming

After the end of the event, the entire three-day program, including the status report meeting and online symposium, were streamed as an on-demand service from December 14, 2020 to January 4, 2021 in response to requests from participants. The number of participants (the number of viewers who watched the videos) during the on-demand streaming period was 263.

Nationality	# of participants	# of registrations during the 3-day program	# of registrations during the on-demand streaming
Japan	229	179	50
China	6	4	2
U.S.A.	5	3	2
Korea	5	2	3
France	5	3	2
Germany	5	5	
U.K.	2	1	1
Australia	2		2
Poland	1	1	
Austria	1	1	
Thailand	1	1	
India	1		1
Total	263	200	63

On-demand Streaming Page



Indicate the starting time in the session

	Session Title	# of participants	# of registrations during the 3-day program	# of registrations during the on-demand streaming
Status Report Meeting	Opening Session	110	86	24
	Utilization and exchange of data for implementation of Society 5.0	100	78	22
	Development and utilization of traffic environment information	90	67	23
	Toward realization of safe automated driving	98	80	18
	Society with automated driving for universal services	96	72	24
	Closing	25	22	3
	Online Symposium	Opening Session	43	38
Regional Activities		85	71	14
Service & Business Implementation		53	43	10
Dynamic Map		69	54	15
Connected Vehicles		73	59	14
Japanese Government		72	54	18
Safety Assurance		84	65	19
Cybersecurity		69	42	27
Human Factors		57	46	11
Impact Assessment		61	48	13
Closing	27	23	4	
Total		1,212	948	264

2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

f. Poster session

Results of the exhibition

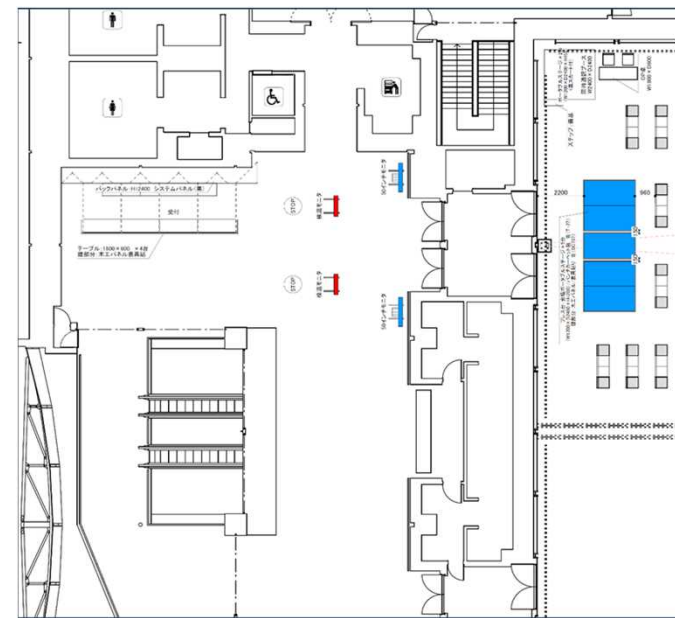
At the on-site venue of the status report meeting, an exhibition was held using digital signage near the entrance of the venue (15 posters and one video). All the exhibition images were made available on the official website, allowing them to be disseminated widely.

Overview

No.	Title
1	Public-Private ITS Initiative/Roadmaps 2020
2	SIP-adus (automated driving universal service)
3	Research and Development of SIP Part.1
4	Research and Development of SIP Part2
5	Visualization of the traffic accident reduction effect
6	Provision of traffic signal information and Control of traffic signal
7	Optimized Processing for Dynamic Road Information by V2X with Multi-Scale Architectur
8	Study of Communication Technologies for Use by Automated Driving Systems
9	Smart Mobility Challenge
10	Research on recognition technologies necessary for automated driving (levels 3 and 4)
11	FOT for social implementation of the last mile mobility system by automated driving and connected vehicles in dedicated zone
12	TRUK PLATOONING
13	Safety Assurance KUDos for Reliable Autonomous vehicles: SAKURA Project
14	Efforts to Realize Automated Driving by Road Transport Bureau, MLIT (Part1)
15	Efforts to Realize Automated Driving by Road Transport Bureau, MLIT (Part2)
16	Full-Scale Deployment of Automated Driving ~Ensuring Mobility in Rural Area~

(Video)

Poster x 15 Video x 1



Locations where digital signage was set up



Photos taken during the exhibition

2. Hosting of SIP-adus Workshop 2020

(1) Overview of event

Image of the poster data

TRUCK PLATOONING

Objective

The logistics industry in Japan is faced with the social issues such as shortage of truck drivers and increase of the greenhouse effect gas, so that the automated driving technology is expected to solve those issues and improve logistics efficiency. Truck Platooning comprises a number of trucks, and it is expected to save fuel consumption and reduce the number of truck drivers needed by applying the automated driving function to the follower trucks. It is also expected to improve traffic safety by assistance of the follower trucks' braking with no reaction time.

Outline

The Japanese government intends to commercialize the truck platooning without drivers in the follower trucks. Connected by V2V communication

Activities & Roadmap

World first field operational tests of CACC(Jan,2018) and CACC+LKA(Dec,2018) based 4 different brands' truck platooning were conducted on Shin-Tomei expressway. The government intends to realize the truck platooning without drivers in the follower trucks in FY2020, and intends to commercialize as earliest after FY2022.

