

**「Cross-ministerial Strategic Innovation Promotion Program (SIP)/
Automated Driving for Universal Services/
Construction of Collaboration Structure in Promotion of Joint Research
on Automated Driving with Overseas Research Institutions」**

FY 2020 Report

The University of Tokyo
Mobility Innovation Collaborative Research Organization (UTmobl)

March 2021

“Construction of Collaboration Structure in Promotion of Joint Research on Automated Driving with Overseas Research Institutions” Contents

1. Promote collaboration environments with overseas research institutions and creation of research theme, as a main window of SIP-adus international cooperation

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- 3) Expansion of the database of researchers regarding automated driving

2. Create the plan and arrange the establishment of research bodies for promoting international collaborative research in automated driving area

- 1) Studying future sustainable collaboration model
- 2) Creating the plan and arranging the establishment of research bodies

1. Promote collaboration environments with overseas research institutions and creation of research theme, as a main window of SIP-adus international cooperation

1) Developing environments of international cooperation with government level

Manage government meeting for Japanese-German Research cooperation

- Managed government bi-lateral meetings with BMBF as coordinating secretariat
Coordinating secretariat meeting : 16th April, 11th May, 11th Sep., 1st Oct., 12th Oct., 18th Dec. in 2020
- Managed following 3rd steering committee of the Japanese-German Research Co-operation with Cabinet office
 - Date & Time : 17:30-19:30, 29th May 2020 (Web meeting)
 - Attendee :
 - Germany : BMBF Dr. Zeisel, Mr. Friedrich, etc., BMWi, Embassy of Germany in Tokyo, VDI/VDE-IT
 - Japan : CAO (Kuzumaki-PD, Kakimi Director, etc.), METI, Embassy of Japan in Germany, NEDO, The University of Tokyo, etc.
 - Main agenda :
 - Status report on Japanese-German research cooperation (Human Factors, Impact Assessment of Socio-economic Benefits)
 - Presentation of project ideas, results of the pre-evaluation, discussion and approval (Safety Assurance, Cybersecurity)
 - Next steps

1) Developing environments of international cooperation with government level

Establishment of Europe-Japan Cooperation scheme with European Commission

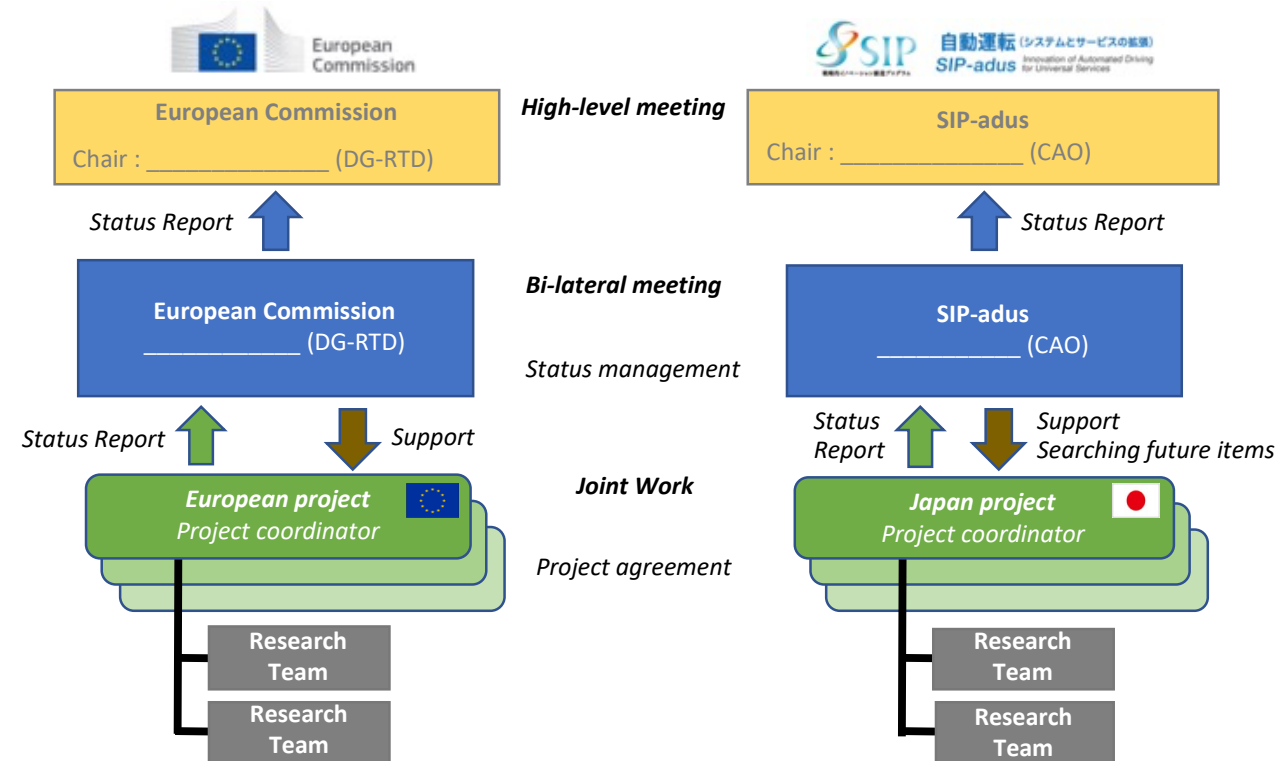
■ Managed coordinating secretariat meetings with European Commission

