

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

in “Cross-ministerial Strategic Innovation Promotion Program (SIP) Phase 2

Automated Driving for Universal Services”

# Annual Report

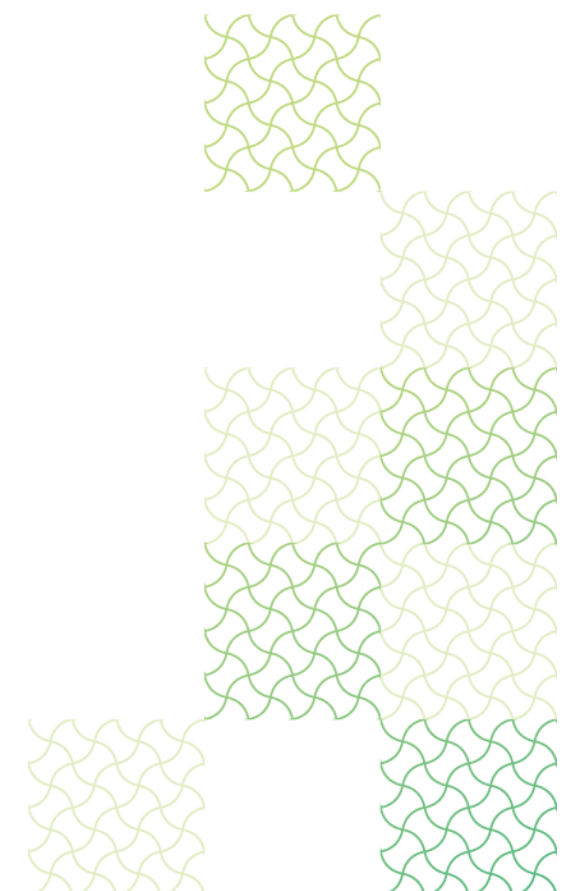
## Executive Summary

March 31, 2020

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# 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 last fiscal year, aims to expand the implementation of automated driving from expressways to general roads, with 2020 set as a milestone.

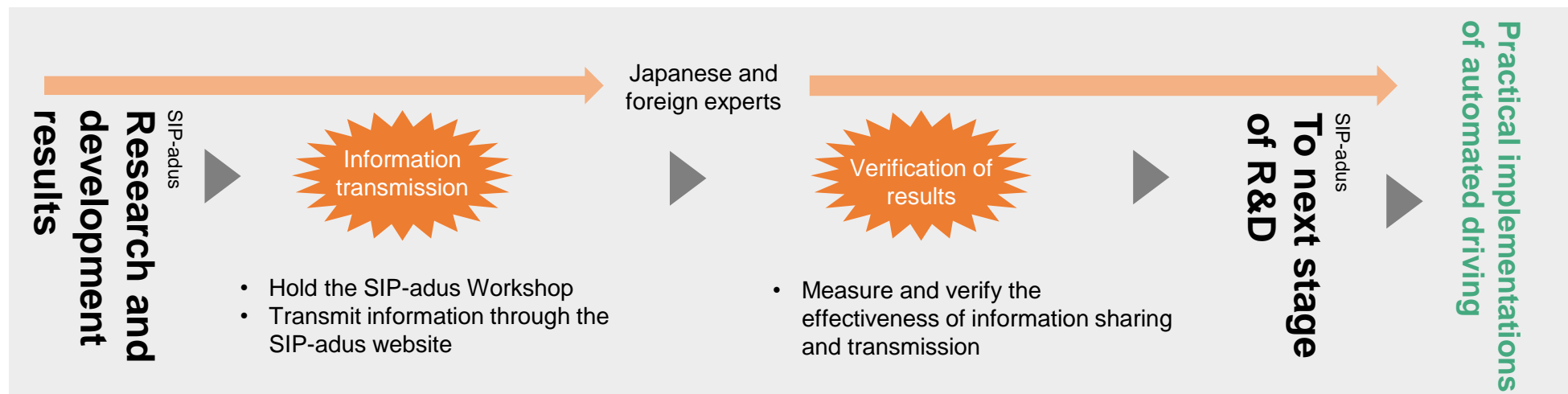
One of the priorities of this R&D project is international cooperation along with planning and promotion of FOTs, technology development, and fostering of social acceptance.

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 2019

### (1) Overview of event



#### a. Summary Results of SIP-adus Workshop 2019

This fiscal year, the sessions of the SIP-adus Workshop were reorganized under the initiative of the project director, and the Safety Assurance session was added.

External experts were assigned to investigate the progress of R&D in foreign countries and invite researchers to the SIP-adus Workshop.

The workshop program featured presentations which were open to general participants (plenary session), breakout workshops by experts, and panels displayed by the Cabinet Office as well as ministries and agencies (poster session).

The total number of participants was 511, which was almost the same as last year. It is noteworthy that the total number of experts who participated in the workshop increased by about 15% (21 experts) and the number of participating countries and regions increased by six.

Thanks to its track record, the SIP-adus Workshop has been well accepted as an international conference on automated driving and has steadily helped increase Japan's presence.

It is also an opportunity to collect information about automated driving projects in foreign countries and build personal networks.

#### Overview

Overview of SIP-adus Workshop 2019																							
Sponsors	Cross-Ministerial Strategic Innovation Promotion Program, Council for Science, Technology and Innovation, Cabinet Office, Government of Japan New Energy and Industrial Technology Development Organization (NEDO)																						
Period	Tuesday, November 12 – Thursday, November 14, 2019																						
Venue	Plaza Heisei, Tokyo International Exchange Center (2-2-1 Aomi, Koto-ku, Tokyo) ( <a href="https://www.jasso.go.jp/en/kyoten/tiec/index.html">https://www.jasso.go.jp/en/kyoten/tiec/index.html</a> )																						
Participants	511 individuals from 23 countries, including 89 individuals from overseas (FY2018: 516 individuals from 17 countries, including 88 individuals from overseas)																						
(experts included in participants)	166, including 62 from overseas (FY2018: 145, including 52 from overseas)																						
Themes	Regional Activities FOTs and Next Generation Transport Human Factors Cybersecurity <b>Safety Assurance</b> Dynamic Map Connected Vehicle <table border="1" data-bbox="927 1134 1406 1356" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Tuesday, November 12</th> <th>Wednesday, November 13</th> <th>Thursday, November 14</th> </tr> </thead> <tbody> <tr> <td>AM</td> <td>Opening Session 9:00 – 9:30</td> <td>Cybersecurity 9:00 – 10:45</td> <td rowspan="2">Breakout Workshop 9:00 – 15:30</td> </tr> <tr> <td></td> <td>Regional Activities 9:30 – 12:20</td> <td>Safety Assurance 11:00 – 12:45</td> </tr> <tr> <td></td> <td colspan="3" style="text-align: center;">Poster Session</td> </tr> <tr> <td>PM</td> <td>FOTs and Next Generation Transport 13:20 – 15:30</td> <td>Dynamic Map 14:05 – 15:45</td> <td rowspan="2">Breakout Workshop Summary 16:00 – 17:00</td> </tr> <tr> <td></td> <td>Human Factors 15:45 – 17:20</td> <td>Connected Vehicle 16:00 – 17:40</td> </tr> </tbody> </table>		Tuesday, November 12	Wednesday, November 13	Thursday, November 14	AM	Opening Session 9:00 – 9:30	Cybersecurity 9:00 – 10:45	Breakout Workshop 9:00 – 15:30		Regional Activities 9:30 – 12:20	Safety Assurance 11:00 – 12:45		Poster Session			PM	FOTs and Next Generation Transport 13:20 – 15:30	Dynamic Map 14:05 – 15:45	Breakout Workshop Summary 16:00 – 17:00		Human Factors 15:45 – 17:20	Connected Vehicle 16:00 – 17:40
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Official website	<a href="https://en.sip-adus.go.jp/evt/workshop2019/">https://en.sip-adus.go.jp/evt/workshop2019/</a>																						
External experts	Two from ITS Japan																						
Survey	Respondents: 176 from general participants, 84 from speakers/BW participants (cumulative total from November 12 to 14)																						
Media attending	Four companies (Nikkan Kogyo Shimbun, Ltd., Nikkan Jidosha Shimbun, NEXT MOBILITY, TECHNO MEDIA INC.)																						

## 2. Hosting of SIP-adus Workshop 2019

### (1) Overview of event

#### b. External experts

From this fiscal year, external experts who have deep experience in international cooperation activities and personal connections in foreign countries are assigned to prepare for the SIP-adus Workshop.