Safety Assurance KUDos for Reliable Autonomous vehicles: SAKURA Project

Summary

- Socially acceptable and technically sound safety assurance methodologies are needed to safely introduce Automated Driving systems into the market.
- The SAKURA Project is a large-scale coordinated initiative funded by the Japanese Ministry of Economy, Trade and Industry (METI) that aims at harmonizing data collection, developing research methodologies and coordinating standardization activities through joint efforts with vehicle manufacturers (JAMA) and traffic safety research institutions.
- Within this project, a comprehensive safety assurance process has been developed and a number of activities are being deployed including real-traffic monitoring data collection, development of traffic scenarios for safety evaluation and definition of safety criteria.
- The safety assurance process will be applied to guide the development of the systems towards a safer Automated Driving society.

Parametric Data

Test Scenario Approach

Driving Data

Instrumented Car

Fixed Observation

Changing third-party data acquisition with both instrumented vehicles and fixed camera over motorways

Scenario Database

SAKURA Scenario Database Structure

Scenario Structure (Traffic Characteristics)

Scenario Monitors (Status View, Critical Events, Parameter Space, State Transition, Others)

Scenario Search

- Logical Scenario based Parameter Space
- Feasible Parameter range output (update period)
- Concrete Scenario output (XML format)
- Feasible scenario generation (Update period)

Full-Scale Deployment of Automated Driving ~Ensuring Mobility in Rural Area~



Video

2. Hosting of SIP-adus Workshop 2020

(2) Verification of results

Verification of results based on questionnaire surveys and viewing status

A questionnaire survey was conducted on participants and speakers. Another questionnaire survey was conducted on on-site visitors at the status report meeting to obtain their direct feedback.

Almost all participants and speakers of the SIP-adus Workshop 2020 replied that they are keen to participate in the SIP-adus Workshop next year, showing that the workshop was highly worthwhile.

Regarding the overall evaluation of the SIP-adus Workshop, about 39% of participants and 56% of speakers gave the highest score in the five-grade evaluation. The overall evaluation was high in terms of collection of information about the latest developments, but there were requests about networking between participants. In the next fiscal year and beyond, we intend to offer opportunities for discussions as in the case of the on-site workshop.

[Survey response rate]

A questionnaire survey sheet was distributed to on-site participants of the status report meeting together with a leaflet for the day, and the sheets were collected at the exit as participants left the venue. This achieved a high response rate of 70%.

Online participants were encouraged to answer a questionnaire survey by clicking a banner for the survey, which was constantly displayed on the web player screen, or from the information email which was sent several times after the end of the workshop. However, the response rate from online participants was low (6%). It is necessary to consider how to increase the response rate in the future, such as giving an incentive to those who answer the survey online.

[How participants learned of the event]

Participants learned about the SIP-adus Workshop 2020 mainly through internal information at affiliated organizations. This shows that active communication and guidance by relevant personnel are effective. The second main source of information was email from the SIP-adus Workshop Organizing Secretariat. The results show that the public relations email that was sent several times by the Organizing Secretariat to participants in the workshop last fiscal year was an effective means of public relations.

It should be noted that all the speakers were invited to participate.

Survey response rate (respondents divided by participants)

	FY2020
On-site Participants	70%(91/130)
Online Participants	6%(82/1,487)
Speakers	28%(18/65)

How participants learned of the event

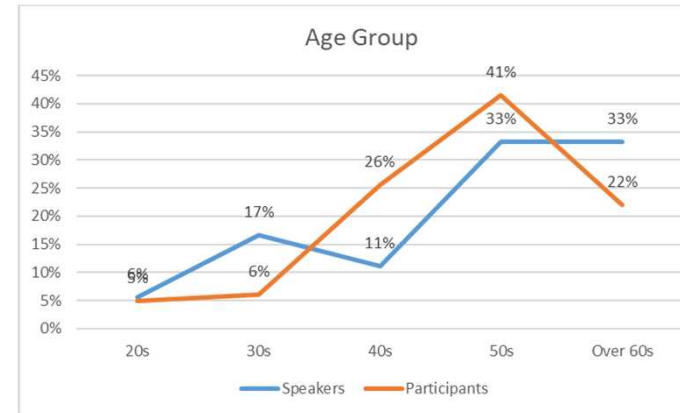
	FY2020
Source of internal information at affiliated organizations	40%
Email from SIP-adus Workshop Organizing Secretariat	20%
Email magazine of ITS Japan	13%
SIP-adus website	13%
Email magazine of NEDO	5%
Word of mouth	2%
Other	6%

2. Hosting of SIP-adus Workshop 2020 (2) Verification of results

[Attributes of participants]

