

FLYING CAR RESEARCH LAB.

Purpose and Target of the Lab

The purpose of the lab is to design transportation, business, and aircraft systems of 3D transportation using flying cars, as the basis for launching a start-up with competence in the world markets. The lab also aims to develop a consortium by actively collaborating with the industry, government and academia within and outside Japan. We are committed to solving transportation-related social issues in the 21st century.

Activities

- Regular Workshops

The members present and discuss the research results in a bi-monthly workshop with the collaborative parties.

- Research

Stakeholder analysis	Maximize benefits and minimize disadvantages by grasping interests of various stakeholders related to aircraft development, infrastructure, air traffic control, and operation, as well as pilots.
Business model development	Create use cases; Develop and verify sustainable business models for the potential markets all over the world.
Requirement definition for aircraft systems	Clarify all the requirements before starting aircraft design, to avoid many redo's in a later stage.
Verification of technical feasibility	Assess if the above-mentioned requirements are achievable on the technical level at a certain point; Calculate and analyze the performance, and use the results to design aircraft configuration and specifications.
Legal affairs and public relations	Design and propose new laws, the category of which is not covered by the current aviation laws; Consider the differences from existing flying vehicles including commercial aircraft, and drones.
Urban planning	Visualize requirements for the transportation systems in the future through backcasting of future cities.

People (As of March 2018)

Members:

Masaru Nakano, Professor, Keio SDM
Shinichiro Haruyama, Professor, Keio SDM
Tsubasa Nakamura, Project Researcher, The System Design and Management Research Institute of Keio SDM
Aki Nakamoto, Assistant Professor, Keio SDM
Kosuke Tagawa, Yumi Tanaka, Yusuke Mihara, Ryutaro Mori, Julio Budiman, Pawnlada Payuhabvorakuichai, Keio SDM
Bhavya Sharma, Carnegie Mellon University

Collaborative parties:

Kanagawa Institute of Technology, Shibaura Institute of Technology, University of Tokyo, Waseda University, Purdue University, Massachusetts Institute of Technology, Universität Bamberg, Fraunhofer-Institut, Four companies

We welcome new members from various backgrounds including technology, business and law.

Keywords: Aircraft; 3D transportation system; Modeling and simulation of business systems; Software authentication; System standardization; Systems engineering, MBSE; Design thinking

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