These experts participate in major international conferences overseas, investigate the developments in R&D overseas, collect information about candidate researchers to be invited to the SIP-adus Workshop, and report to the Cabinet Office and NEDO. This fiscal year, external experts were dispatched from this project to the following international conferences.

#### List of conferences to which external experts were dispatched

Conference	Period	Venue	Dispatched personnel	Objective of participation
Automated Vehicles Symposium 2019	July 15 to 19, 2019	Orlando (U.S.)	Hajime Amano	To attend as a speaker
			Takahiko Uchimura	To conduct an investigation focusing on automated driving in the U.S.
ITS World Congress 2019	October 21 to 25, 2019	Singapore	Takahiko Uchimura	To investigate the global developments in automated driving (including ITS)
Transportation Research Board (TRB) 99th Annual Meeting	January 12 to 16, 2020	Washington, D.C. (U.S.)	Hajime Amano	To attend as a speaker
			Takahiko Uchimura	To investigate the developments in the U.S. government

「自動運転の実現に向けた情報発信力の強化に係る調査事業」報告資料

**Automated Vehicles Symposium 2019**

参加報告



2019年7月30日  
国際連携WG  
天野 肇

**ITS World Congress、関係会議出張報告**



Smart Mobility, Empowering Cities



2019年11月5日  
特定非営利活動法人 ITS Japan  
自動運転プロジェクト 内村孝彦

「自動運転の実現に向けた情報発信力の強化に係る調査事業」報告資料

**TRB Annual Meeting 2020**

参加報告



2020年2月3日  
国際連携WG 副主査  
天野 肇

**2019年7月米国出張報告**





2019年7月29日  
特定非営利活動法人 ITS Japan  
自動運転プロジェクト 内村孝彦

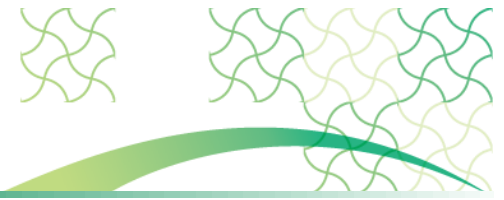
**2020年TRB年次総会出張報告**



2020年1月27日  
特定非営利活動法人 ITS Japan  
自動運転プロジェクト 内村孝彦

## 2. Hosting of SIP-adus Workshop 2019

### (1) Overview of event



#### c. Plenary session

##### Plenary session results

Presentations open to general participants (plenary session) were held on the first (November 12) and second (November 13) days of the event. The session focused on seven themes, and 51 policymakers and experts from Japan and overseas gave presentations.

The welcome speech was given by Naokazu Takemoto, Minister of State for Science and Technology Policy, Cabinet Office. Harold W. Martin III from the U.S. (National Coordination Office for Space-Based Positioning, Navigation, and Timing), Ludger Rogge from Europe (European Commission), and Anne-Marie Idrac from France (French Government) served as speakers.

The presentation materials used by speakers were made available on the official website, allowing them to be disseminated widely.

##### Overview

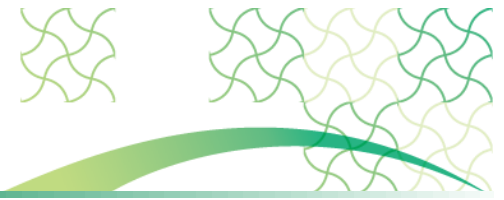
(Units: people)

Session name	Date held	Time	Moderator	No. of speakers	Of which overseas	Of which Japan
Opening	12th	9:00-9:30	—	5	2	3
Regional Activities	12th	9:30-12:20	Hajime Amano	12	7	5
FOTs and Next Generation Transport	12th	13:20-15:30	Masayuki Kawamoto	8	4	4
Human Factors	12th	15:45-17:20	Satoshi Kitazaki	4	3	1
Cybersecurity	13th	9:00-10:45	Shigeru Uehara	7	4	3
Safety Assurance	13th	11:00-12:45	Satoshi Taniguchi	7	5	2
Dynamic Map	13th	14:05-15:45	Satoru Nakajo	5	2	3
Connected Vehicle	13th	16:00-17:40	Norifumi Ogawa	3	2	1
Total				51	29	22



## 2. Hosting of SIP-adus Workshop 2019

### (1) Overview of event



#### d. Breakout workshops

##### Breakout workshop results

On the third day of the event (November 14), breakout workshops hosted mostly by SIP-adus members were held on respective session themes, with experts from both Japan and overseas invited to contribute.

The content of the discussions was not made public so that participants could speak freely on the latest information.

A whole day was spent on discussing common research fields, which helped strengthen networks between Japanese and foreign participants. It is noteworthy that the workshops were attended by many undergraduate and graduate students engaged in relevant research this year. The students actively participated in the discussions.

##### Overview

(Units: people)

Session name	Domain leader	No. of Participants	Of which overseas	Of which Japan
Regional Activities	Hajime Amano	36	10	26
FOTs and Next Generation Transport	Masayuki Kawamoto	19	6	13
Human Factors	Satoshi Kitazaki	31	17	14
Cybersecurity	Shigeru Uehara	18	6	12
Safety Assurance	Satoshi Taniguchi	27	15	12
Dynamic Map	Satoru Nakajo	20	4	16
Connected Vehicle	Norifumi Ogawa	10	3	7
Total		161	61	100



## 2. Hosting of SIP-adus Workshop 2019

### (1) Overview of event

#### e. Poster session

##### Results of poster session

On the first (November 12) and second (November 13) days of the event, a poster session featuring 33 panels was held in the media hall on the second floor of the venue.

In addition to the panel exhibition and video presentation, representatives from various governmental agencies provided explanations and exchanged views with the visitors. The total number of visitors was 497. Images of all of the panels were made available on the official website.

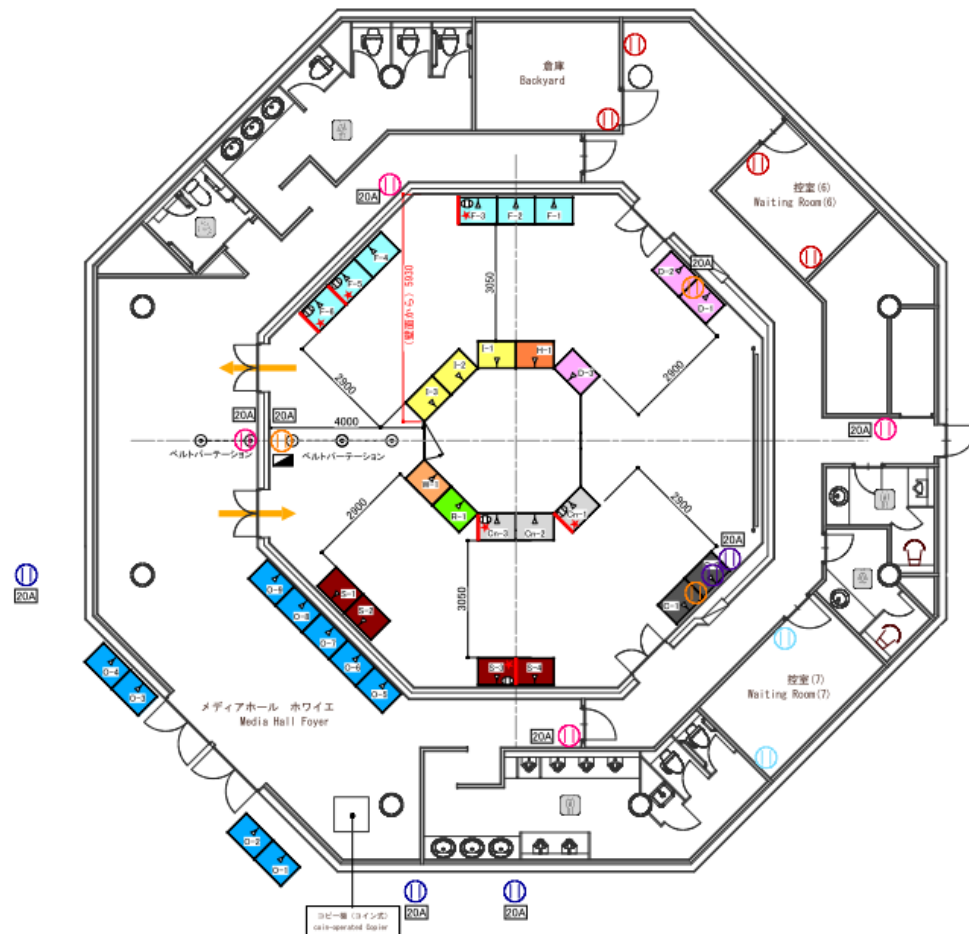
##### Overview

Number of visitors (Units: people)

