SHIBASAKI & SEKIMOTO LAB.

[Urban Spatial Information]

Institute of Industrial Science (IIS), Center for Spatial Information Science (CSIS)

http://shiba.iis.u-tokyo.ac.jp/

Department of Civil Engineering,
Department of Socio-cultural
Environmental Studies

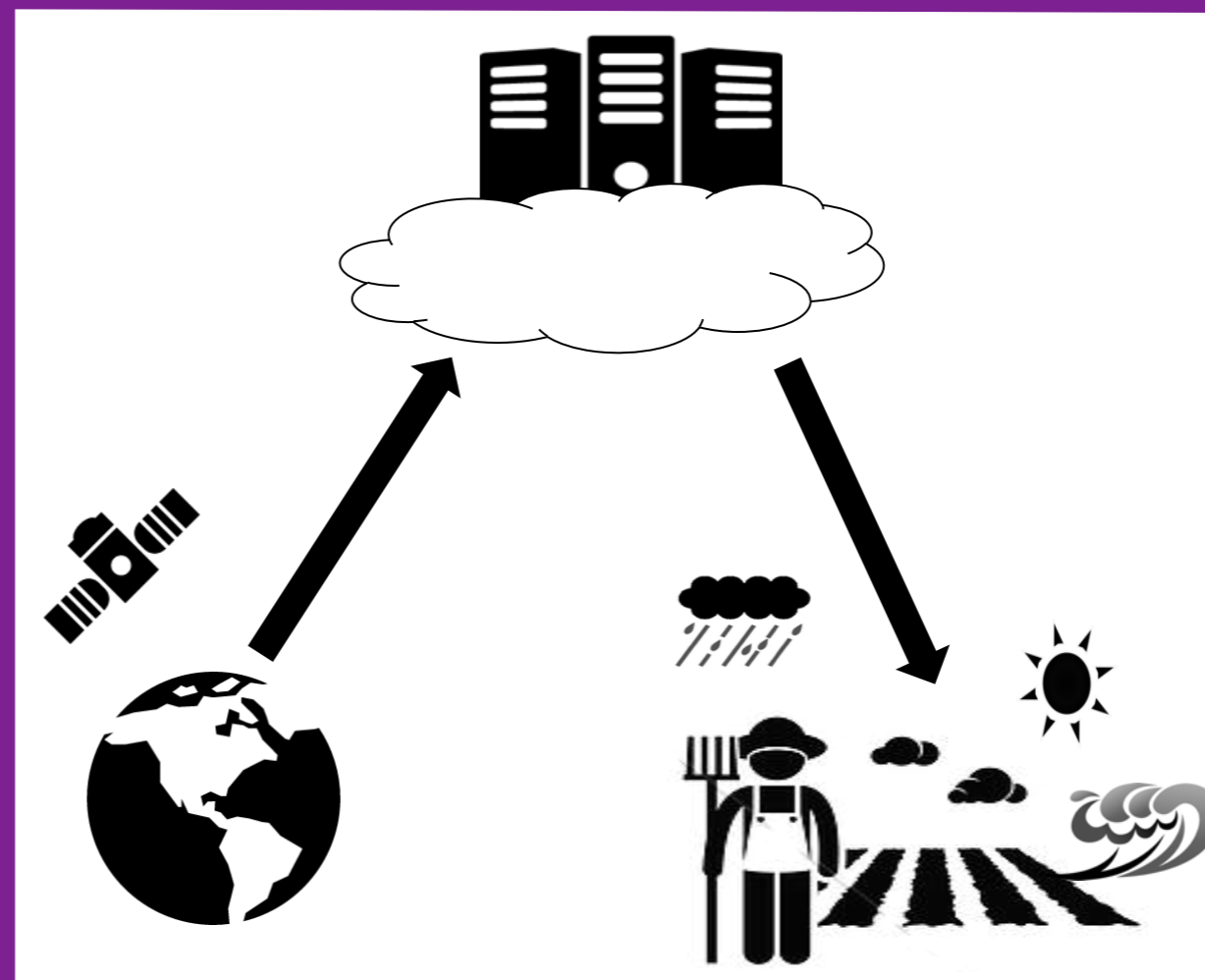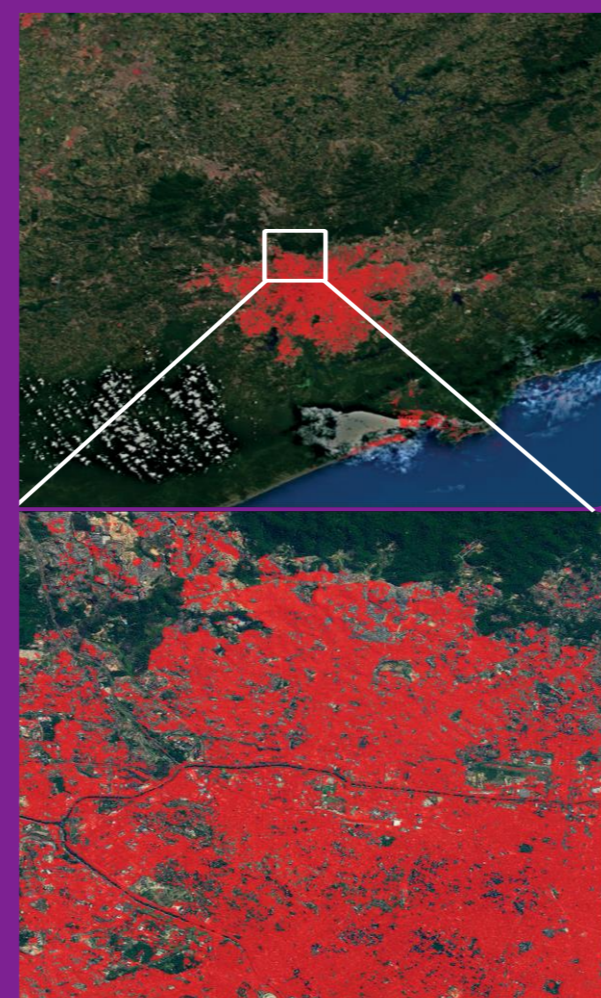### Spatial Information Science, Human Centered Urban Informatics