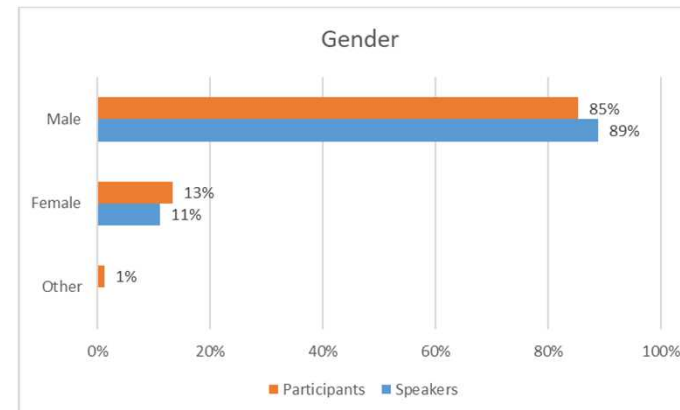
1. Age

By age, most of the participants and speakers were in their 40s to 60s, with those in their 50s accounting for the largest number. Meanwhile, it is noteworthy that the percentage of speakers in their 30s was higher than that of those in their 40s. This shows that young researchers also played an active role.



2. Gender

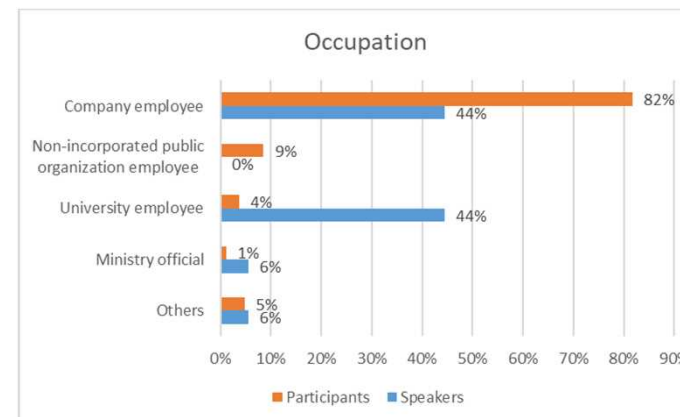
By gender, male participants accounted for nearly 90% for both participants and speakers. The percentage of male participants was predominantly high. This is considered to be a characteristic trend of the industry, but it may be worth studying the possibility of involving more female participants.



3. Occupation

By occupation, the percentage of company employees accounted for 80% for participants.

For speakers, company employees accounted for 80% last fiscal year, but the percentage of company employees and university staff was the same (44%) this fiscal year. The results show that industry-government-academia cooperation was achieved.



2. Hosting of SIP-adus Workshop 2020 (2) Verification of results

[Attendance]

1. Status of continuous participation

The continuous participation rate of speakers remained almost unchanged; for participants, the rate increased by 11% from the last fiscal year. Presumably, the online conference was more convenient for participants and facilitated participation compared to the past.

2. Intention to participate next year

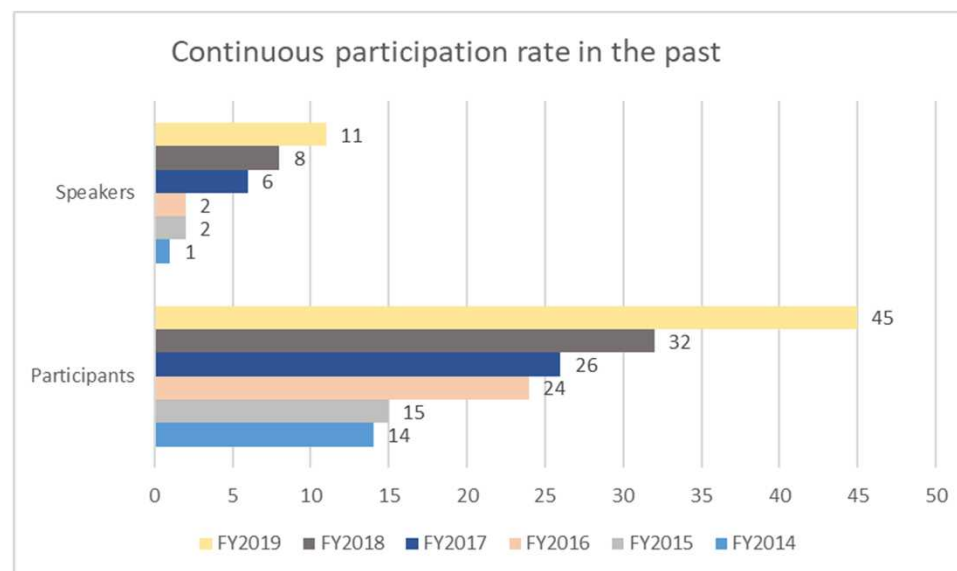
99% of on-site participants of the status report meeting expressed their intention to attend next year.

To prevent the spread of COVID-19, it was decided to invite only relevant personnel after much discussion on holding an on-site event. The results suggest that the on-site event was effective.

100% of both online participants and speakers expressed their intention to attend next year. Thus, holding the event online amid the COVID-19 pandemic was highly worthwhile.