Date of visit	2019	2018	YoY
First day	257	278	-21
Second day	240	258	-18
Grand total	497	536	-39

##### Poster session

Themes	Number of panels	Drawing number
1 Overview	9	O1-9
2 International Cooperation	1	W-1
3 Regional Activities	1	R-1
4 FOTs and Next Generation Transport	6	F1-6
5 Human Factors	1	H-1
6 Cybersecurity	2	C1-2
7 Safety Assurance	4	S1-4
8 Dynamic Map	3	D1-3
9 Impact Assessment	3	I1-3
10 Connected Vehicle	3	CN1-4
Total	33	





# 2. Hosting of SIP-adus Workshop 2019

## (1) Overview of event

### Panel images

F-1 FOTs in the Tokyo waterfront area

**SIP-adus Workshop 2019**  
Field Operational Test

**FOTs in Tokyo Waterfront City–Haneda Area**

**Objective**  
Industry-academia-government will work together to accelerate the realization of advanced automated driving through the FOT in the internationally open experimental environment under public roads and mixed traffic.

**Participants**  
 BOSCH, 中部大学, Continental, DAIHATSU, epitomical, Field.auto, HINO, HONDA, JTEKT, 金沢大学, 名城大学, NISSAN, SAIKOU, MITSUBISHI ELECTRIC, SB Drive, TOYOTA, VALEO, SUBARU, SUZUKI, Tier IV, VOLKSWAGEN  
 Alphabetical order

**System**  
 Stakeholders/SIP: Preparation of infrastructures for FOT (Vehicle Control, V2X, etc.)  
 Participants: Preparation and development of ADVs (Software, Hardware, etc.)  
 Smartphone for mobile communication, ETC2.0 Receiver, PC, Vehicle Control, V2X, V2I, V2V, V2P, V2M, V2L, V2B, V2G, V2N, V2D, V2C, V2R, V2F, V2I, V2J, V2K, V2L, V2M, V2N, V2O, V2P, V2Q, V2R, V2S, V2T, V2U, V2V, V2W, V2X, V2Y, V2Z, V2AA, V2AB, V2AC, V2AD, V2AE, V2AF, V2AG, V2AH, V2AI, V2AJ, V2AK, V2AL, V2AM, V2AN, V2AO, V2AP, V2AQ, V2AR, V2AS, V2AT, V2AU, V2AV, V2AW, V2AX, V2AY, V2AZ, V2BA, V2BB, V2BC, V2BD, V2BE, V2BF, V2BG, V2BH, V2BI, V2BJ, V2BK, V2BL, V2BM, V2BN, V2BO, V2BP, V2BQ, V2BR, V2BS, V2BT, V2BU, V2BV, V2BW, V2BX, V2BY, V2BZ, V2CA, V2CB, V2CC, V2CD, V2CE, V2CF, V2CG, V2CH, V2CI, V2CJ, V2CK, V2CL, V2CM, V2CN, V2CO, V2CP, V2CQ, V2CR, V2CS, V2CT, V2CU, V2CV, V2CW, V2CX, V2CY, V2CZ, V2DA, V2DB, V2DC, V2DD, V2DE, V2DF, V2DG, V2DH, V2DI, V2DJ, V2DK, V2DL, V2DM, V2DN, V2DO, V2DP, V2DQ, V2DR, V2DS, V2DT, V2DU, V2DV, V2DW, V2DX, V2DY, V2DZ, V2EA, V2EB, V2EC, V2ED, V2EE, V2EF, V2EG, V2EH, V2EI, V2EJ, V2EK, V2EL, V2EM, V2EN, V2EO, V2EP, V2EQ, V2ER, V2ES, V2ET, V2EU, V2EV, V2EW, V2EX, V2EY, V2EZ, V2FA, V2FB, V2FC, V2FD, V2FE, V2FF, V2FG, V2FH, V2FI, V2FJ, V2FK, V2FL, V2FM, V2FN, V2FO, V2FP, V2FQ, V2FR, V2FS, V2FT, V2FU, V2FV, V2FW, V2FX, V2FY, V2FZ, V2GA, V2GB, V2GC, V2GD, V2GE, V2GF, V2GG, V2GH, V2GI, V2GJ, V2GK, V2GL, V2GM, V2GN, V2GO, V2GP, V2GQ, V2GR, V2GS, V2GT, V2GU, V2GV, V2GW, V2GX, V2GY, V2GZ, V2HA, V2HB, V2HC, V2HD, V2HE, V2HF, V2HG, V2HH, V2HI, V2HJ, V2HK, V2HL, V2HM, V2HN, V2HO, V2HP, V2HQ, V2HR, V2HS, V2HT, V2HU, V2HV, V2HW, V2HX, V2HY, V2HZ, V2IA, V2IB, V2IC, V2ID, V2IE, V2IF, V2IG, V2IH, V2II, V2IJ, V2IK, V2IL, V2IM, V2IN, V2IO, V2IP, V2IQ, V2IR, V2IS, V2IT, V2IU, V2IV, V2IW, V2IX, V2IY, V2IZ, V2JA, V2JB, V2JC, V2JD, V2JE, V2JF, V2JG, V2JH, V2JI, V2JJ, V2JK, V2JL, V2JM, V2JN, V2JO, V2JP, V2JQ, V2JR, V2JS, V2JT, V2JU, V2JV, V2JW, V2JX, V2JY, V2JZ, V2KA, V2KB, V2KC, V2KD, V2KE, V2KF, V2KG, V2KH, V2KI, V2KJ, V2KK, V2KL, V2KM, V2KN, V2KO, V2KP, V2KQ, V2KR, V2KS, V2KT, V2KU, V2KV, V2KW, V2KX, V2KY, V2KZ, V2LA, V2LB, V2LC, V2LD, V2LE, V2LF, V2LG, V2LH, V2LI, V2LJ, V2LK, V2LL, V2LM, V2LN, V2LO, V2LP, V2LQ, V2LR, V2LS, V2LT, V2LU, V2LV, V2LW, V2LX, V2LY, V2LZ, V2MA, V2MB, V2MC, V2MD, V2ME, V2MF, V2MG, V2MH, V2MI, V2MJ, V2MK, V2ML, V2MM, V2MN, V2MO, V2MP, V2MQ, V2MR, V2MS, V2MT, V2MU, V2MV, V2MW, V2MX, V2MY, V2MZ, V2NA, V2NB, V2NC, V2ND, V2NE, V2NF, V2NG, V2NH, V2NI, V2NJ, V2NK, V2NL, V2NM, V2NN, V2NO, V2NP, V2NQ, V2NR, V2NS, V2NT, V2NU, V2NV, V2NW, V2NX, V2NY, V2NZ, V2OA, V2OB, V2OC, V2OD, V2OE, V2OF, V2OG, V2OH, V2OI, V2OJ, V2OK, V2OL, V2OM, V2ON, V2OO, V2OP, V2OQ, V2OR, V2OS, V2OT, V2OU, V2OV, V2OW, V2OX, V2OY, V2OZ, V2PA, V2PB, V2PC, V2PD, V2PE, V2PF, V2PG, V2PH, V2PI, V2PJ, V2PK, V2PL, V2PM, V2PN, V2PO, V2PP, V2PQ, V2PR, V2PS, V2PT, V2PU, V2PV, V2PW, V2PX, V2PY, V2PZ, V2QA, V2QB, V2QC, V2QD, V2QE, V2QF, V2QG, V2QH, V2QI, V2QJ, V2QK, V2QL, V2QM, V2QN, V2QO, V2QP, V2QQ, V2QR, V2QS, V2QT, V2QU, V2QV, V2QW, V2QX, V2QY, V2QZ, V2RA, V2RB, V2RC, V2RD, V2RE, V2RF, V2RG, V2RH, V2RI, V2RJ, V2RK, V2RL, V2RM, V2RN, V2RO, V2RP, V2RQ, V2RR, V2RS, V2RT, V2RU, V2RV, V2RW, V2RX, V2RY, V2RZ, V2SA, V2SB, V2SC, V2SD, V2SE, V2SF, V2SG, V2SH, V2SI, V2SJ, V2SK, V2SL, V2SM, V2SN, V2SO, V2SP, V2SQ, V2SR, V2SS, V2ST, V2SU, V2SV, V2SW, V2SX, V2SY, V2SZ, V2TA, V2TB, V2TC, V2TD, V2TE, V2TF, V2TG, V2TH, V2TI, V2TJ, V2TK, V2TL, V2TM, V2TN, V2TO, V2TP, V2TQ, V2TR, V2TS, V2TT, V2TU, V2TV, V2TW, V2TX, V2TY, V2TZ, V2UA, V2UB, V2UC, V2UD, V2UE, V2UF, V2UG, V2UH, V2UI, V2UJ, V2UK, V2UL, V2UM, V2UN, V2UO, V2UP, V2UQ, V2UR, V2US, V2UT, V2UU, V2UV, V2UW, V2UX, V2UY, V2UZ, V2VA, V2VB, V2VC, V2VD, V2VE, V2VF, V2VG, V2VH, V2VI, V2VJ, V2VK, V2VL, V2VM, V2VN, V2VO, V2VP, V2VQ, V2VR, V2VS, V2VT, V2VU, V2VV, V2VW, V2VX, V2VY, V2VZ, V2WA, V2WB, V2WC, V2WD, V2WE, V2WF, V2WG, V2WH, V2WI, V2WJ, V2WK, V2WL, V2WM, V2WN, V2WO, V2WP, V2WQ, V2WR, V2WS, V2WT, V2WU, V2WV, V2WW, V2WX, V2WY, V2WZ, V2XA, V2XB, V2XC, V2XD, V2XE, V2XF, V2XG, V2XH, V2XI, V2XJ, V2XK, V2XL, V2XM, V2XN, V2XO, V2XP, V2XQ, V2XR, V2XS, V2XT, V2XU, V2XV, V2XW, V2XX, V2XY, V2XZ, V2YA, V2YB, V2YC, V2YD, V2YE, V2YF, V2YG, V2YH, V2YI, V2YJ, V2YK, V2YL, V2YM, V2YN, V2YO, V2YP, V2YQ, V2YR, V2YS, V2YT, V2YU, V2YV, V2YW, V2YX, V2YY, V2YZ, V2ZA, V2ZB, V2ZC, V2ZD, V2ZE, V2ZF, V2ZG, V2ZH, V2ZI, V2ZJ, V2ZK, V2ZL, V2ZM, V2ZN, V2ZO, V2ZP, V2ZQ, V2ZR, V2ZS, V2ZT, V2ZU, V2ZV, V2ZW, V2ZX, V2ZY, V2ZZ

