SIP-adus Workshop 2019







SIP-adus: 2014-2018

SIP-adus — Mobility Bringing Everyone a Smile —

Cross-ministerial Strategic Innovation Promotion Program

Overview

SIP-adus(Automated Driving for Universal Service) started in June 2014 as a national research and development project for innovation. It has a social significance, providing a fundamental solution to such issues as the reduction of traffic fatalities, the reduction of the environmental burden by easing traffic congestions, travel support for elderly people and other vulnerable road users, and the revitalization of rural areas.

The improvement of the competitiveness of the automobile industry and the expansion of related markets are significant from an industrial point of view.

Research and Development of Automated Driving Systems

Dynamic Map Dynamic Data Movement of Vehicles, Status of Pedestrians, Traffic Signals etc. Semi-dynamic Data Accidents, Traffic Jams, Detailed Weather etc. Semi-static Data Combine various data Traffic Regulation, Road Construction Weather etc. Static Data =High Definition 3D Map Road, Lane, 3D Shape of Structures etc. Various Digital Mapping API: Application 3D Common Platform Data Program Platform Interface Point Clouds, Graphics, Probe Data etc.

Initiatives to formulate specifications of dynamic maps, standardize dynamic maps, introduce them to multiple applications, and achieve commercialization with SIP-adus at the core in collaboration with relevant ministries, industrial bodies, international standard organizations, etc.

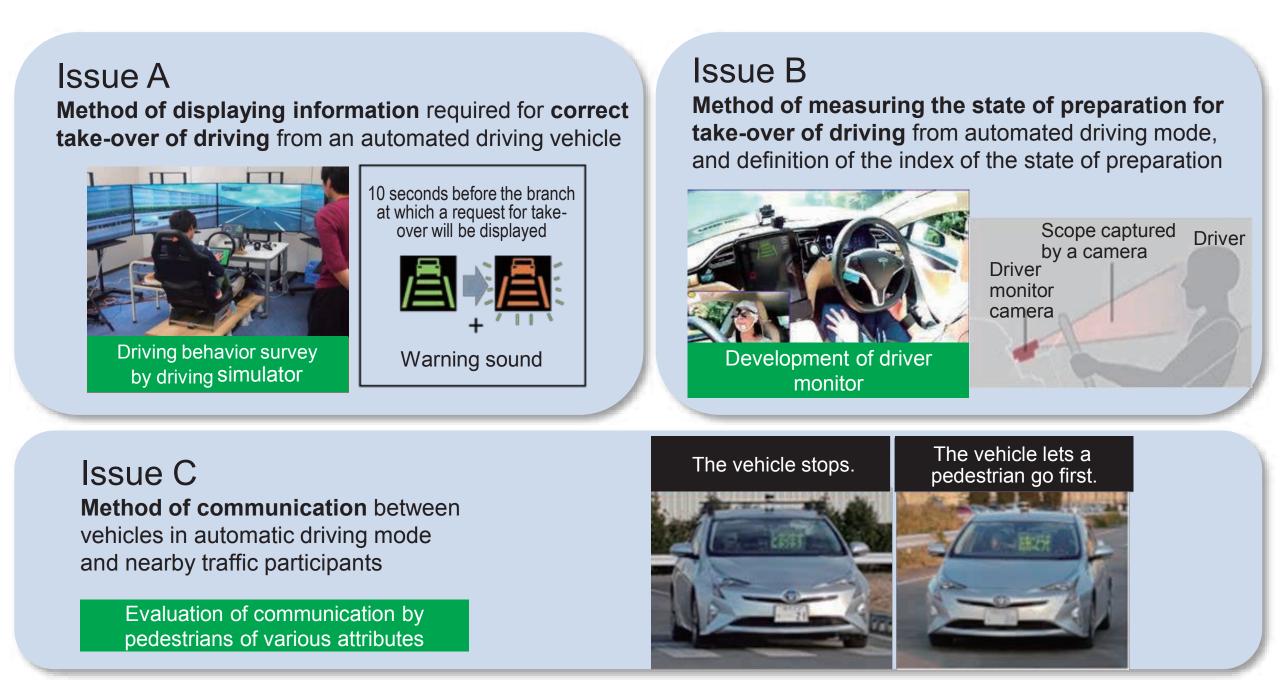
Threat analysis Investigation of system configurations, such as automated driving demonstrations conducted in the world Investigation of known vulnerabilities and incidents Risk/Impact analysis

Establishment and international standardization of evaluation methods and protocols on vehicle and component levels.