Continuous participation rate (Units: %)

	FY2020	FY2019	FY2018	% YoY
Speakers	67%	65%	65%	2%
Participants	65%	54%	51%	11%



Intention to participate next year (session)

	FY2020	FY2019	FY2018	% YoY
Speakers	100%	95%	69%	5%
Participants	100%	95%	85%	5%

2. Hosting of SIP-adus Workshop 2020

(2) Verification of results

[Overall evaluation]

Participants who gave a high score for the workshop as a whole (number of participants who gave the highest score in the five-grade evaluation/total number of valid responses for the relevant questions) accounted for 39% for participants and 56% for speakers. 90% of participants gave a high score (“very good” and “good”). Both participants and speakers gave a higher score compared to last year.

[Evaluation of the online symposium]

1. Evaluation by session (overall)

Regarding the evaluation by session in the online symposium, speakers generally gave a higher score than participants. This is attributable to the fact that speakers can directly participate in presentations and discussions and deeply understand the session themes.

2. Evaluation by session (speakers)

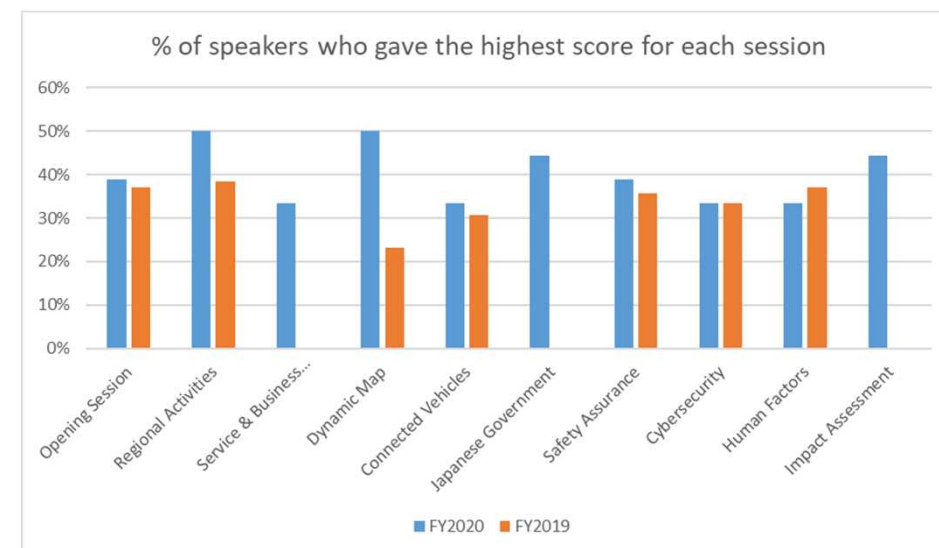
Speakers who gave the highest score accounted for about 30% or more for all the sessions, the same as last year. In Dynamic Map, the score increased significantly compared to last year. About half of the speakers gave the highest score.

Percentage of participants who gave the highest score (5/5) for management (Unit: %)

	FY2020	FY2019	% YoY
Speakers	56%	40%	16%
Participants	39%	17%	22%

Percentage of speakers/ participants who gave the highest score (5/5) for each session

	Speakers	Participants
Opening Session	39%	23%
Regional Activities	50%	24%
Service & Business Implementation	33%	26%
Dynamic Map	50%	29%
Connected Vehicles	33%	34%
Japanese Government	44%	37%
Safety Assurance	39%	33%
Cybersecurity	33%	37%
Human Factors	33%	29%
Impact Assessment	44%	26%



Percentage of speakers who gave the highest score (5/5) for each session (Unit: %)

	FY2020	FY2019	% YoY
Opening Session	39%	37%	2%
Regional Activities	50%	38%	12%
Service & Business Implementation	33%	-	N/A
Dynamic Map	50%	23%	27%
Connected Vehicles	33%	31%	3%
Japanese Government	44%	-	N/A
Safety Assurance	39%	36%	3%
Cybersecurity	33%	33%	0%
Human Factors	33%	37%	-4%
Impact Assessment	44%	-	N/A

