What is the Super Smart Society Promotion Consortium?

The Super Smart Society Promotion Consortium was established to co-create a next-generation society-collaborative education and research platform that integrates HRD (human resource development) and R&D (research and development) through the collaboration of industry, government, and academia, with the aim of cultivating leaders who will support the upcoming super-smart society (Society 5.0). This consortium is led by three committees, Super Smart Society Promotion Committee, Social Collaborative Education Steering Committee, Interdisciplinary Research Promotion Committee, which plan and promote various activities.

Organization Chart and Each Activity

Super Smart Society Promotion Committee
- Planning and holding super smart society promotion fora, etc.
- Publication of white papers and annual reports
- Social enlightenment by providing one-day schools and online education

Social Collaborative Education Steering Committee
- Human resource development in collaboration with the excellent curricula of WISE Program for Super Smart Society
- Holding and opening of Courses on Super Smart Society Innovation
- Implementation of off-campus projects (internships)

Interdisciplinary Research Promotion Committee
- Holding matching workshops to establish joint research teams
- Establishing super smart society education and research fields
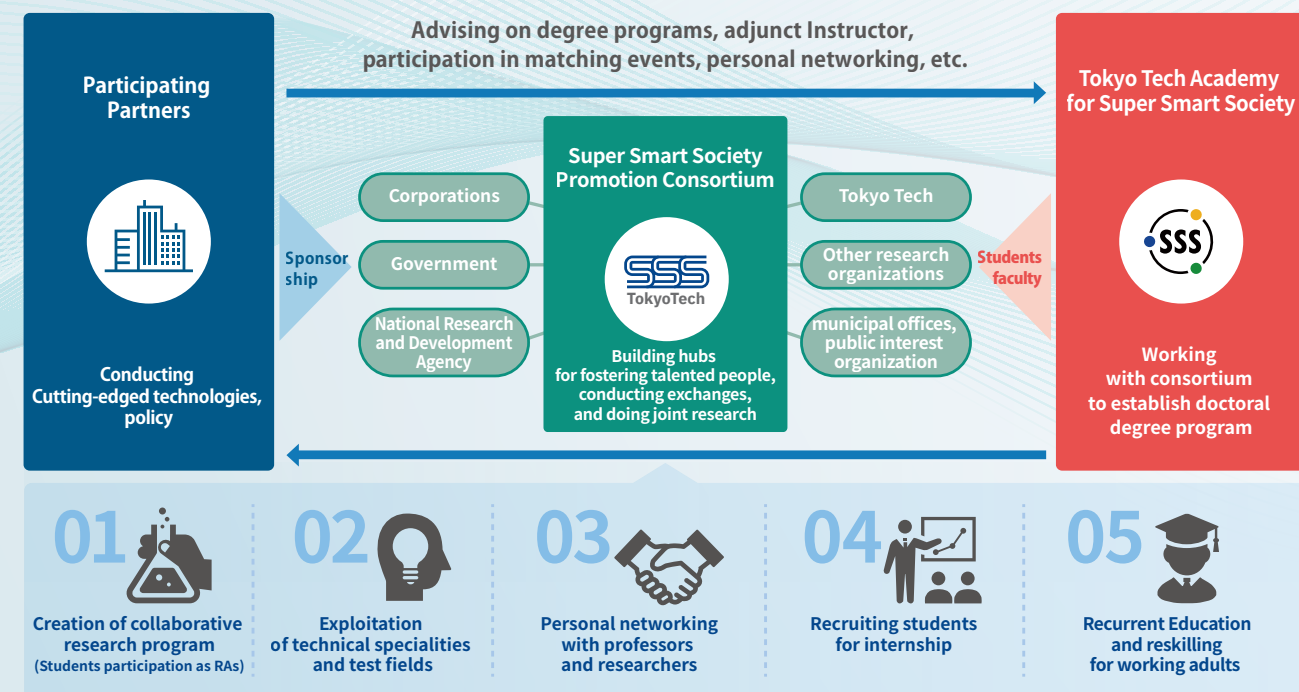- Planning open innovation projects and establishing systems

Our efforts toward realizing a super smart society are steadily beginning to bear fruit five years after the establishment of the Super Smart Society Promotion Consortium in October 2018. With AI and quantum computers functioning as the social infrastructure, connecting people and society through IT has become increasingly important. Furthermore, we plan to expand our activities into new fields, such as medicine-engineering interdisciplinary collaboration, to create a sustainable future in response to the rapidly changing composition of human society and its natural environment. We seek your participation in developing our Consortium.