Newly started regular meeting with European Commission to promote Europe-Japan cooperation and managed the meetings.

Coordinating secretariat meeting : 8th May, 17th July, 2nd Oct., 2nd Dec. in 2020, 15th Jan., 12th Feb., 4th March in 2021

■ Established Europe-Japan Cooperation Scheme on CAD

As a sustainable framework of Europe-Japan cooperation, Europe-Japan cooperation scheme on CAD (right fig.) was created and proposed to European Commission, and it was agreed.



1) Developing environments of international cooperation with government level

Establishment of Europe-Japan Cooperation scheme with European Commission

- Issued collaboration activity report regarding Europe-Japan cooperation

In order to summarize collaboration activities in 2020, Issuing “Annual Status Report” was agreed with European Commission and first report was created.

- Held High-level meeting regarding Europe-Japan cooperation on CAD

Following the completion of “Annual Status Report”, High-level meeting named “Annual Report Meeting” was held to report Europe-Japan cooperation activities and discuss further future cooperation.

➤ Date & Time : 18:00-19:00, 12th March 2021 (Web meeting)

➤ Attendee :

European Commission (DG-RTD) : Future Urban & Mobility Systems, Head of Unit, Philippe Froissard, Ludger Rogge, Tom Alkim, etc., Delegation of the European Union to Japan

Japan : CAO (Kuzumaki-PD, Kakimi Director, etc.), SIP-adus International cooperation theme leaders, METI, The mission of Japan to the European Union, NEDO, The University of Tokyo, etc.

➤ Main agenda :

Introduction of SIP-adus activities, Introduction of European Commission activities, Explanation of “Annual Status Report”, Next step for EU-Japan cooperation on CAD

Annual Status Report; Table of contents

Executive Summary

1. Activities of European - Japanese cooperation on CAD
2. Project Collaboration Activities
 - 2.1. TransAID - ITS Japan/UTmobl
 - 2.2. HEADSTART - SAKURA/DIVP
 - 2.3. HADRIAN - SIP-adus Human Factors
 - 2.4. SHOW - ITS Japan/UTmobl
3. Future possibilities
 - 3.1. Opportunities from European perspective

APPENDIX

1) Developing environments of international cooperation with government level

International cooperation window role of SIP-adus

- Arranged overseas speakers for Keynote speech at SIP-adus workshop 2020
Arranged speakers for Keynote speech from US-DOT and European Commission(DG-RTD) for SIP-adus workshop 2020, and following speakers took a keynote speech;
US : Diana Elizabeth Furchtgott-Roth (Deputy Assistant Secretary for Research and Technology, United States Department of Transportation, United States of America)
EU : Patrick Child (Deputy Director General, Directorate-General for Research and Innovation, European Commission)
- Organized plenary session of "Regional Activities" in SIP-adus workshop 2020
Organized plenary session of "Regional Activities" with ITS Japan. This session was held as live session with recording. Experts from Japan, US, and Europe were attended, and discussed issues to realize SAE level 4 mobility services
- Attended international research conferences and collected the latest trend information
Attended international research conferences held as web conference; Automated Vehicle Symposium (AVS) (July 2020, US), EUCAD 2nd Webinar (Sep. 2020, EU), European Transport Conference(ETC) (Sep. 2020, EU)、 EUCAD 3rd Webinar (Oct. 2020, EU), ITS European Congress (Nov. 2020, EU), Transportation Research Board(TRB) (Jan. 2021, US), and collected the latest trend information regarding automated driving technologies

2) Creating research themes for international cooperation with expert level

Alliance for Promoting Mobility Innovation

- In order to discuss future themes for international cooperation considering after SIP-adus 2nd phase, and in order to share the latest international research activities of SIP-adus, “Alliance for Promoting Mobility Innovation” was held in FY2020.

