戦略的イノベーション創造プログラム

“The Second Phase of Cross-ministerial Strategic Innovation Promotion Program Automated Driving for Universal Services / Strategic Planning for the Advancement of Social Acceptance and Survey regarding its Evaluation”

Progress Report 2021 Fiscal Year

Abstract

Dentsu Meitetsu Communications Inc.
SC-ABeam Automotive Consulting

March, 2022

1．Commissioned to Dentsu Meitetsu Communications Inc.

1) Details and results of research and development

(1) SIP-adus Test Ride Event

On October 18 and 19, 2021, FOTs area visit by the Program Evaluation Committee members and test-ride event for the relevant SIP-adus members and the media was held mainly at the Tokyo Bay Cruise Terminal Parking Lot 2. Initially, only the media test-ride event was scheduled, but the SIP-adus promotion committee members and evaluation committee members were also invited to test-ride the cruise. FOTs area visit by the evaluation committee members was held in the conference room of the Tokyo Bay Cruise Terminal.

- Date & Time
  - Monday, October 18, 2021
    - Trial Ride for the Promotion Committee Members 10:00a.m.-12:00p.m.
    - Debriefing 1:30p.m. - 3:00p.m.
    - Evaluation Committee Member Test Ride 3:10p.m.- 5:30p.m.
      *Including opinion exchange meeting
  - Tuesday and Wednesday, October 19 and 20, 2021
    - Media Trial Ride 9:00a.m.- 4:45p.m.
    - Briefing pt1 11:00a.m. -, pt2 2:00p.m. -

- Place of implementation
  - Tokyo International Cruise Terminal (Taxi Pool, Conference Room, Parking Lot 2), Aomi F-1S Lot
- Aim
  - Following the April in 2021 test-ride event held as a FY2020 activity, the FY2021 test-ride event was held as an activity for a new season before the Tokyo Waterfront Area Field Operational Tests (FOTs) that will begin in November in 2021.
  - The technology and systems in the cooperative areas that have been implemented by SIP-adus have led to the latest models by various OEMs & supplier ventures, etc., and the understanding is promoted by experiencing actual models.
  - For the participating companies, the event can be an opportunity to be provided explanations on cooperative areas difficult for individual companies by SIP members and also to showcase their own advanced capabilities.

- Appeal points
  - Following the revision of the Road Traffic Act and Road Transport Vehicle Law in April, and in light of the world-leading WP29 new AEB standard becoming mandatory for new vehicles in November, we appealed “Japan’s world-leading safety concept” (by using the word "safety concept", we give it implications for both legal development and technical development).
  - In light of the Olympic and Paralympic Games, the “Safety Concept in the Coming Symbiotic Society” emphasizes that Japan will lead the way in safety concept that includes not only vehicle occupants and vehicles, but also vulnerable road users (Japan proactively responded to the new AEB international standard that envisages collisions with child pedestrians and bicycles).
- Participants (implementers)
  - Monday, 18th : Toyota, Nissan, Honda, Continental, Valeo, Tiar4, BMW, 7 companies in total
  - Tuesday and Wednesday, 19th and 20th : Suzuki, Daihatsu, Toyota, Nissan, Honda, Continental, Valeo, Tiar4, BMW, a total of 9 companies

- Participants (test riders)

	Promotion committee member	Evaluation committee member	Media for Day 1	Media for Day 2
Number of Participants	15 persons	13 persons	45 persons	59 persons

- Media Coverage
  - Non-automotive media exposure: mono MAGAZINE, Mynavi News, Newswitch, Beyond Health, GQ Japan, etc.
  - Exposure in automotive media: excite news, Niconico News, IT media business online, Yahoo! News (reprint), etc.
- Details of implementation
  - Test Ride for the Promotional Committee Members
    - After the greeting by PD Kuzumaki, briefing and explanation of visual field impairment were conducted. These were followed by a test ride experience using several commercial vehicles for each of members to physically know the features and technologies of the advanced driver assistance systems.