What is going on where? What is going to happen next?

Assembling spatial information related to people, objects, and events in urban and local area helps understand past/current/future situations through compilation, analysis, and share. We study on discovering and solving wide variety of social-issues with such spatial information.
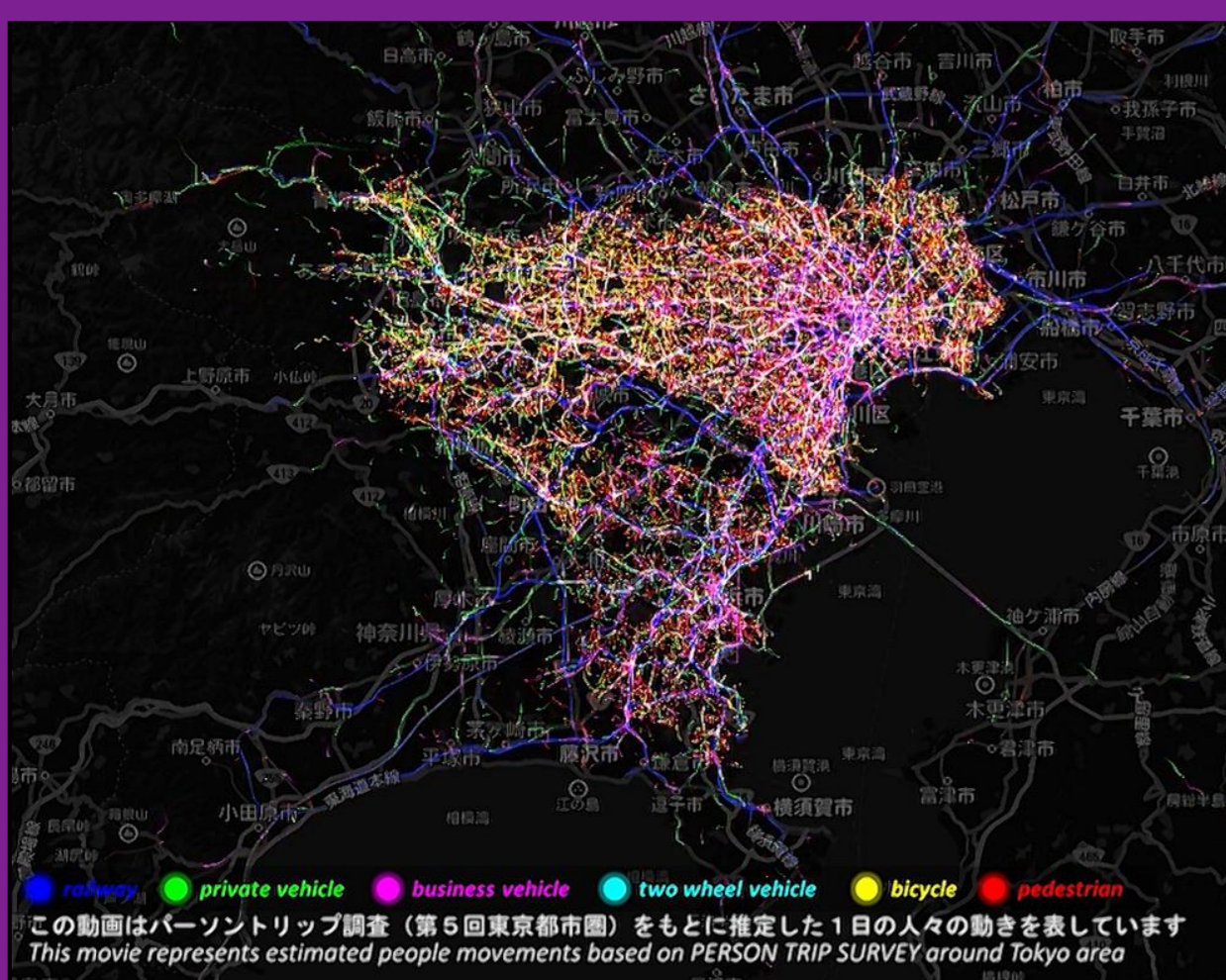
Global Mapping using Satellite Images

We develop methods for extracting and mapping man-made objects on the earth, such as roads and built-up area, from satellite images, and build system for applying the methods all over the cities of the world.