2. Hosting of SIP-adus Workshop 2020

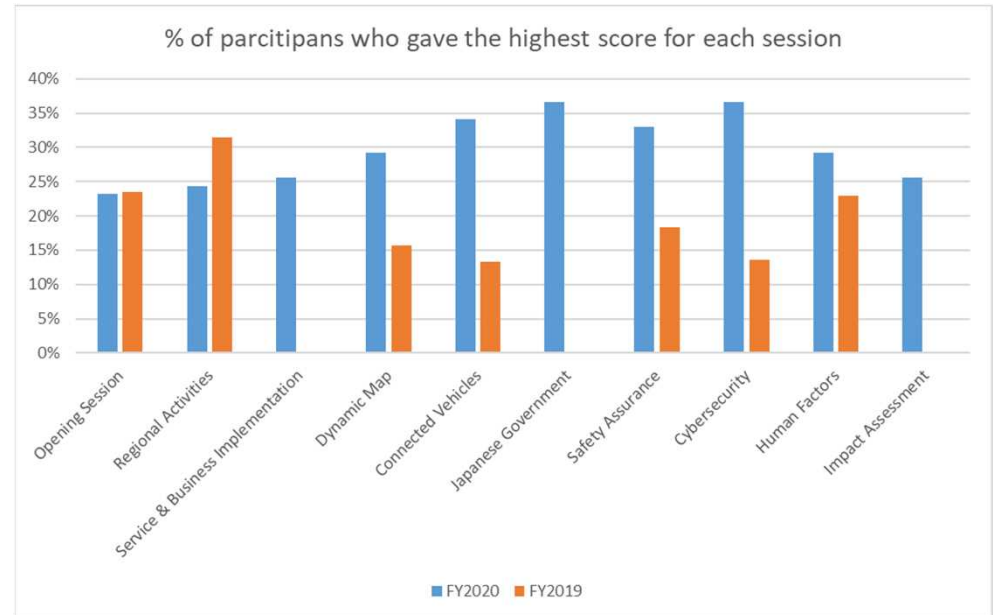
(2) Verification of results

3. Evaluation by session (participants)

The overall scores given by participants increased from the previous year. This is a characteristic result of the online symposium this year. In Cybersecurity and Japanese Government (a new session), 37% of participants gave the highest score.

Percentage of participants who gave the highest score for each session

	FY2020	FY2019	% YoY
Opening Session	23%	24%	0%
Regional Activities	24%	31%	-7%
Service & Business Implementation	26%	-	N/A
Dynamic Map	29%	16%	14%
Connected Vehicles	34%	13%	21%
Japanese Government	37%	-	N/A
Safety Assurance	33%	18%	15%
Cybersecurity	37%	14%	23%
Human Factors	29%	23%	6%
Impact Assessment	26%	-	N/A



4. Comments from participants (excerpt) (P: participants, S: speakers)

□ Good points

- All the sessions were highly useful to understand the SIP project. (P)
- The content of the presentations was richer than before thanks to the research results in the past seven years. (P)
- I could download the presentation materials and check the content. This was a very nice feature. (P)
- It was a good idea to accept questions online because it is efficient. (P)

□ Things that could be improved

- It is necessary to study how to link the research projects explained in the presentations in a well-coordinated manner. (P)
- Each year, the currentness of information that is disseminated by the workshop and the amount of useful information available have been decreasing. This may be because respective countries are close to solving the issues and achieving practical application.
- Presenters should remember that their presentations are highly technical and are difficult for the general audience to understand. (S)

2. Hosting of SIP-adus Workshop 2020

(2) Verification of results

[Evaluation of recorded videos]

1. Were the explanations for recording a video easy to understand?
The speakers in the online symposium were requested to record a video before the event. The preliminary explanations were satisfactory for about 80% of speakers but were somewhat dissatisfied for 10%. This point needs to be improved in terms of management in the future.

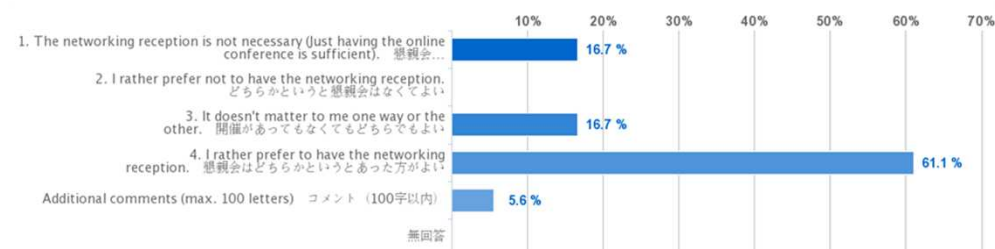
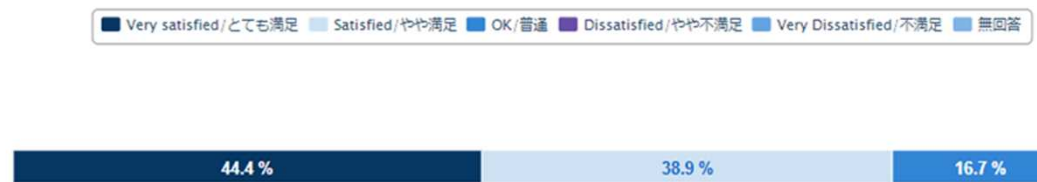
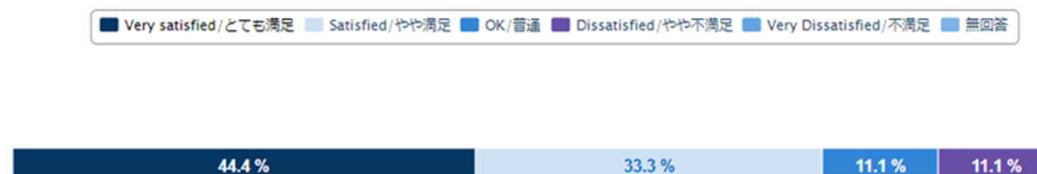
2. Was the quality of the completed video satisfactory?
The quality of the video was satisfactory for more than 80% of speakers; fortunately, no speaker was dissatisfied with the quality. This shows that the videos met the expectations of the speakers.

[Evaluation of the decision not to hold a networking reception this year]

More than 60% of speakers replied that a networking reception, which had been held in the past, should be held. This shows that speakers participate in the workshop partly hoping to network with participants. Some speakers commented that an online reception may be a good idea as an opportunity to exchange candid questions and answers.

