

SIP-adus Update

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SIP-adus International Cooperation WG



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Cross-Ministerial Strategic Innovation Promotion Program

■ SIP Structure

CSTI
Council for Science, Technology and Innovation

Governing Board

Program Director

11 Programs



SIP- adus

■ SIP

➤ Cross-Ministerial **S**trategic **I**nnovation Promotion **P**rogram

■ SIP-adus: One of eleven SIP projects

➤ Innovation of **A**utomated **D**riving for **U**niversal **S**ervices

“SIP- adus”

- Mobility Bringing Everyone a Smile -



<http://en.sip-adus.jp/>

Development Structure

■ Three WGs under SIP-adus

Promoting Committee



Government Structure

■ Governments structures for SIP-adus

Cabinet Secretariat
IT Strategic Headquarters

Cabinet Office
Council for Science,
Technology and Innovation

**National Police
Agency
(NPA)**

**Road Traffic
Safety**

**Ministry of
Internal Affairs
and
Communications
(MIC)**

**Communication
Technology**

**Ministry of
Economy, Trade
and Industry
(METI)**

**Economy and
Industry**

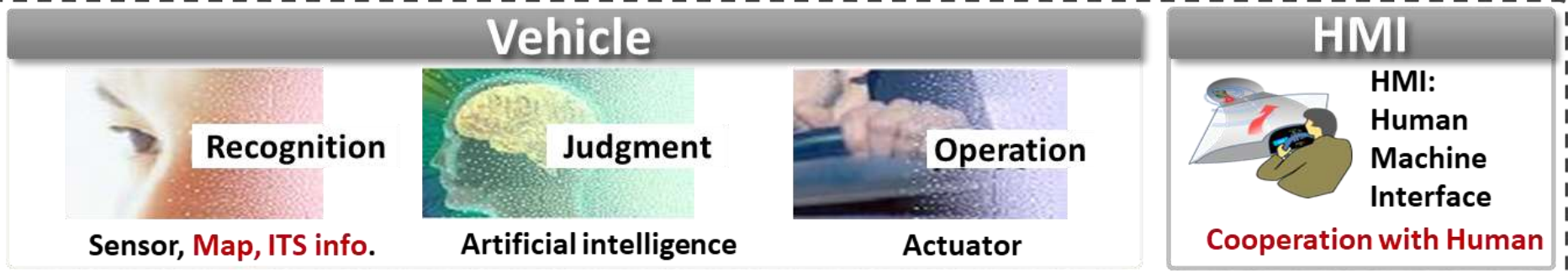
**Ministry of Land,
Infrastructure,
Transportation
and Tourism
(MLIT)**

**Road Bureau
Road and
Infrastructure**

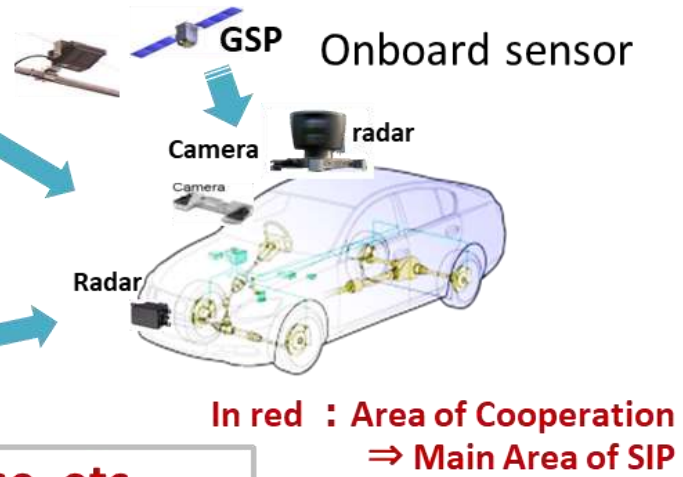
**Road
Transport
Bureau
Standards**

Technologies for Automated driving systems

- SIP-adus focuses on the R&D in Cooperative area with Industry, Academia and Government