Time	Main agenda
August 2020	<ul style="list-style-type: none">• Update result of researchers’ database in FY2019, Discussion to manage the database• Introduction of web-site images for “Alliance for Promoting Mobility Innovation”• Information sharing of the latest international research activities• Status report for future themes for international cooperation
October 2020	<ul style="list-style-type: none">• Introduction of ideas for academia networking activities after SIP-adus 2nd phase• Information sharing of the latest international research activities• Status report for future themes for international cooperation
March 2021	<ul style="list-style-type: none">• Status report of researchers’ database update, notice of database updating work• Consultation for opening “Alliance for Promoting Mobility Innovation” web-site• Information sharing of the latest international research activities

2) Creating research themes for international cooperation with expert level

Promotion of new research themes for Japanese-German Research cooperation

■ Supported starting new research cooperation activities

Supported Japanese experts as coordinating secretariat for new cooperation research themes (Safety Assurance, Cybersecurity) regarding Japanese-German Research cooperation, and evaluated joint research proposal for steering committee.

The both research themes were approved at steering committee held on May 2020.

■ Supported Japanese-German expert workshop

Supported Japanese-German expert workshop attending senior government staff to promote research activities in each joint research theme.

➤ Date & Time : 18:00-20:00, 25th Nov. 2020 (Web meeting)

➤ Attendee :

Germany : BMBF Dr. Zeisel, Mr. Friedrich, etc., each experts(Safety Assurance, Cybersecurity, Socio-economic Impact), VDI/VDE-IT, etc.

Japan : CAO (Kuzumaki-PD, Kakimi Director, etc.), each experts(Safety Assurance, Cybersecurity, Socio-economic Impact), The University of Tokyo, etc.

➤ Main agenda :

- Introduction and discussion for Socio-economic Impact
- Introduction and discussion for Safety Assurance
- Introduction of Cybersecurity activity plan

2) Creating research themes for international cooperation with expert level

Study and support for collaborative research themes with Horizon 2020 regarding Europe - Japan cooperation

- Supported research cooperation activities with HEADSTART project

Started collaboration activities with HEADSTART project by introduction from European Commission (DG-RTD). Since 2nd meeting, it was held as joint meeting with SAKURA project in Japan.

Supporting activities like meeting schedule arrangement, call for Japanese participants, meeting material sharing, etc. were carried out as coordinating secretariat.

Meeting with HEADSTART project : 23rd June, 30th Sep., 17th Nov. in 2020, 14th Jan. in 2021

Creation of information sharing web-site for future academic cooperation

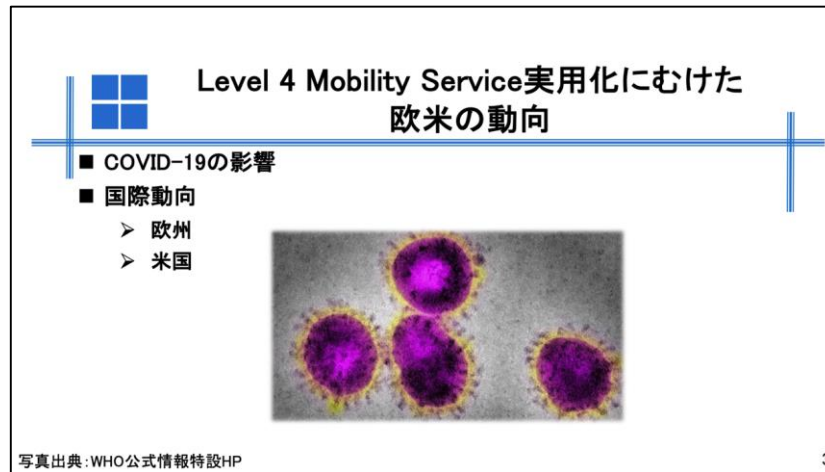
- Created web-site to announce and promote academic knowledges related to automated driving technologies by academic cooperation. Created research activities contents in each members and asked members to validate. Also, web-site domain (apmi.jp) was obtained for publication.

2) Creating research themes for international cooperation with expert level

Study of new international collaborative research theme

■ Realizing Level 4 Mobility services

As a new international collaborative research theme considering after SIP-adus 2nd phase period, research plan and contents, etc. for realizing level 4 mobility services were created with ITS Japan and relevant stakeholders.



