Summary of SIP-ADUS project (FY2015)	
Name of the project	Research project for Promoting International Cooperation on Automated and Connected Driving Systems.
Responsible Organization	Congress Corporation

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Object of the Project

Focusing on international collaborative activities in the realm of automated driving system development and deployment, this project aims to gather the latest trends from Japan & overseas on R&D themes being tackled with regard to SIP, in an integrated manner. Simultaneously, the project aims to contribute to the promotion and study on the direction to be pursued and other issues with regard to SIP R&D.

Project Summary

We researched these 6 topics including technologies, human factors, legal issues, and integrated applications of automated driving technologies through the Workshop, in fiscal year 2015. At the same time , "The Test Ride Event" with regard to automated driving systems of OEMs was held for invited speakers from overseas.

1)Dynamic Map   Dynamic and integrated database of road network and surroundings
○Japan: Reported on actions and vision of Dynamic Map (DM) in SIP-adus.
○Europe: Reported on actions in the iMobility Forum Digital Infrastructure (DI). SWG activity includes the roles of DI for
   automated driving and use of DI as sensor.
○USA: Reported on expectations for the government, including needs of DI and DM, formulation of policy, sharing of data, and
   standardization, based on the results of a survey by experts in USDOT.
○Actions by map vendors were reported. There were some questions about the effectiveness of using DI for automated driving.
   This session saw lively discussion.

2) Connected Vehicles   Perception of driving environment through communication
○USA: Reported on the upcoming Connected Vehicles Pilot Program in NYC, Tampa and State of Wyoming by USDOT, and on the   progress of connected vehicles development in Michigan by MDOT.
○Japan: Reported on measures taken in Japan by SIP-adus and Ministry of Internal Affairs and Communications.
○Europe: Shared information related to connected vehicles in Netherlands, including C-ITS Corridor.
○Discussions on issues for expanding practical realization. Sharing of regional actions and progress of the project may be standardized in 2016.

3) Human Factors   Sharing roles between driver and vehicle system
○USA: Reported on the outline evaluation result for Automated Corridor in the State of Virginia, users' understanding of automation, and
   issues, including social consensus.
○UK: Introduced projects related to human factors in the European Project, including FP7.
○Reported on the features of projects including evaluation for social accessibility between users and non-users of automated driving.
○Japan: Reported on issues related to transition of driving responsibility. Introduction of essential technology for realizing automated
   driving.

4)Impact Assessment
○US: Reported on the evaluation method being considered by DOT.
○Netherlands: Reported on the expected effects of convoy truck cruising and estimated reduction of traffic jams with implementation of C-ACC.
○Japan: Reported on the plan to develop a simulation system for checking the reduction in victims of automobile accidents.
○Also reported on a method for reducing victims of automobile accidents and a method for estimating the reduction of CO_2 emissions by automated driving technology.

5)Next Generation Transport
○Italy: Reported on the effectiveness of sharing automated vehicles while in metropolitan areas and the difficulty of commercialization through the CityMobil2 Project.
○Singapore: Reported on the outline of the AV Shuttle (small automated bus) service to be held at the end of 2015, convoy truck cruising, and related projects including the V2X initiative.
○France: Suggested the shift from owning vehicles to using vehicles, and the challenge for realizing Mobility as a Service.
○USA: Reported on the outline of the ongoing project "ATTRI" which is related to accessibility.
○Japan: Reported on the expectations for automated driving in the countryside and actions for the Olympic Games in Tokyo.

6)Security   Cyber security for communication systems and sensor/controller systems for a vehicle
○Europe: Reported on actions for dedicated system for vehicles as expert suppliers and on the importance of integrated authentication and international partnership.
○Japan: Reported on security issues and actions of the expert organization by NICT (National Institute of Information and Communications Technology) and CCDS (Connected Consumer Device Security Council).
○Reported on the responsibility of automotive OEMs for security problems, and the importance of sharing challenges and international partnership by an investigation firm in Europe.

Future plan

Through the workshop, we realized that there are challenging targets which we need to keep on discussing on each topics as below.

1)Dynamic Map
○Discussions about future action included proper data acquisition, integrity of data, reliability, challenges for security, and responsibilities of relevant people.

2)Connected Vehicles
○Discussions on issues for expanding practical realization. Sharing of regional actions and progress of the project may be standardized in 2016.
○Difficulty of cooperation among related industries based on different life cycles ,Sharing of regional issues, Expansion of implementation using incentives including tax, insurance, etc.

3)Human Factors
○the definition of issues among vehicles, drivers, pedestrians and communities, designing of systems for returning driving responsibility to drivers and benefits for users.

4) Impact Assessment
○Expectations for coordination of methods for measuring effects.
○Need to keep discussing the evaluation of automated driving during the transition phase.

5)Next Generation Transport
○The use of automated driving technology for next-generation transport, the role of mobility providers and organizers, and usage as a universal service.

6)Security
○The method of security authentication including actions provided by USDOT, setting minimum security requirements, identifying who is responsible for vehicle security, technical matters, setting standards, legal issues, challenges for ethics, and acceptability.
○The necessity of written standardized requirements and selection of organizer for enhanced cooperation and setting minimum security requirements.