**Period**  
Oct./2019 – Mar./2021

**Areas**  
 Highway connecting two specific areas  
 FOTs in Tokyo Metropolitan Expressway  
 FOTs in Tokyo Waterfront City area  
 FOTs in Haneda Airport area

S-4 Safety evaluation (SAKURA project)

**SIP-adus Workshop 2019**  
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 by vehicle manufacturers 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.

**Scenario in AD Safety Validation**

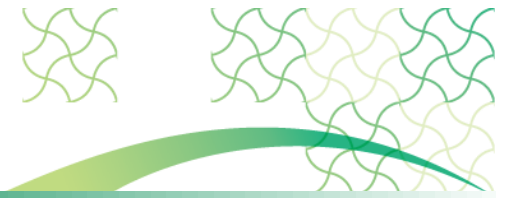
**Driving Data Collection**  
 Data Collecting 3rd party: Collect driving data of 360 degrees around ego-vehicle  
 Cloud Location Camera: Road users are detected, Trajectory extraction of vehicles

**Safety Criteria for AD**  
 Comparison with human driver capabilities: Evaluation of human driver capabilities of cut-in application by Driving Simulator  
 Comparison of safety between human driver and Autonomous Emergency Braking system

**SAKURA Project Flowchart:**  
 Analyzing Parameter (Real Time Data, V2X Data, V2I Data, V2V Data, V2P Data, V2M Data, V2N Data, V2O Data, V2P Data, V2Q Data, V2R Data, V2S Data, V2T Data, V2U Data, V2V Data, V2W Data, V2X Data, V2Y Data, V2Z Data) → Scenario in AD Safety Validation → Safety Assurance Process (Human Driving Data, V2X Data, V2I Data, V2V Data, V2P Data, V2M Data, V2N Data, V2O Data, V2P Data, V2Q Data, V2R Data, V2S Data, V2T Data, V2U Data, V2V Data, V2W Data, V2X Data, V2Y Data, V2Z Data)

# 2. Hosting of SIP-adus Workshop 2019

## (1) Overview of event



### f. Creation of digital content

#### Results of creation of digital content

Icons were created for the themes of exhibition panels at the SIP-adus Workshop. Illustrations for presentation materials were also created. The icons were designed to be readily understandable while maintaining a consistent image with deliverables up to the previous year. Illustrations were created to present the specialized contents and abstract concepts clearly and to improve convenience so that their parts could be used separately. The icons and illustrations produced are expected to be used as common assets of the SIP-adus project in the future.

#### Icons

Safety Assurance

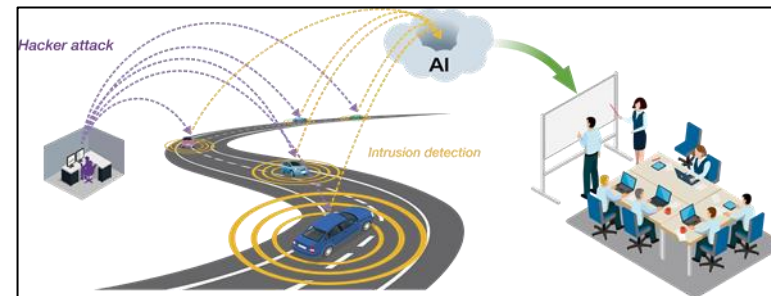


International Cooperation

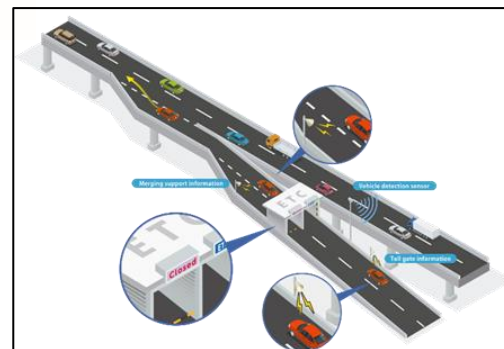


#### Illustrations

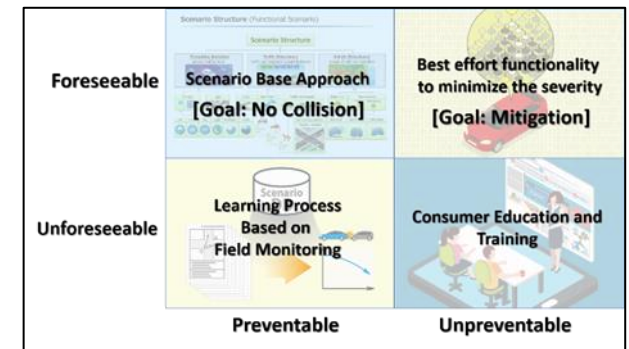
Cybersecurity



Merging lane assistance service



Safety assurance structure



## 2. Hosting of SIP-adus Workshop 2019

### (2) Verification of results



#### Verifying results based on survey

A questionnaire survey of participants was conducted after SIP-adus Workshop 2019.

About 95% of both general participants and experts responded 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 40% of experts and 17% of general participants gave the highest score in the five-grade evaluation.

The respective presentations open to general participants and the poster session were more highly evaluated by experts than general participants. The overall evaluation was high in terms of availability of information about the latest developments and enhancement of networking activities, but there were requests to improve the selection of presenters and the program organization. To continue to hold the workshop next year and beyond, the program organization and content will be reviewed and improved.

