

## Laboratory / Center profile

### Smart System Design Laboratory

<http://www.ssdlab.sdm.keio.ac.jp/en/>

Representative: Associate Professor Naohiko Kohtake

#### Overview

The Smart System Design Laboratory does not limit its areas of research. We capture everything as a system and pursue the creation of valuable and smart systems. We attempt to do this by picturing what the system should look like in a society after five years and ten years, and by utilizing system thinking, design thinking and management capabilities that we learn at Keio SDM. The laboratory members have diverse interests, including innovation, medicine, space development, indoor and outdoor positioning, emergency medical service, space design, support for the persons with disabilities, information communication, independent flight, sports, regional revitalization, geospatial information, human interface, big data, facilitation, process improvement, disaster prevention and reduction, as well as town development. Naturally, the members also have diverse backgrounds. In accordance with their interests, they conduct research in the pursuit of new innovations for society. The laboratory's demonstration experiments are carried out not only in Japan but also in Asia, the US and Europe.

#### Research Areas

Our research currently focuses on but is not limited to the following four themes. Each theme is followed by keywords.

##### Space Systems

Space services, satellite positioning, international standards, seamless positioning, interoperability, earth observation monitoring, micro-satellites, dual use, disaster prevention and reduction and remote sensing

##### ICT

location-based services, open data, behavior analysis, system dynamics, geospatial information systems, big data, human interface and ubiquitous computing

##### Community Design: Town Building, Regional Revitalization and Health Care

Smart cities, social capital, social centered design, local branding, facilitation, future centers, future session and health literacy

##### Innovation

ideathon, design process, hackathon, business model, visual thinking, fieldwork, prototyping, workshops and social networking

#### Design Studio

In April 2012, together with the Ubiquitous Communication Laboratory, the Smart System Design Laboratory established a "smart space", which functions as both a workshop venue and a design studio in the West Building of Hiyoshi Campus. Students were the main contributors to creating this smart space, from designing the space to doing painting. It now hosts various events, such as workshops for local and business communities, prototyping using a 3D printer, receiving satellite signals, as well as functioning as a work base for the laboratory.



Group photo of the laboratory members



Joint demonstration experiment for the "smart city" with the Asian Institute of Technology, Chulalongkorn University, Tokyo University of Marine Science and Technology, the University of Tokyo and other relevant companies in Bangkok



Design Studio (West Building, Hiyoshi Campus)



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