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

SUPER SMART SOCIETY Promotion Consortium

Tokyo Tech

What is the Super Smart Society Promotion Consortium?

The Super Smart Society Promotion Consortium was established for jointly creating a next-generation society collaborative education and research platform that integrates everything from human resource development to R&D through a collaboration with industry, government, and academia in order to foster leaders who will support the coming super smart society (Society 5.0). Currently, about 40 organizations from national research institutes, local governments, and industry companies are participating in this consortium. 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.

Message from the steering committee Chairperson

The Super Smart Society Promotion Consortium was established in October 2018 with the aim of achieving and developing a super smart society (Society 5.0) for realizing the happiness of all people on the planet. Through the establishment of a platform for industry, government, and academia to lead R&D and human resource development for the realization and development of a super smart society, development of open innovation and open education scheme has been carried out with many participating organizations. As the global social situation changes, connections between people and society through IT will accelerate. We hope that other organizations will participate to activate the consortium, leading to the promotion of a super smart society. Thank you for your continued support and cooperation.

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

Organization Chart and Each Activity
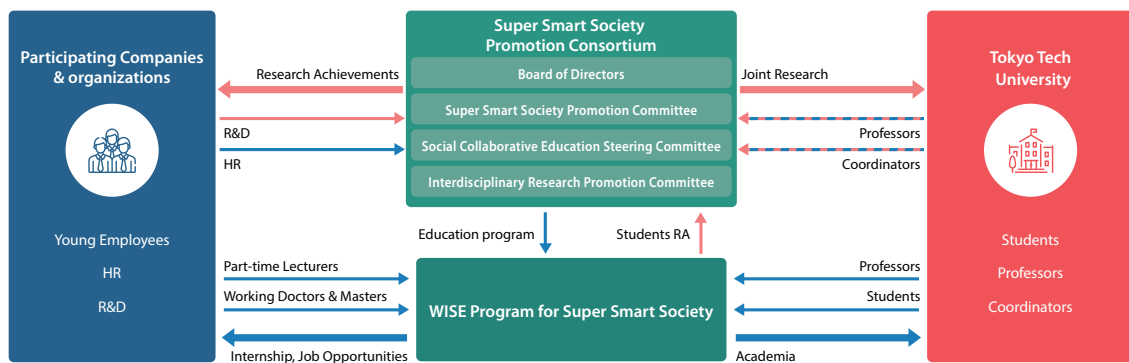
Super Smart Society Promotion Committee

- Builds a place for discussing and sharing ideas for a future super smart society among various sectors such as private companies, government agencies, and academia
- Promotes multidimensional and cross-disciplinary discussions for gaining a new awareness and resolving problems

Activities

- Planning and holding super smart society promotion forums, etc.
- Publication of white papers and annual reports
- Social enlightenment by providing one-day schools and online education

Social Collaborative Education Steering Committee

- Creates a systematic educational curriculum and education collaboration system which bridges and integrates next-generation cyberspace and physical space by collaboration of industry, government, and academia, in order to develop human resources who will lead the super smart society
- Provides new work experience (internships) and employment support based on the company human resources strategies in the super smart society era, and provides various recurrent education programs for educating elite employees and new employees who will lead the next generation

Activities

- 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 project (internships)

Interdisciplinary Research Promotion Committee

- Promotes interdisciplinary joint research involving universities and multiple participating institutions coordinated by university faculty members who have an understanding of diverse knowledge, technologies, and fields in order to realize a super smart society and establish an ecosystem
- Builds an open innovation platform (education and research fields) required for education and research in a super smart society, and provides a place for industry, government, and academia to work together on resolving various social issues

Activities

- Holding matching workshops to establish joint research teams
- Establishing super smart society education and research fields (see right page)
- Planning open innovation projects and establishing systems

SSS Research & Education fields

The Super Smart Society Promotion Consortium collaborates with the Tokyo Institute of Technology's MEXT*-funded WISE program** called "the Engineering Education Program for Super Smart Society Based on Advanced Quantum Science" which conducts graduate education integrating cyber/physical space technologies and quantum science.

