



Full-Fledged Launch of Tohoku University Science Park Concept Tohoku University Joins with Mitsui Fudosan to Build Co-Creation Space Aimed at Solving Social Issues and Creating New Industry

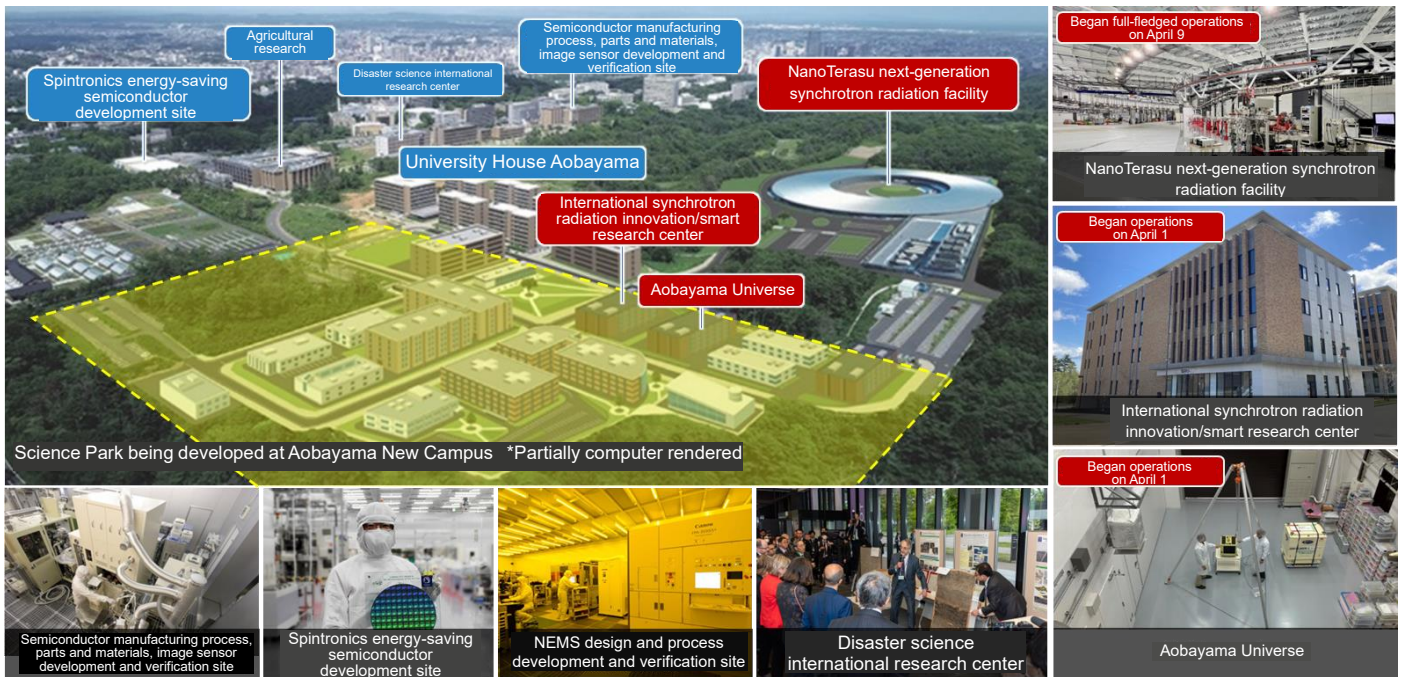
— Under the new name MICHINOOK, community formed across the fields of semiconductors and quantum, green and space, life sciences, materials science and more —

Tokyo, Japan, April 26, 2024 – Tohoku University, the only candidate selected for certification under the Universities of International Research Excellence program, and Mitsui Fudosan, a leading global real estate company headquartered in Tokyo, announced today the full-fledged launch of the Tohoku University Science Park Concept (hereafter, “Science Park Concept”) in a partnership between the two institutions.

Key points of this release

- **Full-fledged launch of Tohoku University Science Park Concept**
 - With the next-generation synchrotron radiation facility NanoTerasu^{*1}, the world’s only spintronics facility capable of handling 0.98 ft (300 mm)^{*2}, and a semiconductor processing line at the Aobayama New Campus, which is amassing world-class research and development facilities, Tohoku University is developing an approximately 430,556 ft² (40,000 m²). Science Park. It began with the opening of the new Research Building No. 2 on April 1, 2024, the full-fledged start of the Science Park Concept, which Tohoku University is promoting for the entire campus.
- **Partnership between Tohoku University and Mitsui Fudosan for the Tohoku University Science Park Concept**
 - In order to realize the Science Park Concept, a partnership was formed to utilize the knowledge Mitsui Fudosan has cultivated in industry-academia partnerships and new industry creation. Diverse and detailed feedback unique to companies taking on the challenge of cutting-edge technology development was collected and will be incorporated in the building of a co-creation space with the aim of attracting talented researchers and companies from around the world.
 - While expanding communities in academic fields that are the strengths of Tohoku University, including semiconductors and quantum, green and space, life sciences, and materials science, a new membership organization will be created to accelerate exchange and partnership across industry and field demarcations. This will not be limited to networking between the university and companies; it will create communities that generate innovation.
 - With “place” and “community” as the dual axes, the project aims to apply cutting-edge technologies in society through industry-academia partnership, generate innovation and aim to both solve social issues and create new industries.
- **MICHINOOK is the nickname for the Tohoku University Science Park Concept and the name of the new membership organization that will be formed is the MICHINOOK Community.**