[Evaluation of the poster session]

In this event, PDF files or videos were posted on the website instead of holding a poster session. While more than half of the respondents replied that information should be posted even if it is in PDF format alone, nearly 40% replied that they did not access such PDF files or videos.



Evaluation of the poster session

Statement	Speakers & Participants
1. I'm interested in obtaining the latest information, so even a pdf format is useful.	55%
2. Unless the poster presentations can actually be viewed physically at the conference venue, they are not necessary.	0%
3. It would be better to include videos and/or audio, even if presented online.	22%
4. I did not view the poster presentations.	39%

2. Hosting of SIP-adus Workshop 2020 (2) Verification of results

[Evaluation of online streaming]

1. Evaluation

Half of the respondents experienced some problems, showing that many issues remain to be resolved for the online conference in terms of management and the participants' environment.

Most of the participants viewed the videos without problem regarding the screen configuration of the streaming site.

2. Method of accepting questions

In this event, questions were accepted only online, and answers were given by email at a later date. While some said "The function to post questions was good." and "There is no problem with this method.", many respondents wanted to see the Q&A of other participants or to have a Q&A session in real time.

3. Comments from participants (excerpt) (P: participants, S: speakers)

▣ Good points

- An online workshop with video streaming, like this event, is enough to fully understand what speakers want to say. There will be no problem even if the workshop shifts to an online event. (S)
- This was a very good event because consideration was given to the audience. (P)
- It was nice to hold the online international conference in a new style. (S)
- The online workshop was much better than I had expected. I hope to participate online again next time. (P)

▣ Things that could be improved

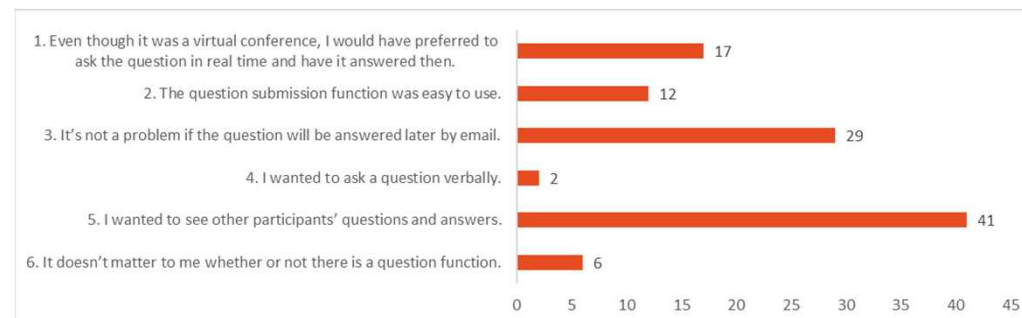
- A way of building networks with presenters should be offered. (P)
- It is frustrating not being able to discuss or communicate with personnel in Europe and the U.S. directly, but it is still much better than not holding the workshop. Discussions with personnel in Europe and the U.S. should be held using chat, etc. despite the time differences. (S)
- It was a pity that discussions could not be held because this was an online event. (S)
- It would be much better if discussions and conversations could be held by chat, etc. (S)

Did any problems occur, such as difficulty in viewing/listening to videos?

	Participants
Was able to view/listen	50%
The video stopped partway through and/or there was background noise/interference.	23%
Had difficulty in connecting as too many users were simultaneously accessing the system.	12%
Other	15%

What did you think about the layout of the streaming website (screen composition)??

	Participants
Easy to view	46%
Ordinary	37%
Difficult to view	6%
Other	11%



3. Transmitting information using the website

(1) Overview of information transmission

Overview

Under this project, information is disseminated actively through the SIP-adus website to strengthen information transmission. In addition to updating the pages in “Home,” “About SIP,” “Research & Development,” “Cooperative Activities & Conferences,” and “Field Operational Tests,” we focused on the two points below in FY2020.

[Periodic update of the “Field Operational Tests” page]

Since the FOTs in the Tokyo waterfront area started in October 2019, the FOT implementation plan, driving plan, etc. on the “Field Operational Tests” page (in Japanese) have been updated monthly. [Fig. 1]

[Improvements in the “Cooperative Activities & Conferences” page]

Events on the “Cooperative Activities & Conferences” page (in English) are classified into “Japan” and “Overseas” and categorized by fiscal year. A page for disseminating information on respective themes will be created to enhance the transmission of information on priority themes in international cooperation to foreign countries. [Fig. 2]

[Fig. 1]

[Fig. 2]