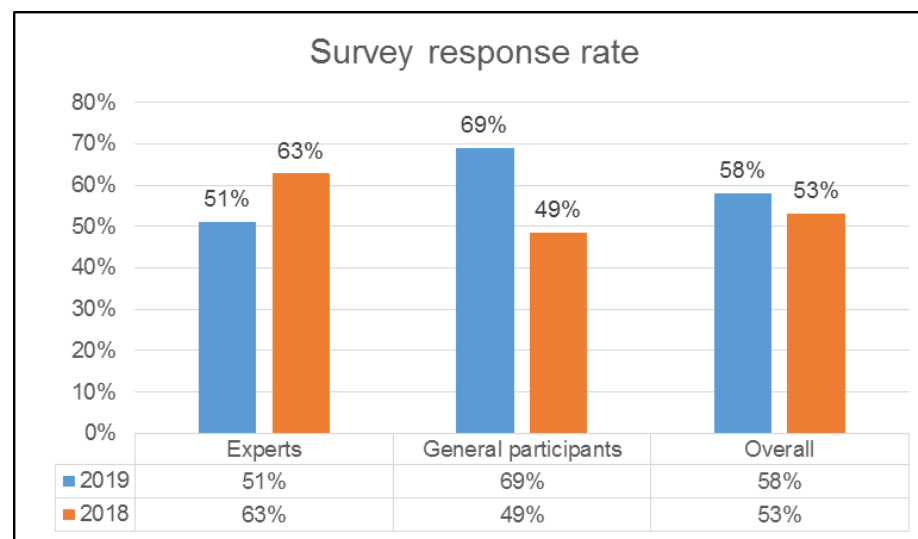
#### [Survey response rate]

Based on analysis conducted in the previous year, a survey form was distributed at the venue to increase the response rate. In addition, an online survey email was distributed after the workshop to encourage those participants who did not respond.

As a result, the response rate from general participants increased by 20% from the previous year. The response rate from the overall participants also increased by 5% to 58%.

Survey response rate (respondents divided by participants)

	2019	2018
Experts	51% (84/166)	63% (91/145)
General participants	69% (176/256)	49% (153/315)
Overall	58% (244/422)	53% (244/460)



#### [How participants learned of the event (General participants)]

General participants learned about SIP-adus Workshop 2019 mainly through the SIP-adus website, a source of internal information at affiliated organizations, and the ITS Japan email magazine, in that order. The result shows that the SIP-adus website is an effective means of information transmission.

All the experts attended as a result of invitations.

#### How participants learned of the event

	General participants
SIP-adus website	50%
Source of internal information at affiliated organizations	20%
Email magazine of ITS Japan	19%
Word of mouth	5%
Email magazine of NEDO	3%

## 2. Hosting of SIP-adus Workshop 2019

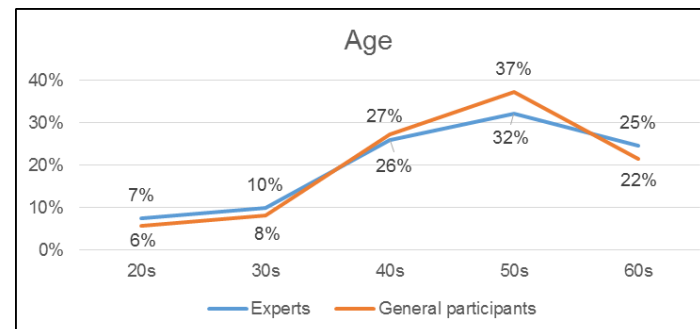
### (2) Verification of results

#### [Attributes of participants]

##### 1. Age

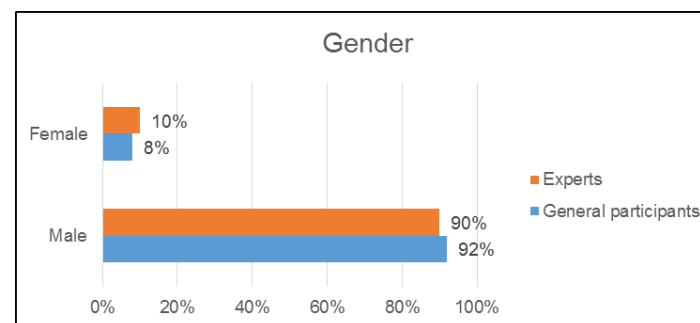
By age, most of the general participants and experts were in their 40s to 60s, with those in their 50s accounting for the largest number.

The conference is highly specialized, but it would be possible to pass on knowledge and stimulate discussion if young people in their 20s and 30s were involved.



##### 2. Gender

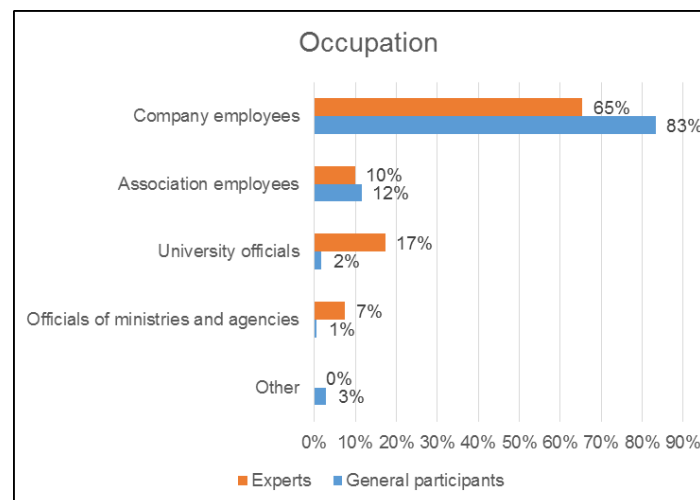
By gender, male participants accounted for 90% for both general participants and experts. The percentage of male participants was predominantly high. This is considered to be a characteristic trend of the industry, but it may be worth studying the possibility of involving more female participants.



##### 3. Occupation

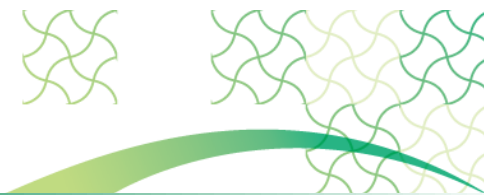
By occupation, the percentage of company employees was the highest for both general participants and experts. For experts, the second largest group was university officials, followed by association employees and officials of ministries and agencies, in that order. For general participants, the second largest group was association employees, and there were few university officials or officials of ministries and agencies.

The result shows that industry-government-academia cooperation was achieved among experts.



## 2. Hosting of SIP-adus Workshop 2019

### (2) Verification of results



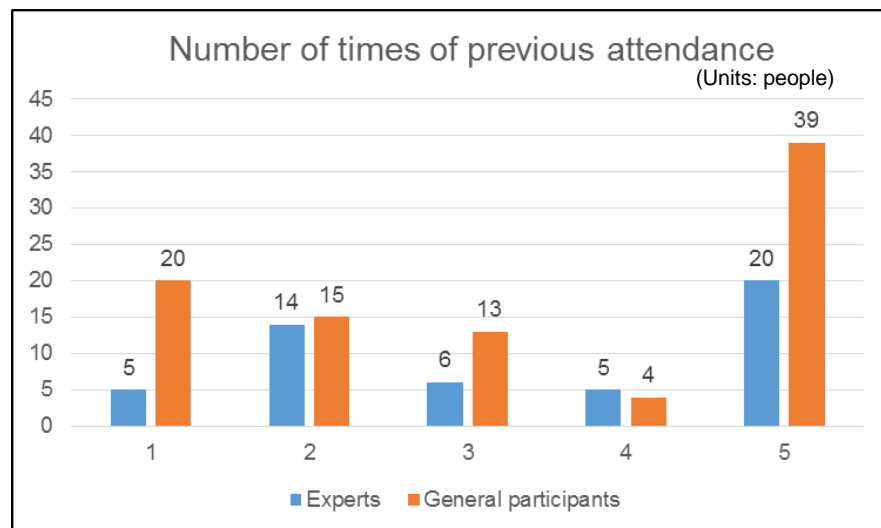
#### [Attendance]

##### 1. Status of continuous participation

Fifty-eight percent of the overall participants had participated in the SIP-adus Workshop previously. (The workshop was held five times in total from 2014 to 2018). More than half of participants had participated continuously; the trend remained unchanged from the previous year.

Regarding the years of participation, many general participants and experts had participated continuously from 2018 or 2017.

Regarding the number of times of participation, the number of both general participants and experts who had participated in all the SIP-adus Workshops (five times) was highest.