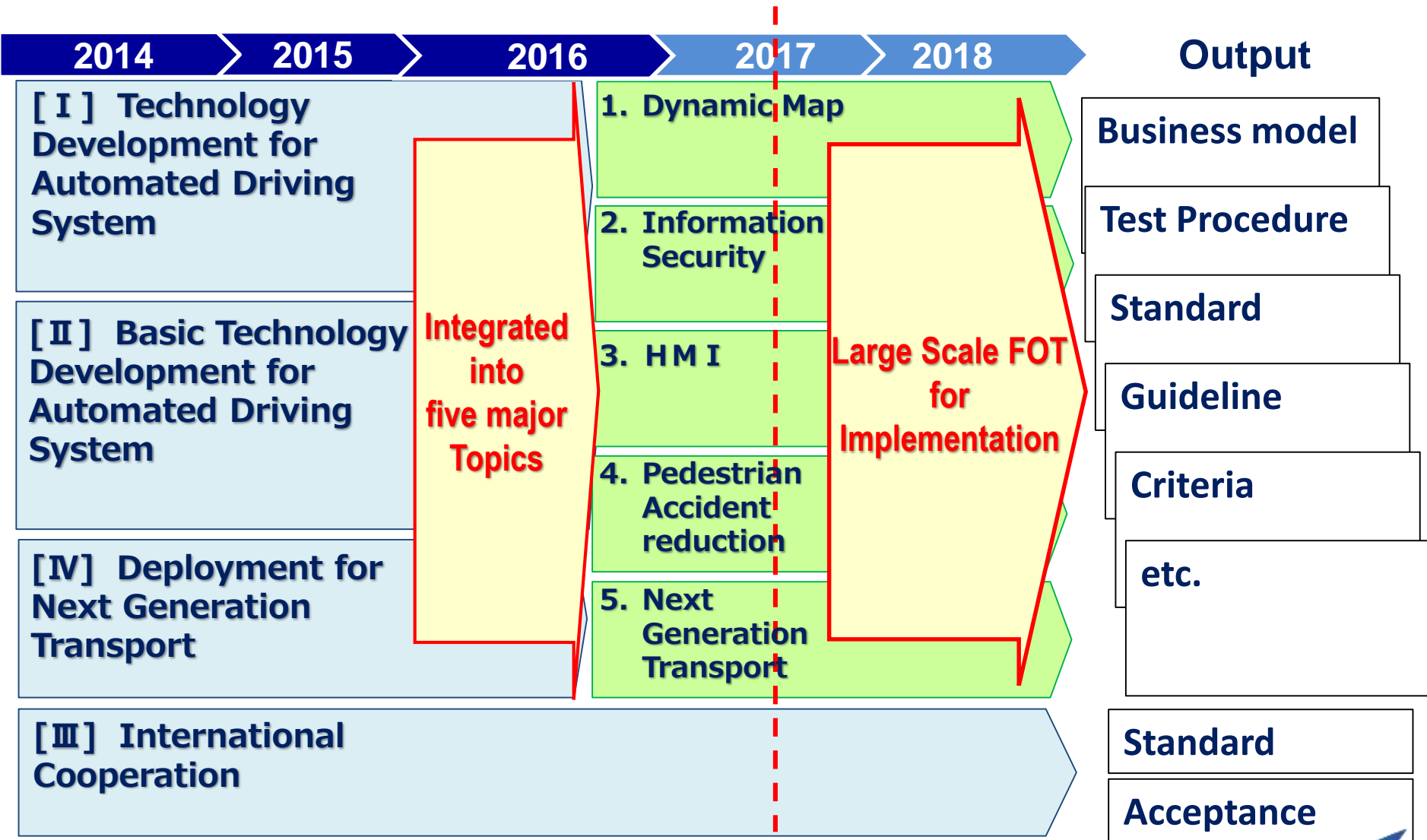
- A highly self-position estimation
 - Neighboring environmental cognition
- These are important for Automated Driving System