3. Transmitting information using the website (2) Verification of effectiveness

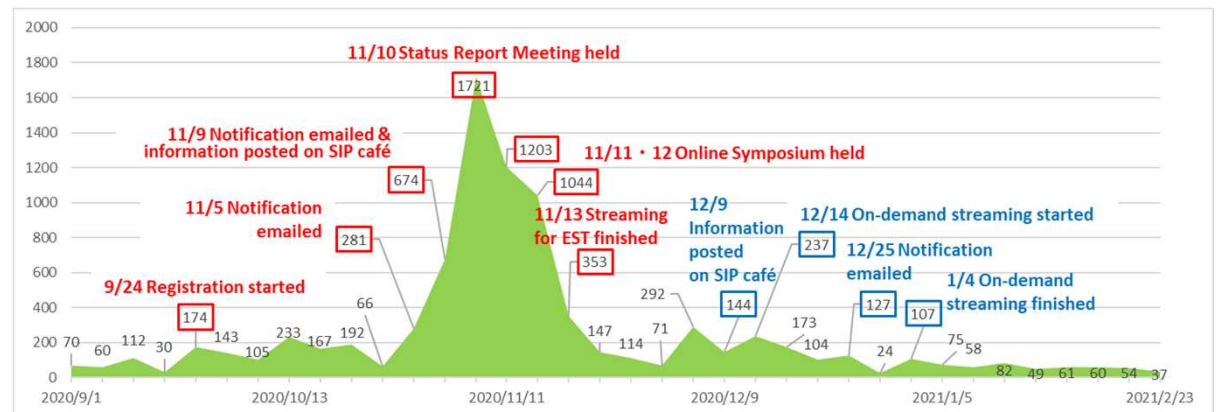
Verifying effectiveness using Google Analytics

The website access logs are analyzed throughout the year to measure the effectiveness of information transmission from the website. Google Analytics was used to count the visits to the website. We found that many users visited the website to participate in SIP-adus Workshop 2020. It is also noteworthy that the number of site visits increased significantly when notifications were given by email and information was posted on SIP café — Automated Driving — (<https://sip-cafe.media/>) (in Japanese). In order to use the SIP-adus website as a more general tool for providing information, we expect to see results from initiatives to make the content more substantial and ensure public relations activities in coordination with periodic email distribution and other channels.

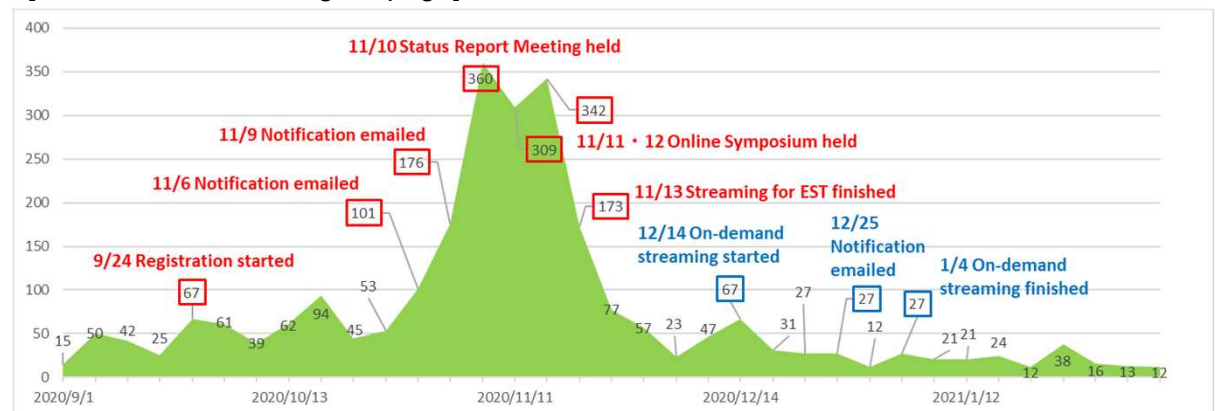
No. of users

The number of users started to increase from the commencement of registration of general participants for the SIP-adus Workshop 2020. It reached a maximum of 1,721 for the Japanese page and 360 for the English page during the event. Subsequently, it increased slightly during the on-demand streaming period and then decreased sharply after it. It seems likely that many users visited the website in connection with participating in the event.

[No. of users of the Japanese page]



[No. of users of the English page]



3. Transmitting information using the website

(2) Verification of effectiveness

No. of users (continued)

In FY2020, it was decided to hold the SIP-adus Workshop as a virtual conference on the web due to the COVID-19 pandemic. This resulted in an increase in the number of site visits from the last two fiscal years.

<*User numbers>

Google Analytics uses both IP (Internet Protocol) addresses and cookies to analyze user data. Because each device has a different IP address, the “User numbers” do not represent the individual users distinguished, but rather they mean that the browser used to view the website is distinguished and counted, and this data is aggregated over a certain period. For example, in the event that a single user makes use of a PC using Internet Explorer, a PC using Chrome, and a smartphone to access websites, for data-aggregation purposes the “three users” figure, which represents the total number of browsers, will be counted as separate users.

Analysis of channels to attract visitors

An analysis was conducted to determine from where users visited the SIP-adus website. Different trends were observed for the Japanese page and English page. For the Japanese page, direct visits (i.e., by directly entering the URL or visiting the site from bookmarks) accounted for about 70%, and referral visits (i.e., by clicking links on other sites to the site) accounted for about 30%.

Meanwhile, for the English page, direct visits accounted for only about 50%, and visits by organic search (i.e., by searching on search engines to the site) accounted for about 40%.

There was a common trend for the Japanese page and English page that the percentage of social visits (i.e., from social media, such as Facebook and Twitter) was low, accounting for only about 2% of the total number.