Nobuyuki Iwatsuki
Super Smart Society Promotion Consortium Steering Committee Chairperson
Vice President for Global Communication   Professor, School of Engineering

Benefits of Consortium Participation

Members of the Super Smart Society Promotion Consortium can avail the expertise and knowledge of faculty members who are active in various technological fields such as cyberspace, physical space, and quantum science. In addition, members may have access to multiple opportunities such as the creation of interdisciplinary joint research, the exploitation of the research and education fields, and the conduction of internships.
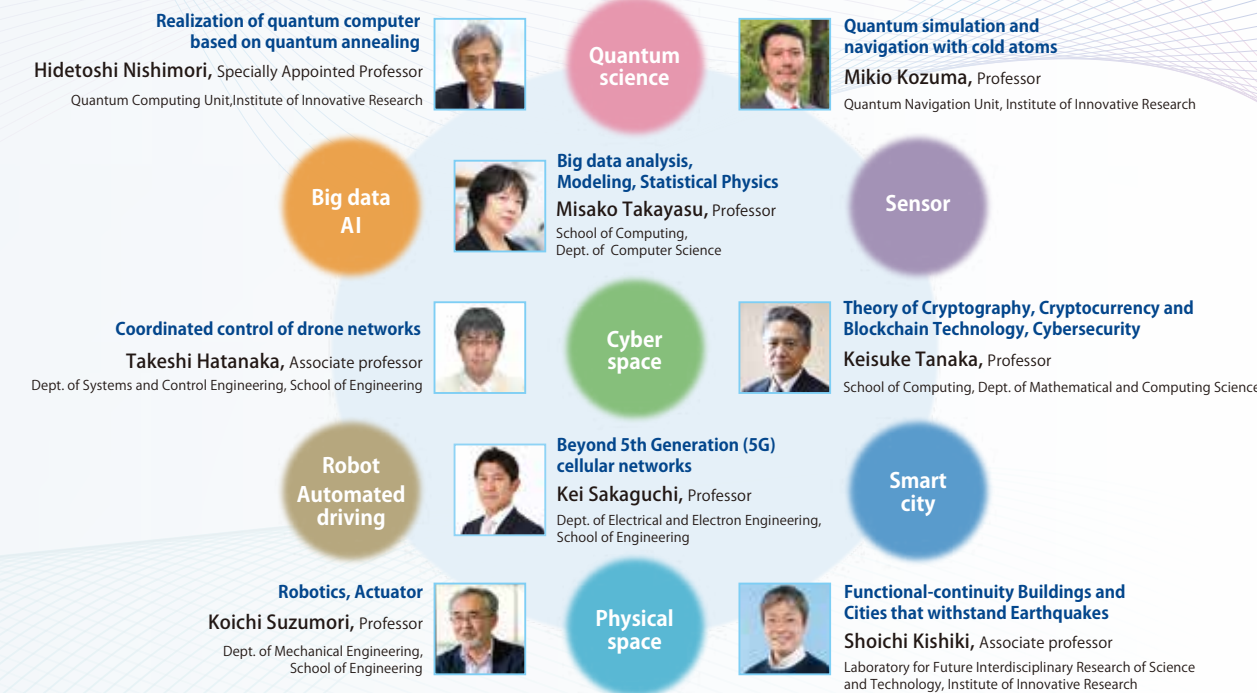

01 Creation of collaborative research program (Students participation as RAs)
02 Exploitation of technical specialities and test fields
03 Personal networking with professors and researchers
04 Recruiting students for internship
05 Recurrent Education and reskilling for working adults

