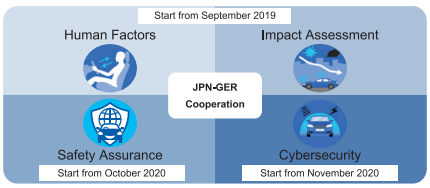
SIP-adus Workshop 2022

International Research Cooperation

Japan-Germany research cooperation on Connected and Automated Driving

Japan-Germany research cooperation between BMBF (German Federal Ministry of Education and Research) and Cabinet Office have been conducted since 2019.



Joint research area & Objective

Human Factors

It is important to establish a communication between automated vehicles and normal vehicle drivers or other road users when automated driving with level 4 or higher will be implemented. The joint research project idea selected in this area is expected to improve the mutual understanding of potential differences in culture and behavior in Japan and Germany. The project is able to develop a disruptive approach to address and solve related challenges.

Impact Assessment

Automated driving requires significant technical innovations and it will develop societal and economic impact. This joint research project idea selected in this area is expected to develop a scientific method to quantify those impacts. It could increase the appropriate understanding and, therefore, the public acceptance of automated driving.

Safety Assurance

Due to the highest safety requirements on autonomous driving, reliable and efficient test procedures are necessary. The complexity of electronic systems and software requires virtual testing procedures to ensure safety. The project develops respective evaluation methods for validation, modelling and simulation.

Cybersecurity

The vulnerability of modern vehicles is increasing due to the increasing degree of networking of vehicles on one hand and the growing complexity of their automation and autonomy on the other. The project develops methods to detect and eliminate potential security threats of modern autonomous vehicles at an early stage, starting already in the development process.

Japan-EU research cooperation on Connected and Automated Driving

Cooperation activities between European Commission (DG Research and Innovation) and SIP-adus in Japan regarding Connected Automated Driving have been accelerated since 2020. Cooperation activities have been conducted based on project basis.

Examples of cooperation between projects

- **Human Factors**: HADRIAN ⟷ SIP SIP-adus Innovation of Automated Driving for Universal Services
- **Safety Assurance**: HEADSTART ⟷ SAKURA Safety Assurance KUdos for Reliable Autonomous Vehicles / SIP
- **Automated Mobility Services**: S.H.O.W. Automated Urban Mobility ⟷ ITS Japan / mobi

SIP-adus Workshops

International cooperation with researchers in Europe and USA in the field of automated driving has been promoted through SIP-adus Workshops.