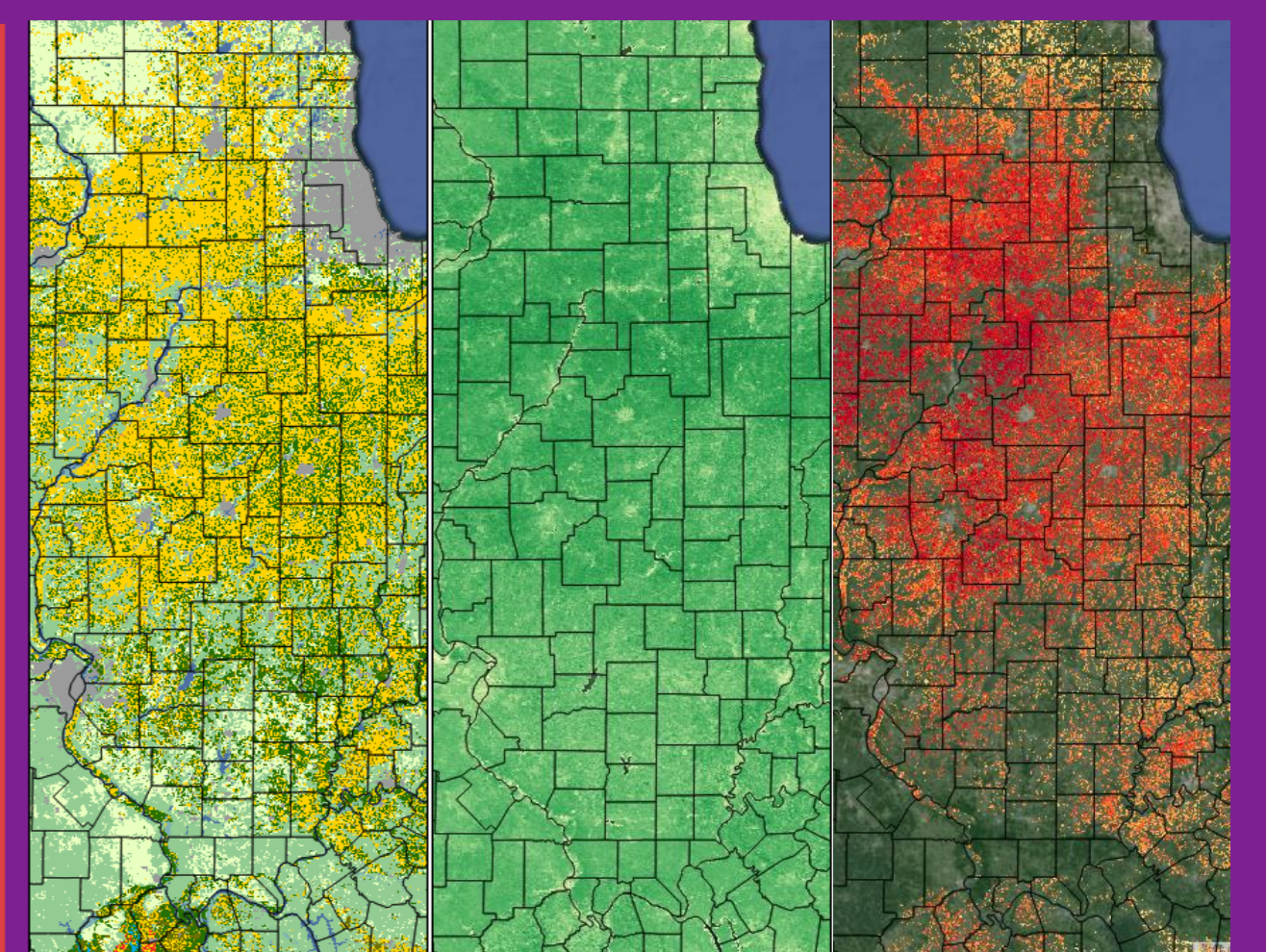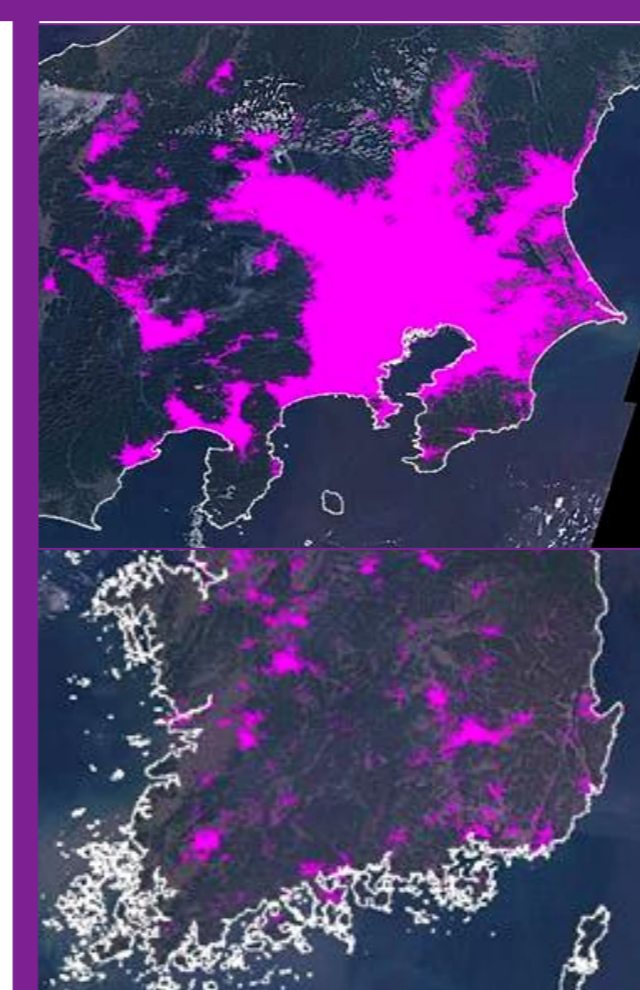**Know**

