Advanced Mobility Research Center
[Designing the Next Generation Transport Systems]

ITs Center

Intelligent Transport Systems


1: Dept. of Fundamental Engineering, 2: Dept. of Mechanical and Biofunctional Systems, 3: Dept. of Informatics and Electronics, 4: Dept. of Materials and Environmental Science, 5: Dept. of Human and Social Systems

http://www.its.iis.u-tokyo.ac.jp/

ITS (Intelligent Transport Systems) is an advanced transport system in which various fields, such as transport engineering, vehicle engineering, information technology, are integrated.

The Advanced Mobility Research Center promotes research and development of ITS through collaboration of academia, public, and private sectors.

In July 2018, the ITS Center took the lead in launching the Mobility Innovation Collaborative Research Organization (UTmobI) as a cross-departmental organization within the university, and since July 2019 it has been promoting it with an eight-department structure.

Research and Developments on ITS

Various Traffic Simulation Models (TS)

Traffic simulators (TS) of various scales developed, to evaluate political options with high accuracy.

- SOUND: A network traffic simulator, covering a wide network including expressways, while vehicles are considered individually.
- AVENUE: A street-level traffic simulator, based on the detailed maneuvers of individual vehicles, such as lane changing at an intersection. Used for evaluating traffic operation strategies, reducing congestion on streets, etc.
- KAKUMO: A micro traffic simulator, connecting TS and DS. It fills the gap of spatiotemporal resolution between TS and DS by calculating driver’s behavior and vehicle dynamics of hundreds of vehicles around the test driver in DS. Simultaneously, the behavior of the test driver in DS is reflected to TS, and then the movements of surrounding vehicles and the traffic condition change interactively.

Societal implementation of automated driving

- Automated Driving emerging scenario proposal and the Impact Analysis

ITS R&D Experiment Field

Experiment fields for automobiles and trains and a driving simulator for large vehicle.

Kashiwa ITS FOT Model City

- Kashiwa ITS Smart City
ITS research activities launched for environment-friendly transport society in Kashiwa City, which is designated as one of the ITS FOT model cities by the Cabinet Office of Japan

- Field test of automated driving bus (2019.11)
Vehicle-infrastructure cooperative technology aimed at expanding situations in which automated driving is possible

Investigation of the acceptability of automated driving and ELSI (Ethical, Legal, and Social Implications) Study

Human Resource Development and Social Return Activities

- ITS Seminar: Series of seminars organized about three times a year, and ITS based on needs from local areas as well as central administration promoted
- Lectures: Not only lectures for students but also a special lecture “UTmobI Forum” (once a year) for private sectors organized for developing human resource in ITS industry
- Research Committee: Informal discussions about latest ITS topics hosted every month inviting speakers from academia, industry, and government

Global Collaboration

ITS Center hosts an international symposium every year and exchanges faculty members and students with other universities and institutions through international collaboration as well as domestic collaboration.