Basic Tech. **Security, Simulation, Database, etc.**

Activities

■ Development to FOT



Technology Developments

■ 20 to 30 projects per year



SIP-adus's Project (FY2015)	
Dynamic Map	
Activity Plan of Dynamic Map Study	co1-1.pdf
Research for the advancement of driving support by utilizing traffic regulation information	npa2.pdf
Development of Vehicle-to-pedestrian Communication Technology	miac1-2.pdf
Connected Vehicle	
Research for advanced Traffic Signal Prediction Systems	npa1.pdf
Research for the advancement of DSSS, Driving Safety Support Systems, which utilize ITS radio communication	npa3.pdf
Creation of an internationally open research and development environment	npa6.pdf
Development of V2V,V2I Communication Technology Toward the Automated Driving Systems	miac1-1.pdf
Development of Infrastructure Radar System Technology	miac1-3.pdf
Development and FOT of Traffic Signal Prediction Systems	meti6-3.pdf
Next-Generation Intelligent Transport Systems (ITS) utilizing Information and Communication Technology (ICT)	mlit_miac1.pdf
Human Factors	
Basic Research on Requirements for Safety and Reliability of Automated Driving System	mlit2.pdf
Research on Technical Requirements for Human Machine Interface (HMI) Related to Safety of Automated Driving System	mlit3.pdf
Research project for Promoting International Cooperation on Automated and Connected Driving Systems.	co1-3.pdf
Development and verification of construction technology of driving video recognition database	meti6-2.pdf
Development and Verification of Lane Marker Detection System in All-weather Condition	meti6-4.pdf
Survey on basic evaluation for effective utilization of satellite positioning technology	meti6-5.pdf

■ Budget ¥100/\$

- FY 2014 : \$25 M
- FY 2015 : \$23 M
- FY 2016 : \$26 M
- FY 2017 : \$33 M

Field Operational Test

■ Objective

- Provides an open forum for discussions and promote international standardization and R & D with 5 priority developments and social acceptability events

■ Expected Participants

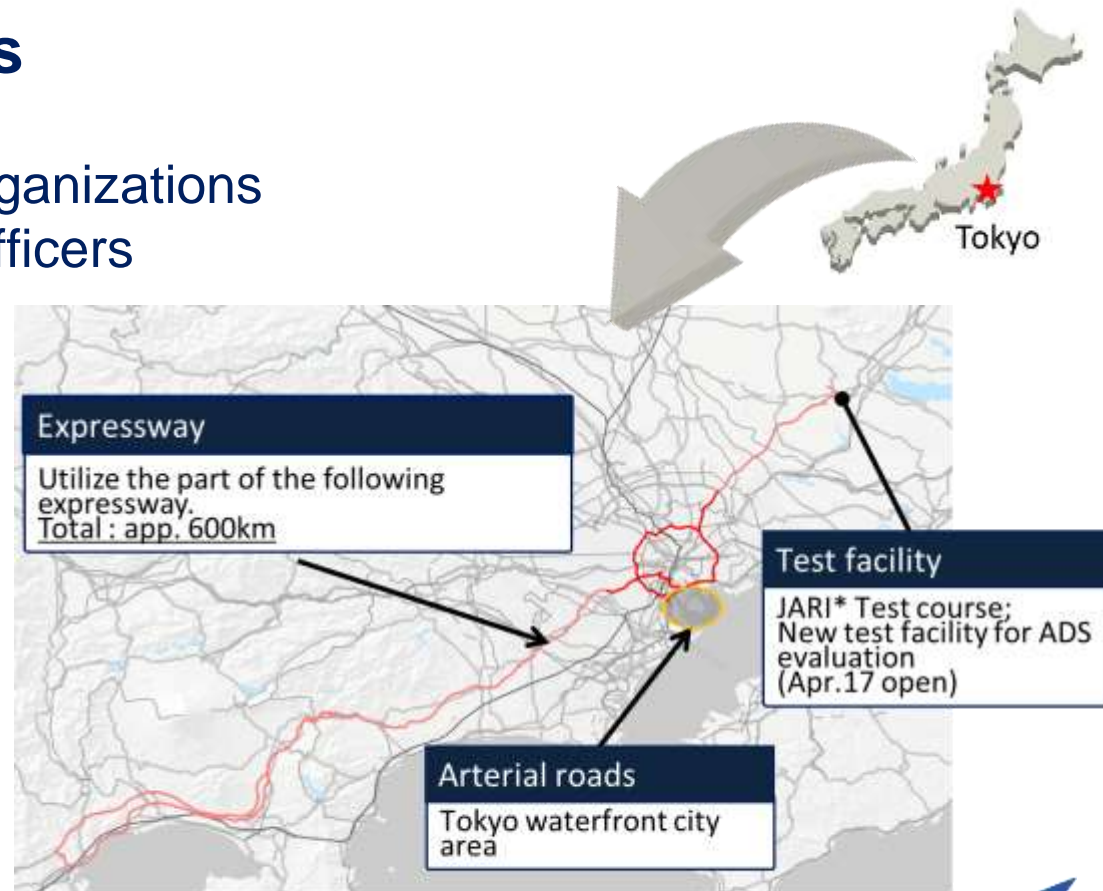
- OEMs/Suppliers
- Universities/Research organizations
- Ministries, government officers
- Foreign OEMs/Suppliers
- Journalists