- Evaluation Committee Member Test Ride
  - The purpose of the visit was to deepen the evaluation committee members' understanding of the results of research and development and efforts toward social implementation, which were difficult to convey through explanations of issues in the meeting room, by visiting and inspecting sites that had not been visited before.
- Media Test Ride
  - Including media, for whom we had not been able to provide test ride opportunities, we will promote the dissemination of information that will increase social acceptance by helping people understand the current state of automated driving, both from a legal and technical standpoint.
- Press Briefing
  - SIP-adus overview explanation (Mr. Shimizu and PD Kuzumaki), the Waterfront Area Field Operational Tests in FY2021 Overview (Mr. Minakata, Tokyo Waterfront Area FOTs Leader), New AEB Standard Mandatory, Legal Trends, etc. (Mr. Naono, then Director, Office of Ministry of Land, Infrastructure, Transport and Tourism), Field of View Impairment Experience.

(2) SIP-adus Technology Seminar

- Summary
  - Four Seminars were held online to explain the technology in an easy-to-understand manner. After the seminars were conducted, they were archived on YouTube and made available for viewing.
- Contents of each session
  - 1st seminar: “Considering Liability Issues in Automated Driving” (June 24, 2021)
    - Takeyoshi Imai (Professor, Hosei University Graduate School of Law, Attorney at Law) / Mitsuhiro Makino (Counsellor for Intelligent Transport Policy, Director-General’s Secretariat, National Police Agency)
    - Explanation and Q&A session on key points of the revised Road Traffic Act and legal interpretation including case studies.
  - 2nd seminar: “HMI and Driver Overconfidence” (December 21, 2021)
    - Toshihiro Hiraoka (Specially Appointed Professor, The University of Tokyo) / Takahiro Tochioka (Senior Manager, Product Strategy Headquarters, Mazda Motor Corporation)
    - The seminar explains how drivers should communicate with evolving technologies, to what extent self-driving technology understands the driver’s intentions, and how the next generation of cars should be.

- 3rd seminar: “Software Update and Cybersecurity” (January 21, 2022)
  - Toshio Asahi (Automated Driving and Advanced Safety Development Department, Toyota Motor Corporation) / Tetsuya Shinkuni (Traffic Safety and Environment Laboratory)
  - Explanation of the changing environment surrounding today’s software updates, their importance, challenges and initiatives, and cyber security issues associated with them. A panel discussion with moderator Shimizu will also be held.
- 4th seminar: “Collaborative Areas of Mobility Data Utilization and Data Provision” (March 15, 2022)
  - Hiroshi Matsui (Executive Officer, General Manager, Automotive Systems Division, Sumitomo Rubber Industries) / Hirokazu Ichikawa (General Manager, Social Infrastructure Solutions Division, NTT Data Corporation)
  - Lectures on the forefront of data utilization, including the creation of new services expected from the sharing, coordination, and utilization of the vast amount of data that will accompany the spread of connected cars. A panel discussion will also be held.

- Number of registrants and participants

Title.	date(s) (e.g. for exhibition)	Number of registrants	Number of participants
1st: Considering Liability Issues in Automated Driving ~SIP-adus Online Seminar	June 24, 2021	560	470
2nd: Technical Seminar “HMI and Driver Overconfidence”	December 21, 2021	175	160
3rd: Technical Seminar “Software Update and Cyber Security Issues”	January 21, 2022	275	240
4th: Technical Seminar “Collaborative Domain of Mobility Data Utilization and Data Provision”	March 15, 2022	220	180

(3) Interim results presentation website archive

- We made the website for the interim results presentation in March FY2020 available even in FY2021. We also worked on the migration of the website to the SIP-adus site server in FY2023.