■ Collaboration activities with SHOW project in Europe

Regarding the research theme of realizing level 4 mobility services, collaboration activities with SHOW project under Horizon 2020 started with ITS Japan by signing NDA between SHOW project and ITS Japan/UTmobl in Sep. 2020.

Meeting with SHOW project : 9th Sep., 27th Oct., 14th Dec. in 2020, 3rd March in 2021

3) Expansion of the database of researchers regarding automated driving

In recent research and development regarding automated driving technologies, cross-sectoral activities between technical and non-technical field are expected. In order to understand the both technical and non-technical research fields comprehensively, the database of researchers regarding automated driving was created and it has been updated.

One of the purpose of this activities is to promote cooperation with industry, government, and academia regarding automated driving area, and matching the research needs from industry and government is expected by utilizing this researchers' database managed by academia.

Activities in FY2020

- Sorted out terms for data protection and exploitation of the database
- Examined an ethical review to use the database
- Studied exploitations of the database
 - Contents of the database
 - Trials of contents analysis by machine learning
 - Exploitation possibility of published literature, papers and the database
- Updated the database by utilizing electronic data

2. Create the plan and arrange the establishment of research bodies for promoting international collaborative research in automated driving area

1) Studying future sustainable collaboration model

Investigation of research activities in Japan

■ Research activities by Japanese academia

- Investigation of pilot testing at Izu-Kogen by Nagoya University
- Information exchange through the mobility innovation promotion council

Date	Participated university	Contents
2020/8/6	Tohoku Univ., Nihon Univ., Nagoya Univ., Hosei Univ., Ritsumeikan Univ., Chuo Univ., The Univ. of Tokyo	Information exchange with researchers regarding the situation by COVID-19
2020/12/12	Kanazawa Univ., Univ. of Tsukuba, Tohoku Univ., Doshisha Univ., Nagoya Univ., Nihon Univ., The Univ. of Tokyo	- Mobility vision towards post COVID-19 era (The Univ. of Tokyo) - Fukushima innovation coast framework (Tohoku University) - Automated shuttle pilot tests at Shimoda in Shizuoka (Nagoya Univ.)

■ Research activities by Industry

- Investigation of pilot testing at Expo '70 Commemorative park at Osaka by BOLDLY

■ Research activities by Government

- Investigation of mid-size bus pilot testing at Kita-Kyushu by METI and MLIT

■ Research presentations regarding automated driving technologies in Japan

- Investigation of research presentations and papers at 2020 JSAE Congress (Autumn)

1) Studying future sustainable collaboration model

Study of draft activity contents for new research body

Recently, "New normal" has been considered through the experiences of COVID-19, therefore it is necessary to consider a way of new mobility for "New normal" from the both travel and logistics point of view.

For the study of new mobility, not only technical aspects but also social, ethical aspects have to be considered, hence gathering various knowledges from various research fields is necessary.

Considering above background, draft activity contents were studied and drafted as follows;

Note; Some of these activities may NOT be carried out depends on actual research body type.

Draft activity contents for new research body

<Proposals for policy, measures>

- Policy proposals for the society of new mobility
- Delegating members to the expert panel organized by government

<Gathering various knowledges, Contributions to the society>

- Promoting social deployment by research and development based on the proposals for new mobility era
- Promoting cross-field research and development by various academia network
- Expanding the academia network (Establishing of researchers' database)
- Matching between industry needs and experts' knowledges

<International cooperation>

- Collaboration with overseas research body and projects
- Promoting international harmonization

<Researchers development, Returning outputs to the society>

- Organizing periodical research workshop, seminar
- Delivering publications about research outputs
- Development of young researchers, delivering mobility researchers, engineers

2) Creating the plan and arranging the establishment of research bodies

- Based on the study by 2-1, research bodies which are facing overseas research institutes and addressing Japanese specific issues are studied. Towards the establishment of new research bodies, it is necessary to consider the time schedule, outlines, and necessary rules after reaching a consensus with related government and industrial stakeholders by cooperating with Cabinet Office.
- In FY2020, various opinions from government stakeholders were collected through the explanation of the background and draft activity contents for new research body. Also, various opinions from academia members were collected at the council for promoting mobility innovation (held on Oct. 2020).
- Meetings with SIP-adus key members were held (April, Sep., Nov., and Dec.), and actual concepts and preparation research activities for new research bodies were discussed.

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