■ Duration

- 2017/9 – 2019/3

■ Test Sites

- Expressway
- Arterial Roads
- Test Facility



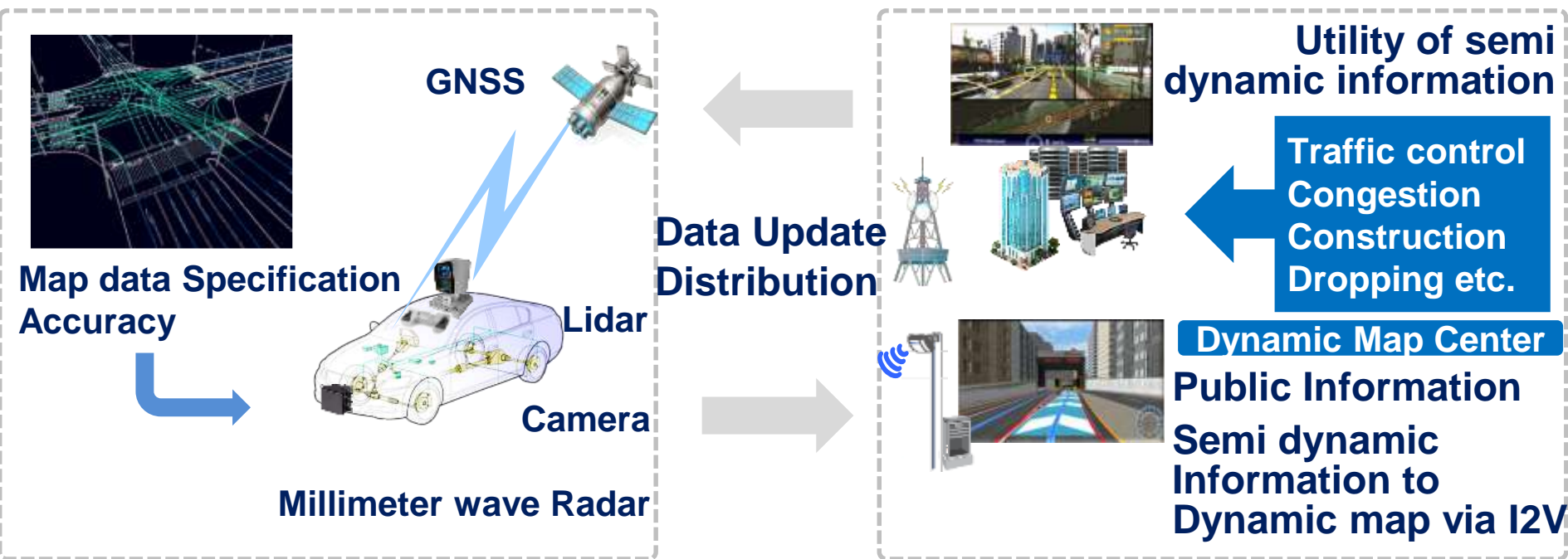
(*JARI : Japan Automotive Research Institute)

Field Operational Test Plan understudy

■ Dynamic Map

- Validate 3D high-resolution digital map data
- Validate data collection and distribution method
- Verify the utility of semi dynamic information