2． Commissioned company: SC-Abeam Automotive Consulting

1． Dialog with the citizen (Yokohama city) ～ Outline

	Outline
Date/Time	Jun 10, 2021 (Thu) 1:00p.m. ～2:30p.m.
Place	Online meeting（All of the panelists gathered and joined the online meeting at Fukuracia Tokyo Station.）
MC	Ms. Rumiko Iwasada, SIP-adus member
Purpose	In Yokohama city, strong collaboration among public authority, private companies, academia and the citizens have been promoted aiming for better and optimized transportation for the residents. In order to learn from it for enhancement of social acceptance for automated driving, “TOMIOCART”, one of the new transportation services there, was picked up for the discussion theme.
Program with the panelist	【Program】 １）Keynote speech (Introduction of activities of SIP-adus, Ideal future for the transportation in the suburbs of big city, Activities as a local traffic in suburbs of Yokohama-city for mobility support to be required in suburbs surrounding big cities) ２）Panel discussion (Introduction of “TOMIOCART” activities involving local citizens, what is a suburb where citizens want to stay longer and a mobility to realize this suburb) 【Panelist】 • Mr. Fumihiko Nakamura, professor of the Univ. of Tokyo, Mr. Hideki Katsumata, Manager of Yokohama city, Ms. Asano Mitsuda, manager of Yokohama-shi, Ryo Ariyoshi, Professor of Yokohama National Univ., Mr. Chihiro Kikuta, Manager of Keihin Kyuko, Mr. Kazuo Shimizu, member of SIP-adus/International automobile journalist
Viewer/Respondent	The number of online viewer : 384, Questionnaire : 103
Media report	Nikkan Jidosha Shimbun, Kotsu Mainichi Shimbun

1．Dialog with the citizens (Yokohama city) ～"TOMIOCART" in Yokohama

1.Provide potential passengers with appealing vehicle design and exciting CX

The improved car design was realized together with local citizens and YNU students by adding distinctive exterior designs.

【Opinions from the web viewers】

- Impressed by the panelist's opinion that appealing "This is autonomous vehicle running on the street!" to the public for its unique and distinctive design far from typical car form, is very important to attract the residents to try a test drive.

2.Regularly discuss with the residents, understand the needs based on the probe data and reflect to the service

Evolve residents as well as vehicle and services, changing bus routes to run More efficiently based on detailed and analyzed data showing how local residents really move, and also organizing regular meeting with local residents to know how to improve the buses and providing services.

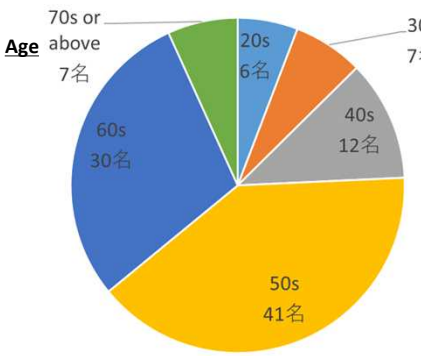
3.Share the workload and the cost by the whole region, coordinating the stakeholder's interests by the promoter

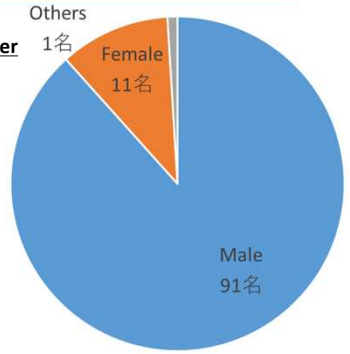
- Study ideal transportation service not only by the local traffic operators and users but also with local business operators, medical service providers, etc. in whole region
- Promoted by regional traffic operator responsible for the whole local area planning and development together with the local academia.

Source: Yokohama National University, Keikyu Corporation

1． Dialog with the citizens (Yokohama city) ～Questionnaire(103 replies)

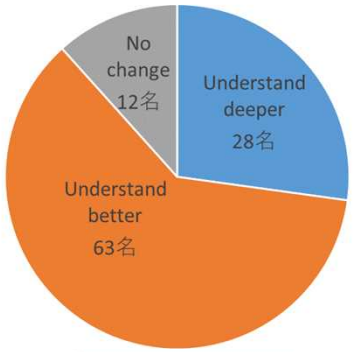
- Characteristics :
  Most of the viewers were men in his over 40s.
  Need to appeal to various types of people, making them more interested.