About Us

Responsible person at Tokyo Tech

Steering Committee Chairperson	**Nobuyuki Iwatsuki** (Vice President for Global Communication, Professor, School of Engineering)
Coordinator	**Kei Sakaguchi** (Dean, Tokyo Tech Academy for Super Smart Society/Professor, School of Engineering)
Super Smart Society Promotion Committee Chairperson	**Eisuke Fukuda** (Specially Appointed Professor, School of Engineering)
Social Collaborative Education Steering Committee Chairperson	**Mitsuji Sampei** (Professor, Dept. of Systems and Control Engineering, School of Engineering)
Interdisciplinary Research Promotion Committee Chairperson	**Koichi Shinoda** (Professor, Dept. of Computer Science, School of Computing)

Program Leaderships

Realization of quantum computer based on quantum annealing
Hidetoshi Nishimori, Specially Appointed Professor
Quantum Computing Unit,Institute of Innovative Research

Quantum science

Quantum simulation and navigation with cold atoms
Mikio Kozuma, Professor
Quantum Navigation Unit, Institute of Innovative Research

Big data AI

Big data analysis, Modeling, Statistical Physics
Misako Takayasu, Professor
School of Computing, Dept. of Computer Science

Sensor

Coordinated control of drone networks
Takeshi Hatanaka, Associate professor
Dept. of Systems and Control Engineering, School of Engineering

Cyber space

Theory of Cryptography, Cryptocurrency and Blockchain Technology, Cybersecurity
Keisuke Tanaka, Professor
School of Computing, Dept. of Mathematical and Computing Science

Robot Automated driving

Beyond 5th Generation (5G) cellular networks
Kei Sakaguchi, Professor
Dept. of Electrical and Electron Engineering, School of Engineering

Smart city

Robotics, Actuator
Koichi Suzumori, Professor
Dept. of Mechanical Engineering, School of Engineering

Physical space

Functional-continuity Buildings and Cities that withstand Earthquakes
Shoichi Kishiki, Associate professor
Laboratory for Future Interdisciplinary Research of Science and Technology, Institute of Innovative Research

Consortium Partners (as of November 2023)

University
- Tokyo Institute of Technology

Research Institution
- Japan Agency for Marine-Earth Science and Technology(JAMSTEC)
- Information Technology and Human Factors, National Institute of Advanced Industrial Science and Technology (AIST)
- ICT Testbed Research and Development Promotion Center, National Institute of Information and Communications Technology (NICT)
- National Agriculture and Food Research Organization (NARO)
- RIKEN Center for Advanced Intelligence Project (AIP)
- National Institutes for Quantum and Radiological Science and Technology (QST)

Company
- aiwell Inc.
- ITD Lab Corporation
- Azbil Corporation
- ANRITSU CORPORATION
- Idemitsu Kosan Co., Ltd.
- ITOKI CORPORATION
- UMITRON K.K.
- ACSL Ltd.
- AGC Inc.
- NTT Urban Solutions, Inc.
- LG Japan Lab Inc.
- ORNIS Corporation

- Kawasaki Heavy Industries, Ltd.
- Kubota Corporation
- KDDI CORPORATION
- Koden Electronics Co., Ltd.
- Komatsu Ltd.
- JTEKT CORPORATION
- SHO-BOND CORPORATION
- SoftBank Corp.
- TsukArm Robotics Inc.
- DENSO Corporation
- Central Japan Railway Company (JR Central)
- TOSHIBA CORPORATION
- Tokyu Research Institute, Inc.
- Tressbio Laboratory Co., Ltd.
- Nileworks Inc.
- NSK Ltd.
- NEC Corporation
- NIPPON TELEGRAPH AND TELEPHONE CORPORATION
- Panasonic Corporation
- Hitachi, Ltd.
- FUJITSU LIMITED
- Honda Research Institute Japan Co., Ltd.
- Makino Seiki Co.,Ltd.
- Mazda Motor Corporation
- Mizuho–DL Financial Technology Co.,
- MITSUBISHI ESTATE CO., LTD.
- MITSUBISHI JISHO DESIGN INC.

- Mitsubishi Electric Corporation
- YASKAWA Electric Corporation
- Yokogawa Electric Corporation
- Rakuten Mobile, Inc.
- Ricoh Company, Ltd.
- ROCKY-ICHIMARU Co., Ltd.