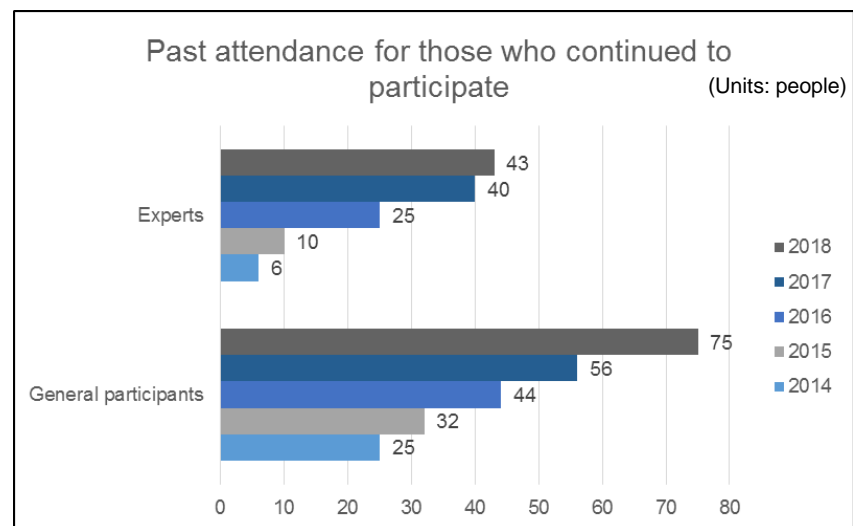
##### 2. Intention to participate next year

Ninety-five percent of both general participants and experts expressed their intention to attend next year.

Compared to the previous year, the intention of experts to participate increased by 26%, which was a characteristic result of the workshop this year.

Percentage of those who continued to participate (Unit: %)

	2019	2018	YoY
Experts	65%	65%	+0%
General participants	54%	51%	+3%
Overall	58%	56%	+2%

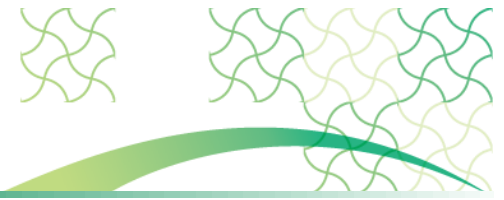


Intention to participate next year (Unit: %)

	2019	2018	YoY
Experts	95%	69%	+26%
General participants	95%	85%	+10%
Overall	95%	76%	+19%

## 2. Hosting of SIP-adus Workshop 2019

### (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 16.9% for general participants and 39.5% for experts. The percentage of experts who gave a high score was higher than that of general participants.

Although the score was lower than the previous year, the overall score is considered to be high.

#### [Evaluation of the plenary session]

##### 1. Evaluation by session (overall)

Regarding the evaluation by session in the plenary session, experts generally gave a higher score than general participants.

This is attributable to the fact that experts can directly participate in presentations and discussions and deeply understand the session themes.

##### 2. Evaluation by session (experts)

Experts who gave the highest score accounted for about 30% or more for all the sessions, the same as last year.

The scores increased from the previous year in Human Factors, Cybersecurity, and Regional Activities.

Percentage of experts who gave the highest score (5/5) by session (Unit: %)

	2019	2018	YoY
Opening Session	37.0%	45.0%	-8.0%
Regional Activities*	38.5%	37.2%	1.3%
FOTs and Next Generation Transport**	34.6%	36.4%	-1.7%
Human Factors	37.0%	30.8%	6.3%
Cybersecurity	33.3%	28.6%	4.8%
Safety Assurance	35.7%	N/A	N/A
Dynamic Map	23.1%	N/A	N/A
Connected Vehicle	30.8%	32.4%	-1.7%

\* 2018: Regional Activities and FOT

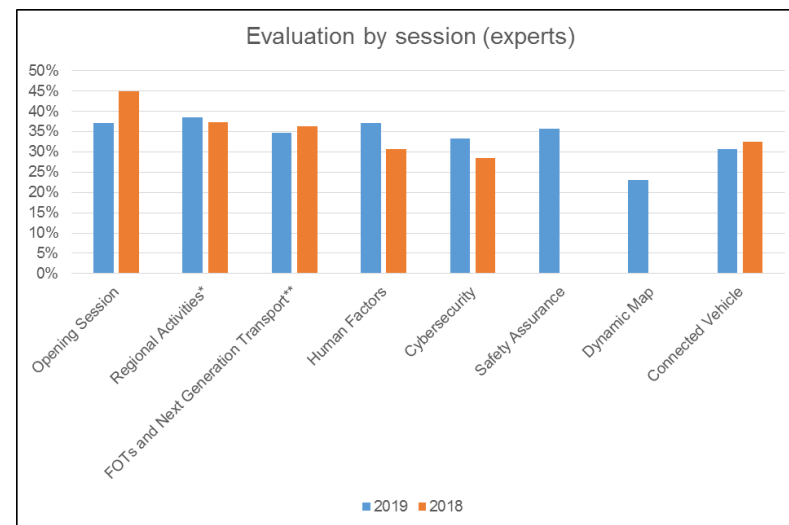
\*\* 2018: Next Generation Transport

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

	2019	2018	YoY
Experts	39.5%	49.5%	-10.0%
General participants	16.9%	24.8%	-7.9%

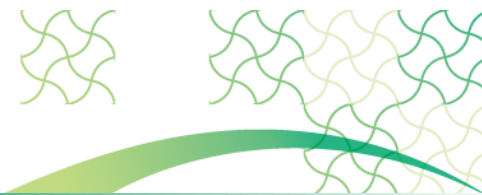
Percentage of participants who gave the highest score (5/5) by session

	Experts	General participants
Opening Session	37.0%	23.5%
Regional Activities	38.5%	31.4%
FOTs and Next Generation Transport	34.6%	29.3%
Human Factors	37.0%	23.0%
Cybersecurity	33.3%	13.6%
Safety Assurance	35.7%	18.3%
Dynamic Map	23.1%	15.7%
Connected Vehicle	30.8%	13.3%



## 2. Hosting of SIP-adus Workshop 2019

### (2) Verification of results



#### 3. Evaluation by session (general participants)

The overall scores given by general participants increased from the previous year. This is a characteristic result of the plenary session this year.

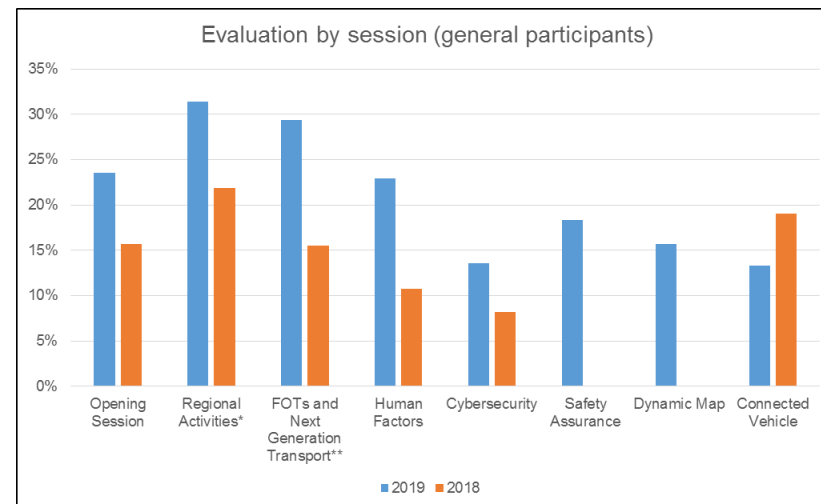
Participants who gave the highest score in Regional Activities and FOTs and Next Generation Transport accounted for about 30% or more of the participants.