◆ The map data is provided by SIP-adus



Field Operational Test Plan understudy

■ Human Factors

- Collect and analyze the driver state data
- Define driving readiness status
- Verify HMI and devices



■ Cyber Security

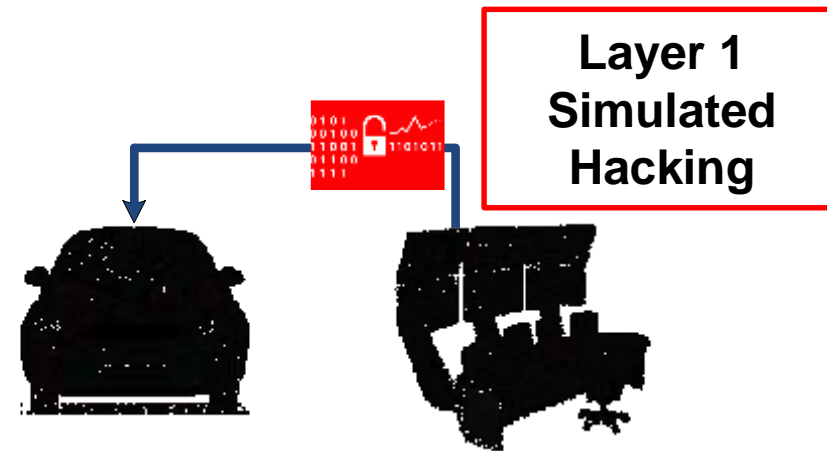
- Validate the evaluation method
- Inspect defense functions of ADV

Layer1: Communication of Out Car

Layer2: E/E Architecture

Layer3: In Car Bus Protocol

Layer4: ECU Software Structure



Field Operational Test Plan understudy

■ Pedestrian Accident Reduction

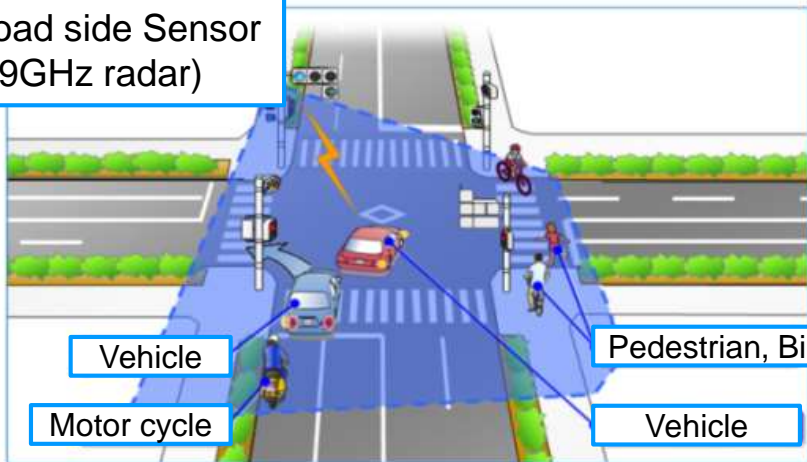
- Verification of suppression effect of unnecessary warning by high accuracy positioning technology
- Verification of pedestrian positioning information through V2P
- Verification of 79GHz radar detection accuracy in actual traffic environment

79GHz radar

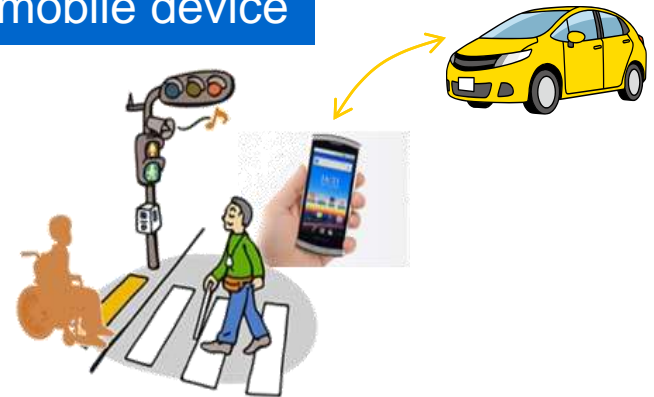
Wireless communication device

Control Unit

Road side Sensor (79GHz radar)