[No. of users in the past three years (from September to November)]

	Japanese		English		Total	
	User	%YoY	User	%YoY	User	%YoY
Sep. 1 2018 to Nov. 30 2018	5,817	—	3,234	—	9,051	—
Sep. 1 2019 to Nov. 30 2019	4,625	79.5%	2,891	89.4%	7,516	83.0%
Sep. 1 2020 to Nov. 30 2020	7,470	161.5%	2,886	99.8%	10,356	137.8%

Channel	Japanese		English		Total	
Direct Visits by directly entering URL or visiting the site from bookmarks	7,360	69.4%	2,048	49.4%	9,408	63.7%
Referral Visits by clicking links on other sites to the site	2,853	26.9%	407	9.8%	3,260	22.1%
Social Visits from social media such as Facebook and Twitter	230	2.2%	99	2.4%	329	2.2%
Organic Search Visits by searching on search engines to the site	166	1.6%	1,595	38.4%	1,761	11.9%
Total	10,609		4,149		14,758	

4. Final thoughts



To produce results of SIP-adus Phase 2

SIP-adus Phase 2 will be completed in 2022. The SIP-adus Workshop has established itself as an annual international conference on automated driving in the past seven years, and has developed as a forum for international cooperation. The SIP-adus website has evolved as a tool for information transmission: the content has been made more substantial, and the pages have been made more visitor-friendly.

The following results and issues should be considered to make improvements for the next two fiscal years.

SIP-adus Workshop

[1] Increase international communication

The COVID-19 pandemic made it difficult for foreign speakers to visit Japan to attend this event. However, due to the personal networks that have already been built, we had the privilege of having keynote speeches of senior officials from the U.S. Department of Transportation and the European Commission, which was equivalent to the level in the past, as well as presentations by 28 foreign experts mainly from Europe and the U.S. The number of participants from foreign countries almost quintupled, and the number of participating countries increased by six from last year, making the workshop more international. The data also shows that the online event enabled many people, who could not participate in the past due to time differences and distance, to participate. The online event is expected to be introduced as a new style of workshop so that potential participants can attend in the future. To motivate foreign experts to participate in the workshop and enable them to achieve more results by visiting Japan, activities that lead to international cooperation are expected to be continued, such as holding side meetings on safety assessment, socioeconomic impact assessment, and cybersecurity in line with the SIP-adus Workshop.

[2] Create opportunities for discussions

Speakers who gave the highest score (5/5) for the entire workshop and respective sessions accounted for 56% and 30% or more, respectively. The experts tended to give higher scores than the participants. This is attributable to the fact that experts can directly participate in presentations and discussions and deeply understand the session themes.

Meanwhile, many respondents commented that breakout workshops and a networking reception should be held in the next SIP-adus Workshop. This fiscal year, opportunities for discussions among experts were not provided because it was decided to hold the SIP-adus Workshop online without breakout workshops or a reception. To increase the satisfaction of speakers for any style of event, it is important to offer opportunities for discussions.

[3] Revitalize the poster session

The poster session provides ministries and agencies with opportunities to present results. Respondents who considered it useful to post PDF files alone to present information accounted for 55%, while about 40% did not access the poster session at all.

In the past, participants were highly satisfied with the poster session and many of them expressed expectations. The possibilities of more focused content should be studied, such as arranging a time only for explaining the poster session and promoting the poster session by email.

4. Final thoughts

SIP-adus website

[1] Increase the number of site visits by holding a virtual conference

Due to the COVID-19 pandemic, it was decided to hold the SIP-adus Workshop in FY2020 as a virtual conference on the web. This increased the number of site visits compared to the past.

Further improvements could be made so that visitors to the site for the workshop are guided to pages that provide relevant information.

Possible improvements include adding recent topics to periodic email distribution and motivating visitors to click links to relevant pages from the workshop videos, both of which were effective in this event.

[2] Disseminate information using social media/collaborate with events to promote public acceptance

During the period leading up to the SIP-adus Workshop 2020, notifications were made and public relations were promoted with cooperation from ITS Japan, Japan Automobile Importers Association, European Commission, Federal Ministry of Education and Research of Germany, U.S. Department of Transportation, Japan Automobile Manufacturers Association, Inc., and Society of Automotive Engineers of Japan, Inc., among others. It was found that links from other sites help attract visitors to the website to a certain degree.

Meanwhile, the results showed that traffic to the site from social media, such as Facebook and Twitter, was still low.

Due partly to the COVID-19 pandemic, the demand for automated driving is expected to increase, and automated driving is expected to attract more public attention. To enable the SIP-adus website to play a key role as a tool for disseminating information about automated driving, it is necessary to disseminate information through social media, such as Facebook and Twitter, so that the general public can receive information more easily, and to disseminate information in collaboration with events for promoting public acceptance.

[3] Coordinate with large-scale FOTs

Since the FOTs in the Tokyo waterfront area started in October 2019, the FOT implementation plan, driving plan, etc. on the “Field Operational Tests” page (in Japanese) have been updated monthly. However, as discussed above, we found that visitors to the website were interested mostly in the SIP-adus Workshop.

To make sure that information about large-scale FOTs on this website is used effectively, it is necessary to make requests to the front-line personnel of large-scale FOTs and ensure coordination by promoting public relations activities to communicate with the participants of large-scale FOTs, and to ask the participating companies to link to the SIP-adus website from their websites.