Public institution and other
- Ministry of Agriculture, Forestry and Fisheries (MAFF)
- Ota City
- Kawasaki City
- Meguro City
- City of Yokohama
- Kanto Head Office, Organization for Small & Medium Enterprises and Regional Innovation, JAPAN
- The Ocean Policy Research Institute, The Sasakawa Peace Foundation
- Institute for Marine Culture and Research Promotion
- The Ecozzeria Association
- Marine Open Innovation Institute (MaOI)

Individual Member
- Makoto Ando (Tokyo Institute of Technology)
- Mariko Inamoto (Keisen University)
- Takayuki Kawaguchi (SIGMA ENERGY CO.,LTD)
- Yujiro Kitade (University of Marine Science and Technology)
- Akihiko Kobagaya (Keisen University)
- Aiko Shitara (University of Marine Science and Technology)
- Manabu Tsukada (The University of Tokyo)
- Toshiyuki Tsurumi (Nefrock, inc.)
- Hironori Hibino (Nihon University)

For membership applications and inquiries

Super Smart Society Promotion Consortium Secretariat
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Tokyo Institute of Technology

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Contact Person of each school of Tokyo tech
Takafumi Terada   URA, School of Engineering
Kazuhiko Totsuka   Specially Appointed Expert, School of Life Science and Technology
Susumu Yoneyama   URA, School of Environment and Society
Atsushi Uejima   URA, Institute of Innovative Research

超スマート社会推進コンソーシアム
SSS TokyoTech Super Smart Society Promotion Consortium

SUPER SMART SOCIETY Promotion Consortium

Tokyo Tech

202311

SSS R&E Fields

Super **S**mart **S**ociety **R**esearch **E**ducation

The Super Smart Society Promotion Consortium, in collaboration with Tokyo Tech Academy for Super Smart Society (WISE-SSS), is currently constructing eight Research and Education fields for a super smart society as an open innovation platform. Members of the Super Smart Society Promotion Consortium are using these fields to conduct joint research on cutting-edge technologies and verification experiments for social implementation, together with faculty and students.

Smart Mobility

Smart Agriculture

Smart Robotics

Smart Building

Creating original technologies in specialized fields related to both cyberspace and physical space technologies

Smart Workplace

Smart Infrastructure Maintenance

Quantum Science

Artificial Intelligence

Expansion of activities through collaboration with industry, the government, and academia

In addition to educational research, the Super Smart Society Promotion Consortium plans and operates technology forums twice a year. It also conducts matching workshops as opportunities for interacting with Tokyo Tech students and a recurrent education program (One-Day School) for working doctors. If you are interested in participating in events or demonstrating experiments based on existing research and education fields or establishing new research fields, please contact the Promotion Consortium Secretariat. The topics of interest include the followings:

One-Day School

Matching Workshop

Forum

Smart Mobility

Research on automated driving technology using cutting-edge wireless communications and sensors

This is a smart mobility research and education field constructed based on automated driving technologies and cutting-edge wireless communications systems such as 5G/6G and mmW V2X. Various types of sensor data are transferred and processed for creating new mobility services for a super smart society. Opportunities to learn these technologies through hands-on experience will be provided.

Real-time transmission of camera images and dynamic maps

Road Side Unit

5G Base Station

Smart Robotics

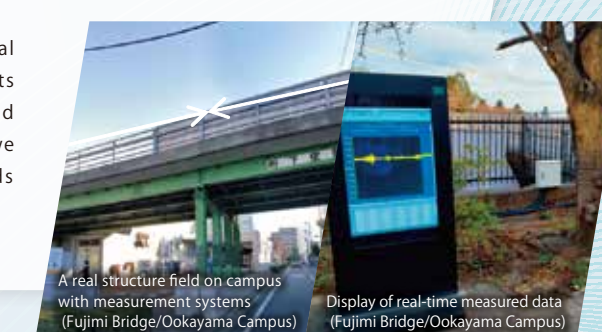### Research on robot technologies in different environments, including land, air, and sea

This is a research platform for utilizing robots in the fields of land, air, underwater, and manufacturing. We are creating robotics that will support a super smart society through the offer of opportunities for practical research and education on four-legged robots for outdoor fields (land), drones (air), underwater robots and water drones (underwater), and digital manufacturing technology, etc.