For this purpose, "Tokyo Tech Academy for Super Smart Society " was established with the aim of cultivating professional doctors who will lead the realization of a super smart society. Under this tight collaboration, six cutting-edge super smart society oriented Research and Education (R&E) fields have been being constructed so far.

If you are interested in utilizing these fields or establishing a new research field, please contact the Promotion Consortium Secretariat.

* the Ministry of Education, Culture, Sports, Science and Technology   ** Doctoral Program for World-leading Innovative & Smart Education

Smart Mobility

This is a smart mobility research and education field that utilizes automated driving and cutting-edge wireless systems such as 5G and millimeter-wave wireless LAN. 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 are provided.


Automated Vehicle   Road Side Unit (RSU)

Smart Robotics

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 establishment 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.

Quadruped outdoor field robot   Actual water drone

Quantum Science

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.
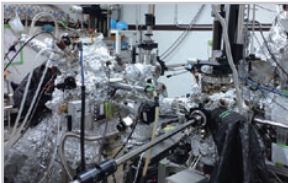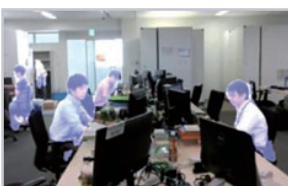

Superconducting quantum thin film
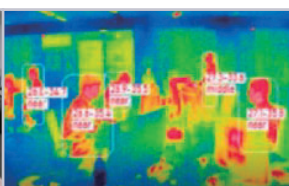preparation and evaluation system
（Quantum sensors）

Cryogenic measurement system
(Quantum computing)

Artificial Intelligence

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.

Super Computer: TSUBAME3.0   Lecture Theatre equipped with Wi-Fi6

Smart Workplace

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."
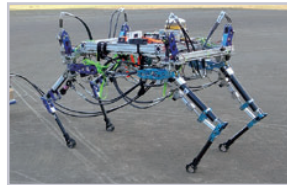

Segmentation of office workers   Smart AI air conditioning
                                                  based on thermal images

Smart Agriculture Scheduled in October 2021

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   ※Photos shown are for illustrative purposes only.   Agricultural field
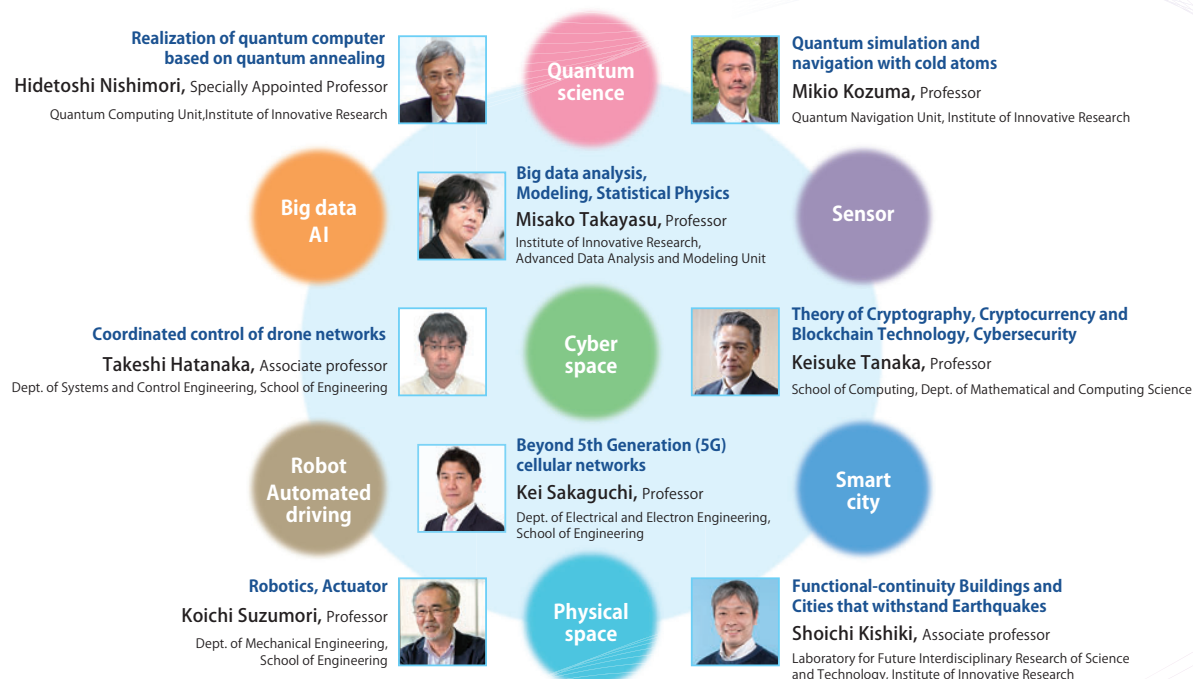
Smart Infrastructure Maintenance field is scheduled to be established in FY2021, aiming at SSI (Sustainable Social Infrastructure), the next generation of social infrastructure.