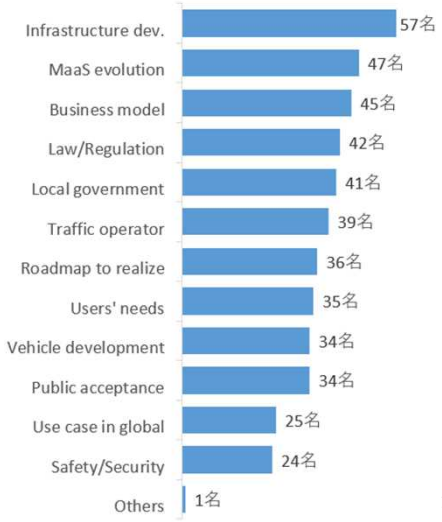
- Understanding of automated driving :
  Approx. 90% of the respondents replied that their understanding has become deeper.

Did your understanding for automated driving become deeper?



- Interesting topic in the future :
  <Top3>
  1.Trend of road/infrastructure development（57 replies)
  2.Evolution of local transportation/MaaS（47)
  3.Feasibility of the business model（45)

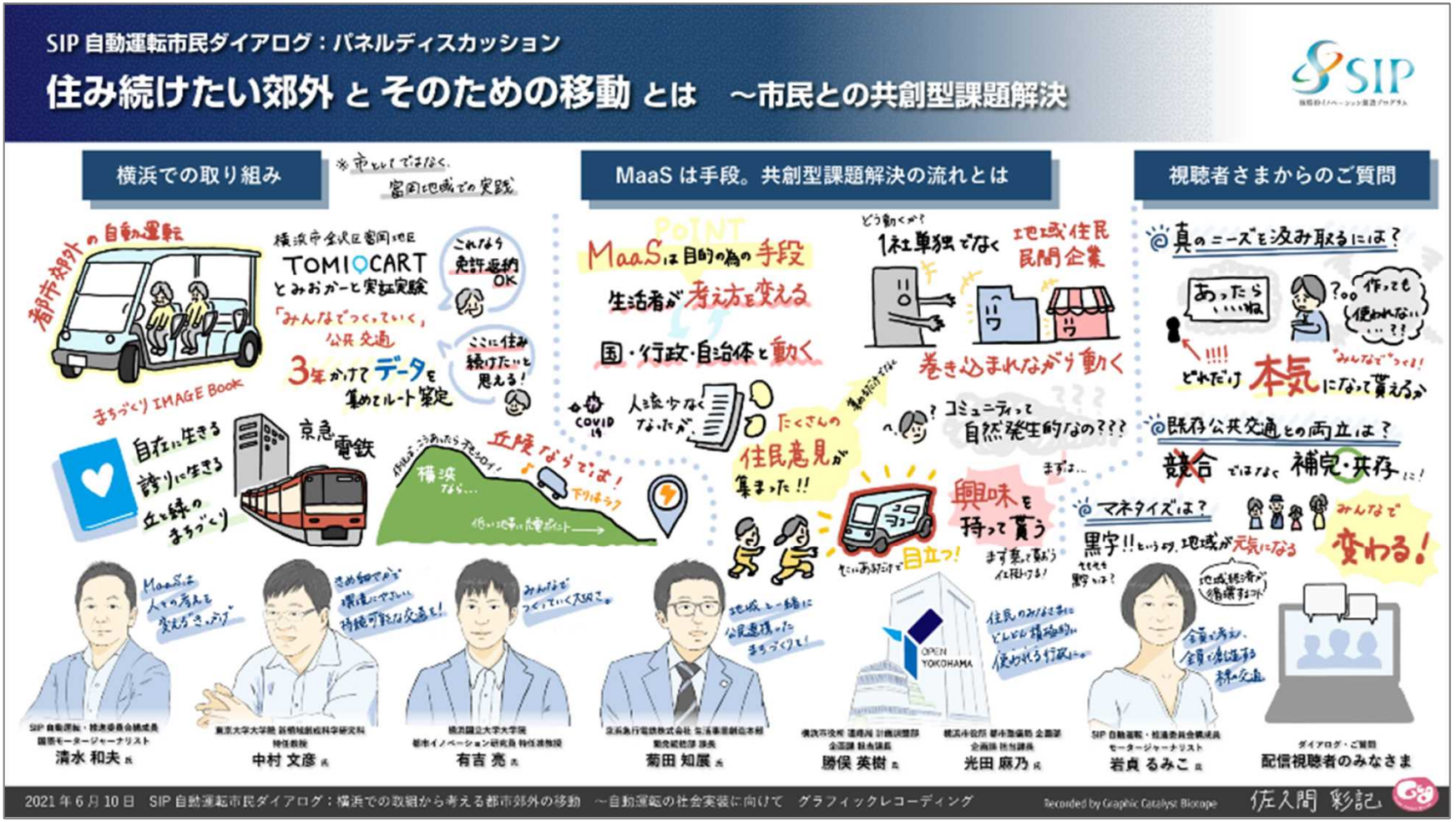
What is your interesting relevant topic?