Water drone

Multi-robot control

Quadruped outdoor field robot

3D Camera Work

Smart Workplaces

Research on "Smart Workplaces" with sensing technology

This is a research platform for smart workplaces with the aim of establishing better workplaces. A comfortable and highly productive environment is realized by sensing the indoor environment and the vital signs of workers and via smart AI air conditioning. Furthermore, we try to verify ideal workplaces based on the keywords "Wellness" and "Post COVID-19."

Experimental space for work from home (Suzukakedai campus)

Smart AI air conditioning based on thermal images

Quantum Science

Research on next-generation quantum computing and quantum sensors

This is a research platform related to quantum computing and quantum sensors for the next generation. Our goal is to contribute to the establishment of a super smart society that will require advanced information processing through advancing research and the application of quantum computers, which are expected to be put into practical use as ultra-fast, next-generation computers, and quantum sensors with higher detection sensitivity than ever before based on quantum effects.

Cryogenic measurement circuits

Cryogenic measurement system

Quantum Computing Device Measurement System

Smart Agriculture

Research on elemental technologies for small-scale outdoor smart agriculture

We are working to establish a research platform for smart agriculture in response to problems related small-scale agriculture in Japan. To resolve problems such as the increase in working hours, low production efficiency, and low profitability, our aim is to realize remote agricultural technology that enables automated and stable production of high-quality crops by fully utilizing AI, IoT, and robot technology. A demonstration experiment field is currently under construction on campus.

Agricultural drone

Soybean field (Suzukakedai Campus)

Smart Infrastructure Maintenance

Research on cutting-edge technology related to next-generation infrastructure maintenance

This is a research platform for achieving Sustainable Social Infrastructure (SSI), which supports our life and society. Its goal is to ensure secure maintenance of infrastructure and to enhance urban functionality and resilience. Currently, we are in the process of constructing real structure fields utilizing infrastructure on Tokyo Tech campus.

A real structure field on campus with measurement systems (Fujimi Bridge/Ookayama Campus)

Display of real-time measured data (Fujimi Bridge/Ookayama Campus)

Smart Building

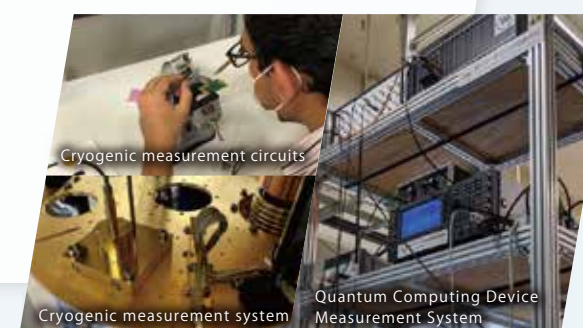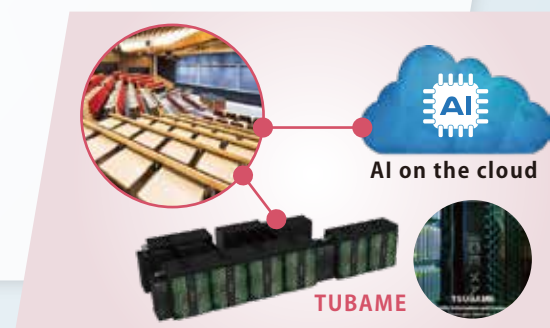### Toward safe and secure buildings

This is a research platform for evaluating the safety and continuity of use of buildings and providing occupants with early notification of building condition in the event of earthquakes and typhoons. The platform uses data from high-performance sensors densely installed in buildings. We aim to contribute to improving the resilience of not only buildings but also urban functions.

Dense measurement of a high-rise base isolated building (Suzukakedai Campus)

Sensors installed in walls and ceilings

Artificial Intelligence

Research on establishing a platform for utilizing machine learning services

This is a research platform related to artificial intelligence. We established the "Data Science & Artificial Intelligence Research Group for Social Good (DSAI)" and are preparing AI education for graduate students, and have prepared an experimental environment using Wi-Fi 6 wireless LAN, and are establishing a platform for utilizing machine learning services though high-speed lines.

AI on the cloud

TUBAME