Percentage of general participants who gave the highest score (5/5) by session (Unit: %)

	2019	2018	YoY
Opening Session	23.5%	15.7%	7.8%
Regional Activities*	31.4%	21.9%	9.6%
FOTs and Next Generation Transport**	29.3%	15.5%	13.8%
Human Factors	23.0%	10.7%	12.2%
Cybersecurity	13.6%	8.2%	5.4%
Safety Assurance	18.3%	N/A	N/A
Dynamic Map	15.7%	N/A	N/A
Connected Vehicle	13.3%	19.0%	-5.7%

\* 2018: Regional Activities and FOT

\*\* 2018: Next Generation Transport



#### 4. Comments from participants (excerpt) (G: general participants, E: experts)

##### □ Good points

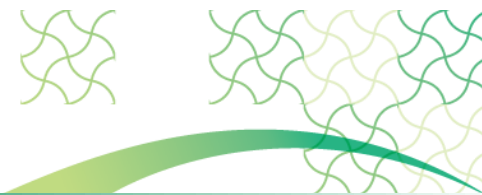
- I could gather information about various aspects of the latest developments in the world. (G)
- The progress in each field was explained very clearly. (G)
- Simultaneous interpretation helped deepen understanding. (G)
- I was glad to download the presentation documents from the website. (G)

##### □ Things that could be improved

- **The speakers and the content of the program seem to be the same every year, which feels stale. The content should be reviewed. (G/E)**
- There were too many lectures, and the time allocated for lectures was too short. (G/E)
- The time for Q&A should be allocated for each session. (G/E)
- Japanese speakers should give lectures in Japanese if it is difficult for them to give lectures in English. (G/E)
- The content was superficial. (E)

## 2. Hosting of SIP-adus Workshop 2019

### (2) Verification of results



#### [Evaluation of the breakout workshops]

1. Evaluation by experts who participated  
Regarding the breakout workshops, about 50% or more of the participants gave the highest score for “Overall evaluation,” “Program/arrangement,” “Networking,” and “Expansion of specialized knowledge.”  
The results showed that the breakout workshops were a highly useful opportunity for experts who participated.

Percentage of participants who gave the highest score (5/5) for the breakout workshops

	2019
Overall evaluation	55.6%
Program/arrangement	44.4%
Networking	55.6%
Expansion of specialized knowledge	50.0%

2. Comments from participants (excerpt)

#### ▣ Good points

- The breakout workshops provided opportunities to exchange opinions in specialized fields and helped strengthen networking.
- The breakout workshops dealt with technically difficult issues, but was meaningful.
- The program and schedule were well prepared.

#### ▣ Things that could be improved

- It was difficult to have meaningful discussions because the speakers were ill prepared.
- Unfortunately the participants could not exchange opinions.
- There were only a few non-Japanese participants. International communication was inadequate.

#### [Evaluation of the poster session]

1. Evaluation

The evaluation of the exhibition by experts was almost the same as that by general participants. About 25% of the participants gave the highest score.

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

	Experts	General participants
Overall evaluation	25.0%	23.5%
Arrangement	23.3%	31.4%
Number of exhibits	28.6%	29.3%
Communication with exhibitors	20.9%	23.0%

2. Comments from participants (excerpt) (G: general participants, E: experts)

#### ▣ Good points

- Each research theme of the exhibition was highly understandable. (G)
- The representatives who were assigned to the venue provided excellent explanations. (G)

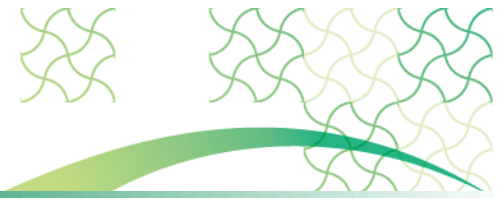
#### ▣ Things that could be improved

- The themes and order of the panel exhibition were unclear. (G)
- The lunch break was too short to visit the exhibition. (G)
- I wanted to talk more with the representatives who were assigned to explain the exhibited panels. (G)
- I could not understand the actual issues and specific results. (E)



## 2. Hosting of SIP-adus Workshop 2019

### (2) Verification of results



#### [Evaluation of management]

##### 1. Evaluation

Overall, experts gave high scores for management compared to general participants. Notably, about 60% of experts gave the highest scores for the services offered by staff members.

During the three days of SIP-adus Workshop 2019, our staff members had many opportunities to communicate with experts. We are delighted that they made a pleasant impression.

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

	Experts	General participants
Overall evaluation	37.8%	21.6%
Venue setup/guiding	39.5%	21.5%
Time management	38.3%	21.0%
Services by staff members	59.3%	27.2%

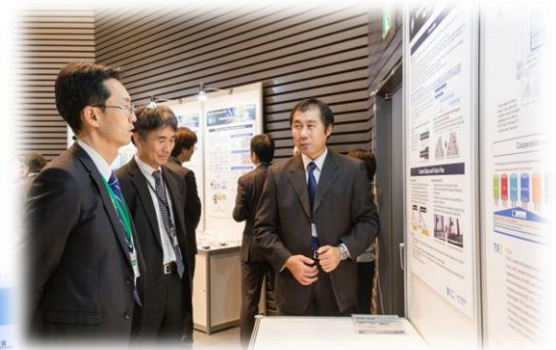
##### 2. Comments from participants (excerpt) (G: general participants, E: experts)

###### ☐ Good point

- The workshop was well managed. (G)

###### ☐ Things that could be improved

- The program was not distributed, so I could not check the start and end times, order of speakers, and lecture titles. This was inconvenient. (G/E)
- The presentation materials should have been distributed. (G/E)
- The characters on the presentation screen were too small to read. (G)
- From the next workshop, email should be sent to participants to notify them. (G)
- Information about lunch should have been provided. (G)



# 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,” “Events & Conferences,” and “Field Operational Tests,” we focused on the three points below in FY2019.

### [Clear distinction between Phase 1 and Phase 2]

The SIP-adus activities were divided into Phase 1 and Phase 2 on the Japanese pages in “About SIP” and “Research & Development.” Separate pages were created to provide information about each phase. [Fig. 1]

### [Improvements in indication of events]

Events on the “Events & Conferences” page (in English) were classified into “Domestic” and “Overseas” and categorized by fiscal year. The indication method was improved to facilitate searches. [Fig. 2]

[Fig. 1]

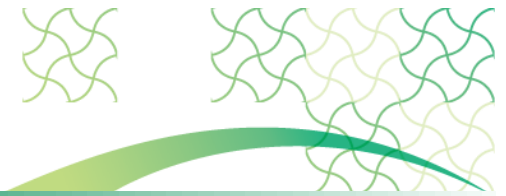
The screenshot shows the SIP-adus website interface. At the top, there are navigation tabs for 'HOME', 'SIPとは', '研究開発', 'イベント', and '実証実験'. The main content area is titled 'SIP第2期自動運転（システムとサービスの拡張）成果報告 平成30年度研究開発'. Below this, there are sections for '自動運転システムの開発・検証（実証実験）', '自動運転実用化に向けた基礎技術開発', '自動運転に対する社会的受容性の醸成', and '国際連携の強化'. A callout box labeled 'Phase 2' points to the 'SIP第2期' section. Another callout box labeled 'Phase 1' points to the '研究開発計画' section.

[Fig. 2]

The screenshot shows the 'Events & Conferences' page. It is divided into 'Domestic' and 'Overseas' sections. Under 'Domestic', there are events like 'SIP-adus Workshop' (2019-2015), 'Japan ITS Promotion Forum' (13th-11th), 'SIP Symposium 2017' (2017), and 'ITS World Congress' (2019-2015). Under 'Overseas', there are events like 'Transportation Research Board (TRB)' (97th-96th), 'PEGASUS Symposium' (2017), 'AUTOMATED VEHICLES SYMPOSIUM' (2019-2017), 'ITS European Congress' (12th), and 'European Conference on Connected and Automated Driving' (2nd-1st). A callout box labeled 'Information was compiled for each event to enable easy search.' points to the event listings.