Require to o discuss and communicate more of issues found in wider scope surrounding the automated driving technologies.

1．Dialog with the citizens (Yokohama city) ～Graphic Recording

- Visualized the discussion result with the following graphic recording.



2．Town report on automated driving ～ Purpose & Activity Plan

- Purpose :
- Understand the voice of customers linked to local mobility services with automated vehicles and realistic issues for the future commercialization of the service.
- Create and deepen the relationship between the key persons in the region.
- Communicate the information collected through above activities as the public relations.
- Activity Plan :
  Post the reports in 15 towns where automated driving tests are conducted, on the web site “SIP-café”.

2．Town report on automated driving　～Activity results in FY2021

- Major activity : ①Test drive of automated driving vehicle, ②Shoot videos in town with driving scene, ③Interview the staffs with shooting videos

- Towns visited and reports posted at SIP-café

1	CX of automated driving in Higashi Omi, Shiga	6	Automated driving experience for the tourist in Chatan, Okinawa
2	Automated driving service in Miyama, Fukuoka	7	Automated driving bus in Nishi Shinjuku, Tokyo
3	Automated driving service accepted in Kamikoani, Akita	8	Expectation towards automated driving Lv4 in Eiheiji, Fukui
4	Automated driving service with the children in town in Iinan, Shimane	9	Casual automated driving service for everyone in Kasugai, Aichi
5	Automated driving service test in Takahata, Yamagata	10	Super mini electric vehicle “C＋pod” in Yokohama, Kanagawa

2．Town report on automated driving～Review on the activities in FY2021

■ Reviews

Issues to tackle	• Run the service based on deep communication with the residents (e.g. to decide the route, appeal to the kids in town, etc.) • Synchronize with other transportation for smoother and optimized local traffic. • Detail study for sustainable business (e.g. Attract customers even after effectiveness of media diminished, cost to transfer bus maintenance center to other prefectures, etc.)
Achievements	• Understand the issues in detail in each region. • Establish the relationship with key persons struggling and managing to improve local traffic availability.
Things to improve	• Numbers of the places to visit were 15, while the actual were 10. • Due to few information on test driving schedule disclosed in advance, it was tough to plan the interview with coordinating the staffs' schedule. • Establish the relationship with relevant authorities and regularly communicate with them to exchange the information.

2．Town report on automated driving ～Action plan in FY2022

Action plan

- Number of the places to visit: around 10
- Achieve the relevant information well in advance to plan and secure the interviews sufficiently.
- Utilize the issues and the key persons we would get to know through the interviews for the planning the concept of regional automated driving conference scheduled in February 2023.

Visit and interview plan in FY2022 (tentative)

#	Timing	Place	Contact	Remarks
1	May	Fujisawa (Sustainable Smart Town)	Panasonic	Robot for goods delivery
2	Mid of May	Iinan, Shimane pref.	HIDO	Collaborate with Flower Festival
3	End of May	Nasushiobara, Tochigi pref.	ABC project	
4	July or August	Nasu, Tochigi pref.	ABC project	
5	October	Utsunomiya, Tochigi pref.	ABC project	Collaborate with athletic festival
6	October	Osaka	Osaka Metro (subway)	Test for Expo in 2025
7	After Dec	Tokyo, Ashikaga(Tochigi), Sakai(Ibaraki), etc.	TBD	Under study

This report documents the results of Cross-ministerial Strategic Innovation Promotion Program (SIP) 2nd Phase, Automated Driving for Universal Services (SIP-adus, NEDO management number: JPNP18012) that was implemented by the Cabinet Office and was served by the New Energy and Industrial Technology Development Organization (NEDO) as a secretariat.