Next Generation Transport Offering consolidated data to achieve various services ART information center The buses arrive based on the timetable. Advanced PTPS (e.g., signal priority control) **Dynamic transit** information information Crowdedness Optimal route guidance is offered depending on the individual's characteristics. **Movement Restrictions** Assistance Information Forecasting Traffic Congestion and Guiding to Avoid Congestion timal control of acceleration offered to reduce crowdedness. A safe and secure environment is eved in the bus with minimal Elderly persons and wheelchair users can also get on and off the bus safely and securely.

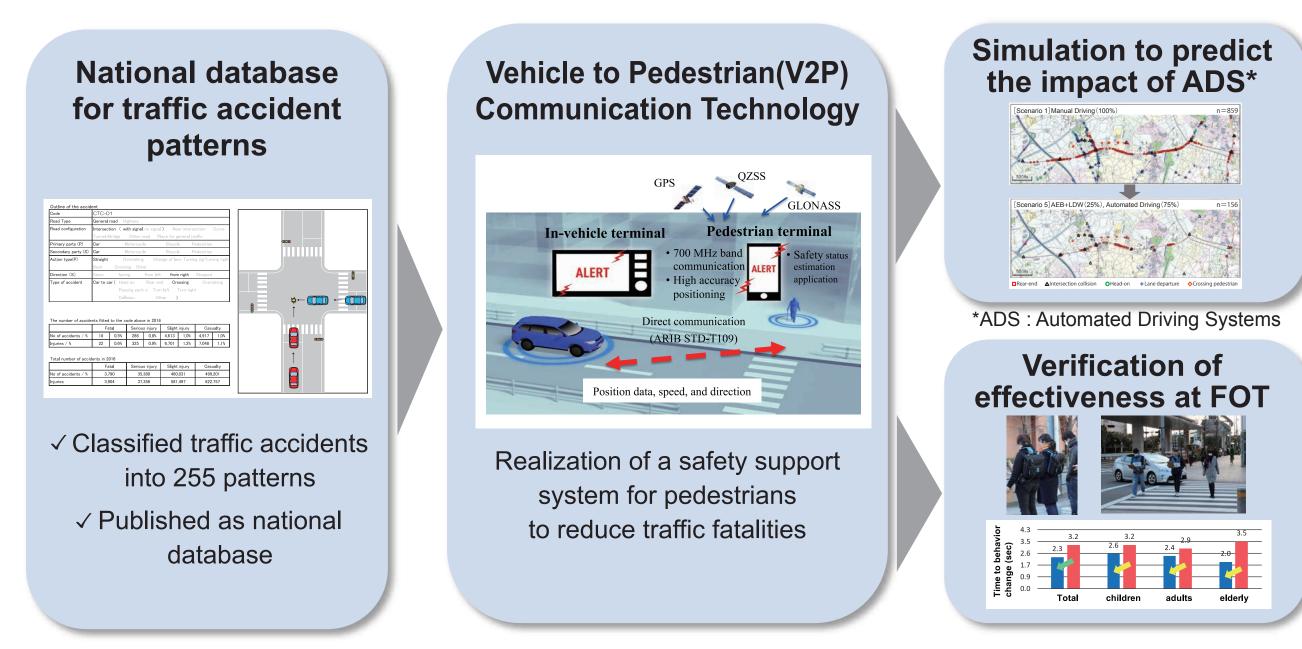
Proposal and implementation of the next-step ART (Advanced Rapid Transit) envisaging the Olympic and Paralympic Games Tokyo 2020 and the future.

HMI(Human Machine Interface)



- These initiatives are included in the industry guidelines "Considerations for Automated Driving HMIs" (Japan Automobile Manufacturers Association).
- Japan made proposals to international standards. (ISO/TC22/SC39/WG8*)

Pedestrian Traffic Accident Reduction



Analysis for the reduction of pedestrian accidents, which account for half of all fatal traffic accidents – Development of technologies – Verification.

Program Director

Seigo Kuzumaki

Fellow Advanced R&D and Engineering Company Toyota Motor Corporation

Profile

Mr. Kuzumaki received a master's degree in aeronautical engineering from Kyoto University in 1985. The same year,

he joined Toyota Motor Corporation in the Body Design Department. In 2003, he began working in technology planning and technical development as the vehicle safety function supervisor in the Vehicle

Technology Development Department at Toyota.

He has served in his present post since 2019. Following his appointment as Sub-PD for the SIP Automated Driving System program for two years from 2014, he was appointed PD in 2016.