Agri-monitoring with A.I. & satellite imagery

We analyze satellite imagery and climate data with A.I. technology to monitor huge area of cropland precisely. By analyzing huge amount of data, accurate prediction of crop yield is acquired. These achievements are expected to develop a new type of agricultural insurance for mitigating severe risk of climate change.
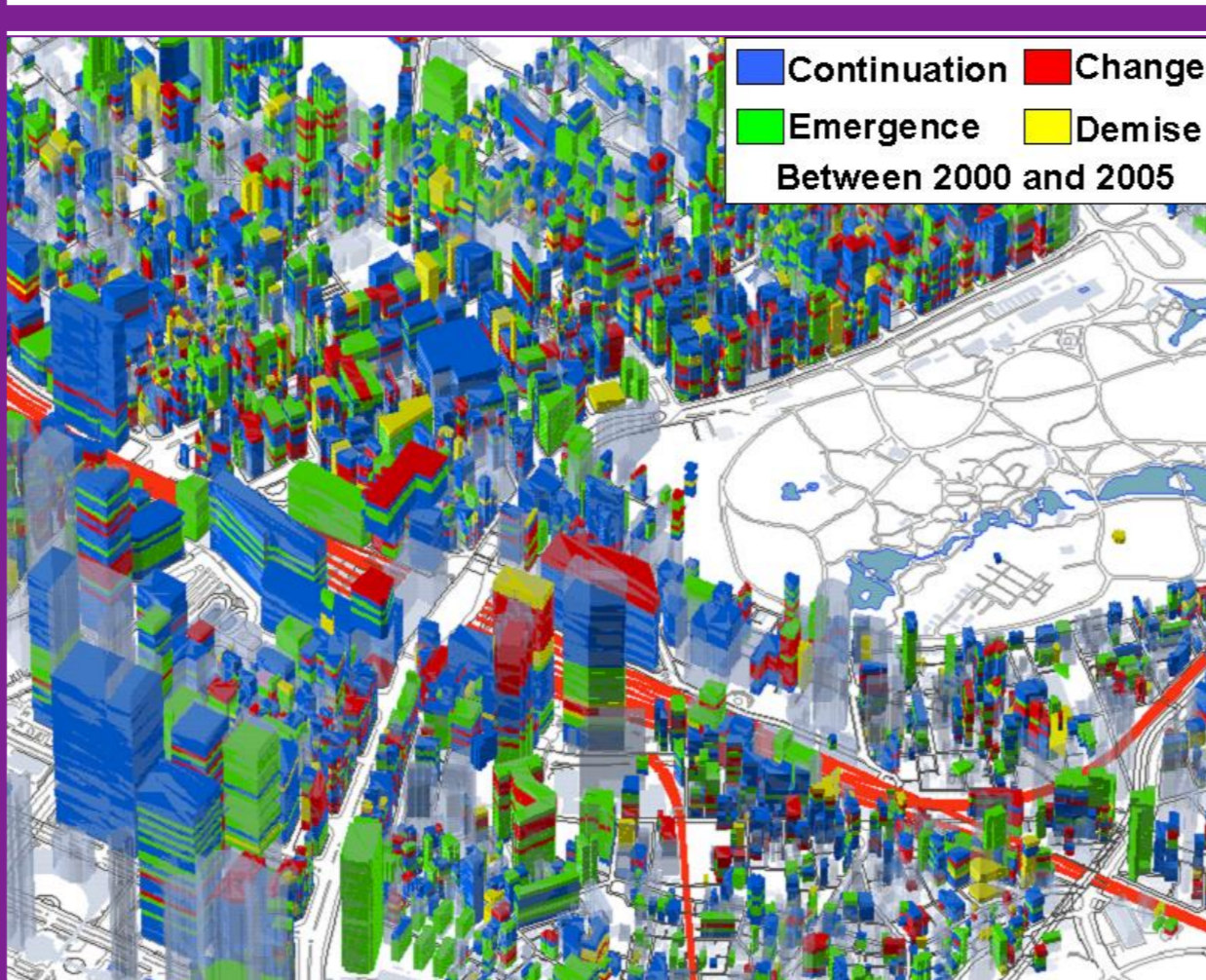
People Flow Project