# 3. Transmitting information using the website

## (1) Overview of information transmission



### [Significant improvement of the “Field Operational Tests” page]

The “Field Operational Tests” page (in Japanese) was significantly improved. Specifically, there is an overview of activities for each area. The information in the “News & Notice” section is updated each month. [Fig. 1]

The banner on the homepage of the website was changed to the image of FOTs in the Tokyo waterfront area. This image was linked to the “Field Operational Tests” page so that visitors to the website can easily access the information about FOTs. [Fig. 2]

[Fig. 1]

実証実験の取組

東京臨海部実証実験

- 1.全体
- 2.臨海副都心地域（一般道）
- 3.羽田空港地域（一般道）
- 4.羽田空港と臨海副都心等を結ぶ首都高速道路
- 5.お知らせ

公道プロジェクトマップ

実証実験の取組 1期

Overview of activities in each area

“News & Notice” page

[Fig. 2]

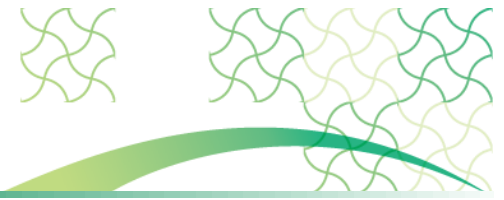
東京臨海部実証実験

TOPICS

- 2020.02.25 NEW 東京臨海部実証実験における自動運転車の走行計画を更新しました
- 2020.02.20 NEW 東京臨海部実証実験の参加者を追加しました
- 2019.11.14 SIP-adus Workshop 2019：発表資料および展示パネルを掲載しました
- 2019.10.29 市民ダイアログセッションの開催報告を掲載しました
- 2019.10.15 東京臨海部における自動運転の実証実験を開始しました

### 3. Transmitting information using the website

#### (2) Verification of effectiveness

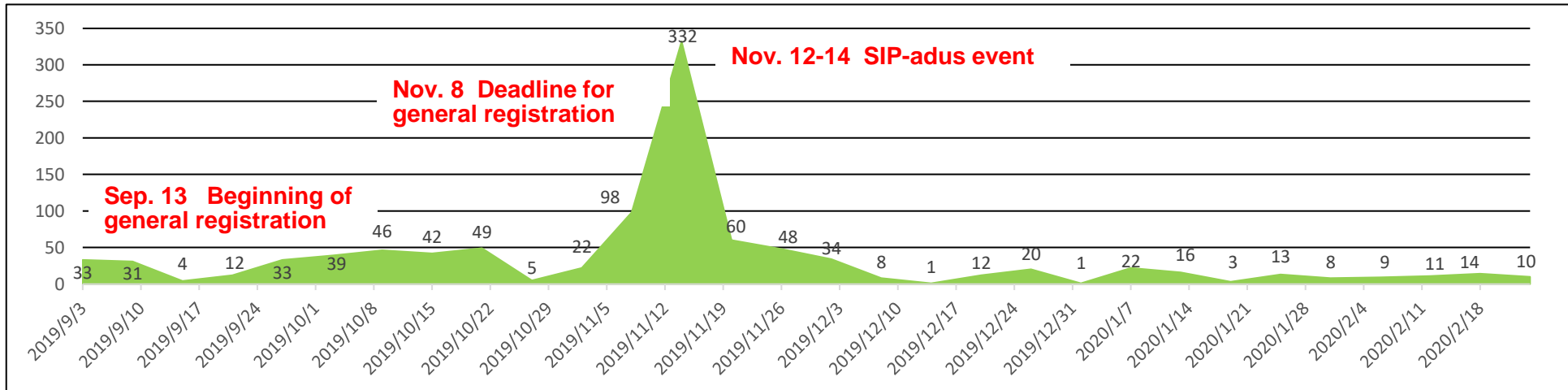


#### Verifying effectiveness using Google Analytics

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 2019. It should be noted that the page of FOTs in the Tokyo waterfront area was improved at the end of September and has been updated, but there was no change in the number of visits to the website. We found that visitors to the website were interested mostly in the SIP-adus Workshop. 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, extend effective public relations, and ensure interactive communication.

#### No. of users

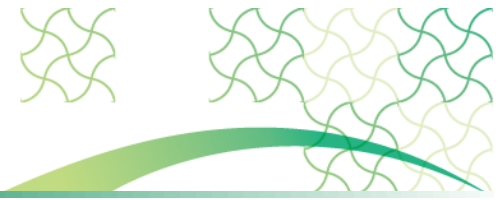
The number of users started to increase from the commencement of registration of general participants for SIP-adus Workshop 2019. It reached the maximum of 332 during the event and then decreased sharply after it. It seems likely that many users visited the website in connection with participating in the event.



#### <\*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.

## 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 six 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 the next three fiscal years more meaningful.

### SIP-adus Workshop

#### [1] Increase international communication

In this workshop, most of the participants from overseas are speakers and experts invited to the breakout workshops. To promote international communication further, it is important to increase the number of guests from overseas. This fiscal year, we assigned external experts to invite researchers from overseas (mainly VIPs).

We expect to arrange relevant meetings in line with SIP-adus Workshop 2020 to encourage foreign experts to participate in the workshop and help them attain more substantial results by visiting Japan.

#### [2] Make the specialized content more substantial

Experts who gave the highest score (5/5) for the entire workshop and respective sessions accounted for 39.5% and about 30% or more, respectively. The experts tended to give higher scores than the general participants. This is attributable to the fact that experts can directly participate in presentations and discussions and deeply understand the session themes.

To further increase the satisfaction of experts, it is necessary to make the breakout workshops, which offer an opportunity for experts to interact and have discussions, more substantial. Experts commented that there were many one-way presentations in the breakout workshops as well, that discussions were limited, and that international communication was inadequate because most of the participants were Japanese. The program of the breakout workshops and selection of participants were up to the leaders of respective sessions. A review should take this point into account.

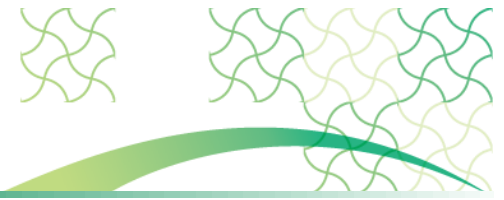
#### [3] Develop young human resources

This fiscal year, the workshop was held with the aim of developing young human resources. Many undergraduate and graduate students from relevant research fields participated in the breakout workshops and actively engaged in the discussions. The workshop is considered to have been a success. One mission of this workshop, which is funded by national taxes, is to pass on the latest results to the next generation who will lead the development of automated driving. The participation of young people will stimulate discussions. The program organization should be improved, such as organizing sessions for young people and sessions in which young participants serve as speakers.

#### [4] Revitalize the poster session

Regarding the poster session, which is one of the three main features of this workshop, about 25% of experts and general participants gave the highest score (5/5). Representatives mainly from various governmental agencies were dispatched to explain the results and communicate with participants. The participants commented that these explanations were easy to understand and that they wanted to talk more with the representatives. In the next fiscal year, measures should be taken to revitalize the poster session by extending the time for sharing its results (e.g., arrange time exclusively for the poster session, extend the lunch time) or by decentralizing or relocating the venue of the poster session to more accessible venues.

## 4. Final thoughts



### [5] Test drive/exhibition of automated driving vehicles

At events for citizens, automated driving vehicles on display would attract many people. Vehicles equipped with an automated driving system at the venue would attract the attention of visitors. Although there may be many restrictions in the test drive experience, exhibiting automated driving vehicles at the venue would help visitors gain a concrete image of automated driving and improve the impression of the workshop among general participants in particular. This point should be studied in the next fiscal year or beyond for this workshop.

### SIP-adus website

#### [1] Increase the number of users

We have improved the SIP-adus website over the past six fiscal years to make the content more substantial and make the pages more visitor-friendly. We have been making efforts to provide the latest comprehensive information in “Research & Development,” “Events & Conferences,” and “Field Operational Tests.” We have reorganized the information to be provided and created a compact layout to improve access to necessary information. However, a count of the site visits using Google Analytics revealed that many users visited the website to participate in the SIP-adus Workshop. The trend remained unchanged from the previous year. To increase the number of users of the website, it is necessary to study ways of increasing the profile of the website in addition to making the content more substantial and improving the layout. The number of users could be increased through appropriate measures such as requesting other organizations to link to the SIP-adus website from their websites, promoting public relations activities at various events and transmitting information via social media.

#### [2] Coordinate with large-scale FOTs

This fiscal year, the “FOT in the Tokyo Waterfront Area” page was significantly improved at the end of September. We worked to ensure timely updates of the overview of how large-scale FOTs (which are underway in respective areas) are used and the latest information about FOTs. As discussed above, however, the site visits remained unchanged after we started to provide such information; 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.

#### [3] Cooperate with events/websites to encourage acceptance by society

To utilize automated driving in society, it is essential to help users of the technology acquire correct knowledge and to encourage acceptance, in addition to developing the technology and improving the legal systems. The Cabinet Office and relevant companies have been organizing various events to encourage society’s acceptance of automated driving. Part of Citizens’ Dialogue and Showcase is introduced on the SIP-adus website (in Japanese). “Community to Think about a Society with Automated Driving: SIP café — Automated Driving —” (<https://sip-cafe.media/>) (in Japanese), a new website launched by the Cabinet Office, offers explanations and news in an easy-to-understand manner for general users.

To enable the SIP-adus website to play a key role as a tool for disseminating information about automated driving, it is necessary to organize events for encouraging acceptance by society and actively promote public relations and cooperation via the website.