V2P with mobile device



International Cooperation activities

■ Experts assigned in Focused areas

- Actively Participate Technical discussions

Promoting Committee

System Implementation WG

Next Generation Urban Transportation WG

International Cooperation WG

1. Dynamic Map
2. Connected Vehicle
3. Human Factors
4. Impact Assessment
5. Next Generation Transport
6. Security



SIP-adus Workshop



SIP-adus Workshop 2016



SIP-adus Workshop 2016 Program

■ Plenary Sessions and Breakout Workshops

	Tuesday November 15	Wednesday November 16	Thursday November 17 (Breakout Workshop)
AM	9:00 ~ 10:15 Opening & Keynote Session	9:00 ~ 10:30 SIP-adus Report Session	9:00 ~ 12:00 Breakout Workshop-1 Breakout Workshop
	10:30 ~ 12:30 Special Session Regional Activities and FOTs		
	SIP-adus Display		
PM	13:30 ~ 15:00 Dynamic Map	13:30 ~ 15:15 Next Generation Transport	13:00 ~ 15:00 Breakout Workshop-2
	15:20 ~ 16:35 Connected Vehicles		
	16:50 ~ 18:05 Security	15:30 ~ 17:30 Human Factors	15:30 ~ 17:00 Breakout Workshop Summary
	Preparatory meeting for Breakout Workshop		17:00 ~ 17:30 Closing Session

SIP-adus Workshop 2016

■ Recognized as a specialized international conference on Connected and Automated Driving in Japan

- Sharing latest information
- Intense discussion among experts
- building friendship among experts

- **Organizer** : Cross-Ministerial Strategic Innovation Promotion Program, Council for Science, Technology and Innovation, Cabinet Office, Government of Japan
- **Date** : November 15-17, 2016
- **Venue** : Tokyo International Exchange Center
http://www.jasso.go.jp/tiec/index_e.html
- **Attendees** : 425 from 17 countries
- **Speakers** : 61 includes 34 speakers and moderators from overseas

Snapshot with speakers from overseas after Minister Tsuruho made a welcome speech



SIP-adus Home Page

■ <http://en.sip-adus.jp/>

HOME > Events & Conferences > List of Events > [SIP-adus Workshop 2016](#)

SIP-adus Workshop 2016

Event outline

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SIP-adus Workshop 2017


- **Date** : **November 14-16, 2017**
- **Venue** : Tokyo International Exchange Center
http://www.jasso.go.jp/tiec/index_e.html
Tokyo Academic Park
2-2-1 Aomi, Koto-ku, Tokyo 135-8630 Japan

Special Event: AV Test Ride



Snapshots from SIP-adus Workshop 2015 Test Ride

SIP-adus Workshop 2017 Draft Program

	11/14	11/15	11/16	11/17
AM	Opening Session	SIP-adus Report Session	9:00~12:00 Breakout Workshop (BW)	
	Regional Activities and FOTs	Impact Assessment		
Lunch	Poster Session Lunch	Poster Session Lunch	Lunch	
PM	Dynamic Map	Next Generation Transport	13:00~15:00 Breakout Workshop (BW)	
	Connected Vehicles	Human Factors	15:30~17:00 BW Presentation	
	Security		17:00~17:30 Closing Session	
	18:00~20:00 Guest Reception	18:00~20:00 Guest Reception	17:30~19:30 BW Reception	

Breakout Workshop

■ Small Expert Group discussions on selected Topics

■ New Topic from 2017

- Field Operational Testing (FOT)

■ Focused six Topics

- Dynamic Map
- Connected Vehicles
- Security
- Impact Assessment
- Next Generation Transport
- Human Factors

■ Breakout Workshop Presentation

- Share the results from each Breakout Workshop

Leaders report the result of discussion for Breakout Workshop participants



SIP-adus Workshop 2017 November 14-16

<http://en.sip-adus.jp/>

See you in Tokyo

END