People Flow Project(PFLOW) overviews data process technology, data quality and its common infrastructure for massive people flow. Our project provides spatiotemporal data processing service for all researchers through our platform.

この動画はパーソントリップ調査（第5回東京都市圏）をもとに推定した1日の人々の動きを表しています
This movie represents estimated people movements based on PERSON TRIP SURVEY around Tokyo area

Measure

Understand

Continuation | Change
Emergence | Demise
Between 2000 and 2005

Urban Analysis using Micro-geodata

We monitor time-series changes of shops, offices and restaurants all over Japan, and analyze the changing trends by integrating digital telephone directory, statistical data, web information etc. with digital maps.
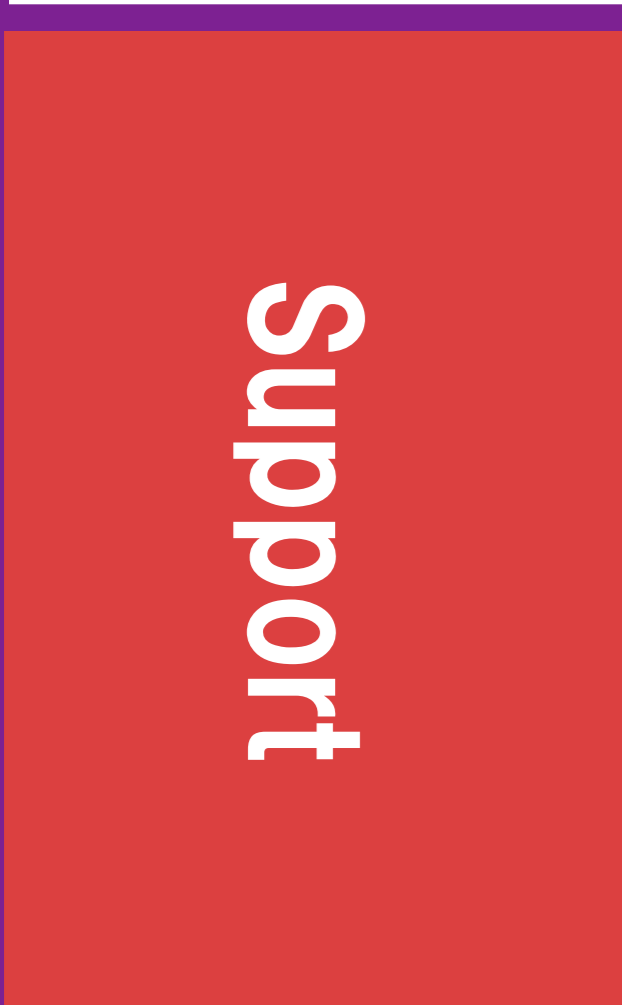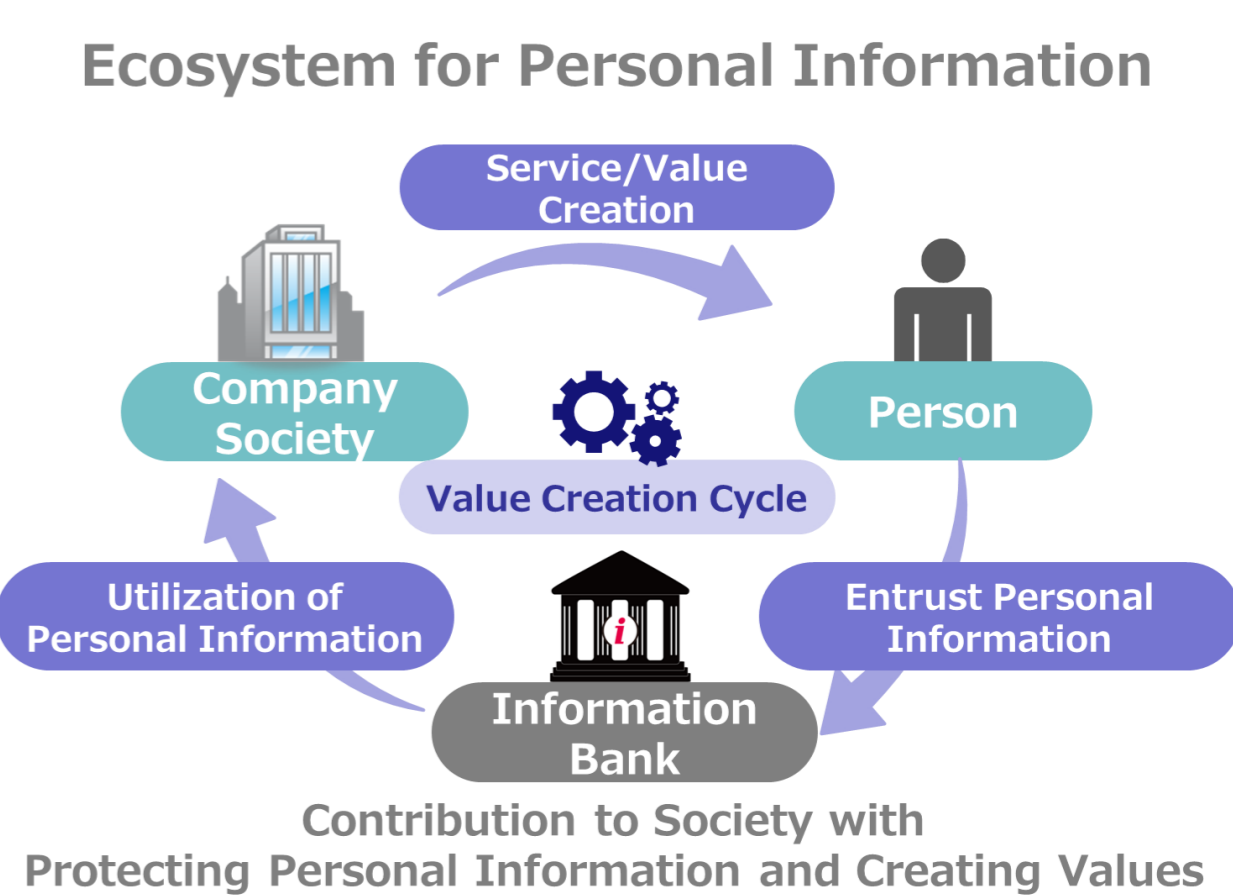
Predict

3D Mapping of People, Object, and Events

We conduct real-time mapping of urban space, people, objects, and events by using various sensors and information sources such as digital cameras, laser scanners, Xbox Kinect devices and cell phone records.

SLAM and 3D mapping result

Provide

Ecosystem for Personal Information

Service/Value Creation

Company Society

Person

Value Creation Cycle

Utilization of Personal Information

Entrust Personal Information

Information Bank

Contribution to Society with Protecting Personal Information and Creating Values

Support

Data Assimilation of Movement Objects

We develop systems that reconstructs and estimates distribution of people, objects, their activities and changes by collecting various traces of their movement, and assimilates them into simulation models.

Information Bank: Ecosystem of Personal Information

Novel social infrastructure for circulation of personal information. Information bank aggregates personal information into bank account securely, and offers in order to enhance QOL of individual and society with protecting privacy under self-management.

Institute of Industrial Science