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

Quantum science

Big data analysis, Modeling, Statistical Physics
Misako Takayasu, Professor
Institute of Innovative Research, Advanced Data Analysis and Modeling Unit

Big data AI

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 March 2021)

- Tokyo Institute of Technology
- Japan Agency for Marine-Earth Science and Technology
- Center for Advanced Intelligence Project, RIKEN
- National Institutes for Quantum and Radiological Science and Technology
- The Wireless Networks Research Center, National Institute of Information and Communications Technology
- Information Technology and Human Factors, National Institute of Advanced Industrial Science and Technology
- National Agriculture and Food Research Organization
- KDDI CORPORATION
- SoftBank Corp.
- NIPPON TELEGRAPH AND TELEPHONE CORPORATION
- Rakuten Mobile, Inc.
- Koden Electronics Co., Ltd.
- Ricoh Company, Ltd.

- TOSHIBA CORPORATION
- NEC Corporation
- Panasonic Corporation
- FUJITSU LIMITED
- NISSEICOM, LIMITED
- Azbil Corporation
- Yokogawa Electric Corporation
- DENSO Corporation
- Honda Research Institute Japan Co., Ltd.
- Mazda Motor Corporation
- JTEKT CORPORATION
- Hitachi Industrial Equipment Systems Co., Ltd.
- YASKAWA Electric Corporation
- NSK Ltd.
- Kawasaki Heavy Industries, Ltd.
- Kubota Corporation

- Komatsu Ltd.
- AGC Inc.
- Makino Seiki Co., Ltd.
- SHO-BOND CORPORATION
- Central Japan Railway Company
- The Bank of Yokohama, Ltd.
- aiwell Inc.
- Ministry of Agriculture, Forestry and Fisheries
- Ota City
- Kawasaki City
- The Ecozzeria Association
- Kanto Head Office, Organization for Small & Medium Enterprises and Regional Innovation, JAPAN
- Individual Member
  Makoto Ando (KOSEN National Institute of Technology)
  Hironori Hibino (Tokyo University of Science)

For membership applications and inquiries

Super Smart Society Promotion Consortium Secretariat

Eisuke Fukuda   Specially Appointed Professor, School of Engineering
Tokyo Institute of Technology

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Website: https://www.sss.e.titech.ac.jp/en/

Contact Person of each school of Tokyo tech

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Susumu Yoneyama	URA, School of Environment and Society
Hiroshi Hayama	URA, School of Science
Machiko Nakatogawa	URA, School of Life Science and Technology
Yoshikazu Kobayashi	Specially Appointed Associate Professor, Institute of Innovative Research