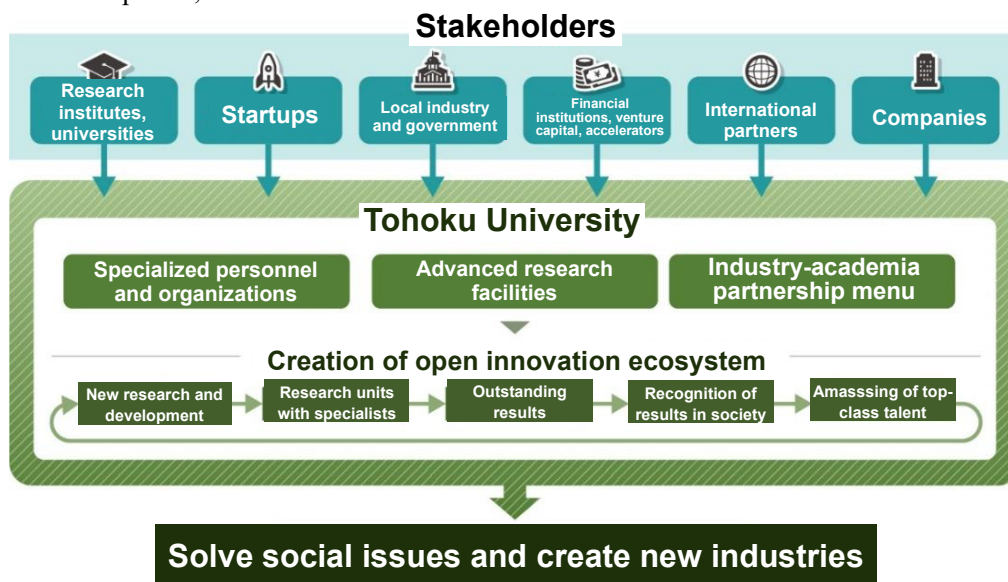
< World-class R&D Cluster and Science Park Zone >



■ Tohoku University Science Park Concept

1. About Tohoku University Science Park Concept

The Science Park Concept is aimed at solving social issues and creating new industries by broadly providing to society the human resources, facilities, and systems of Tohoku University to apply to society cutting-edge technologies through industry-academia partnerships and generate innovation. It will build a co-creation space that collects and combines diverse players, including companies taking on the challenge of cutting-edge technology development, universities promoting academic research together with companies, and research institutes.



【About MICHINOOK, the new nickname】

The nickname for the Science Park Concept is based on the principle and concept that holds that discoveries and creation take place in the “unknown inner.”

The overlapping of the “Os” represents the infinity symbol, suggesting the potential of MICHINOOK will expand without limit.

発見と創造は“未知ノ奥”にあり

MICHINOOK

TOHOKU UNIV. SCIENCE PARK

2. Science Park Development Status

Tohoku University is developing Science Park on an approximately 430,556 ft² (40,000 m²) site on the Aobayama New Campus, centering on a “co-creation space.” As the first stage, the International Synchrotron Radiation Innovation and Smart Research Building began operating on April 1, 2024 and the Aobayama Universe, a site for industry-academia partnership, opened on the same date. In the same way, with the world-class, cutting-edge next-generation NanoTerasu synchrotron radiation facility and the world-class center for semiconductor-related R&D, the project aims to draw talented researchers and companies from around the world.

【World-class cutting-edge research facilities clustered on Aobayama Campus (partial)】

(1) Next-generation synchrotron radiation facility NanoTerasu (began full-fledged operations on April 9, 2024)

Developed based on a partnership between the government, the private sector, and the community, the first of its kind in Japan, this cutting-edge research facility at a truly world-class level is capable of observing the nano-world of one 1 billionth of a meter. An accelerator accelerates electrons to nearly the speed of light, producing an X-ray called synchrotron radiation that is extremely bright, 1.0 billion times brighter than the sun, and when this is shined on matter it allows it to be observed. The facility is for basic science of course, but will also be used widely in various industrial fields, including energy, materials, devices, biotechnology, and food products, so it supports both science and innovation.



(2) Tohoku University’s three sites for co-creation of semiconductor technologies

In the semiconductor field, one in which Tohoku University has overwhelming strength, the university established the Technology Co-creation for Semiconductor of Tohoku University (representative: Takafumi Aoki, Executive Vice President for Strategic Planning, Provost) in June 2021.

Three centers lead the project: the spintronics energy-saving semiconductor development center, the semiconductor manufacturing process, parts and materials, and image sensor development and testing center, and the MEMS design and process development and testing center. The university provides large-scale clean rooms, and prototype lines for a cutting-edge R&D environment, promoting the entire process from materials and process development to design, prototyping, and evaluation.



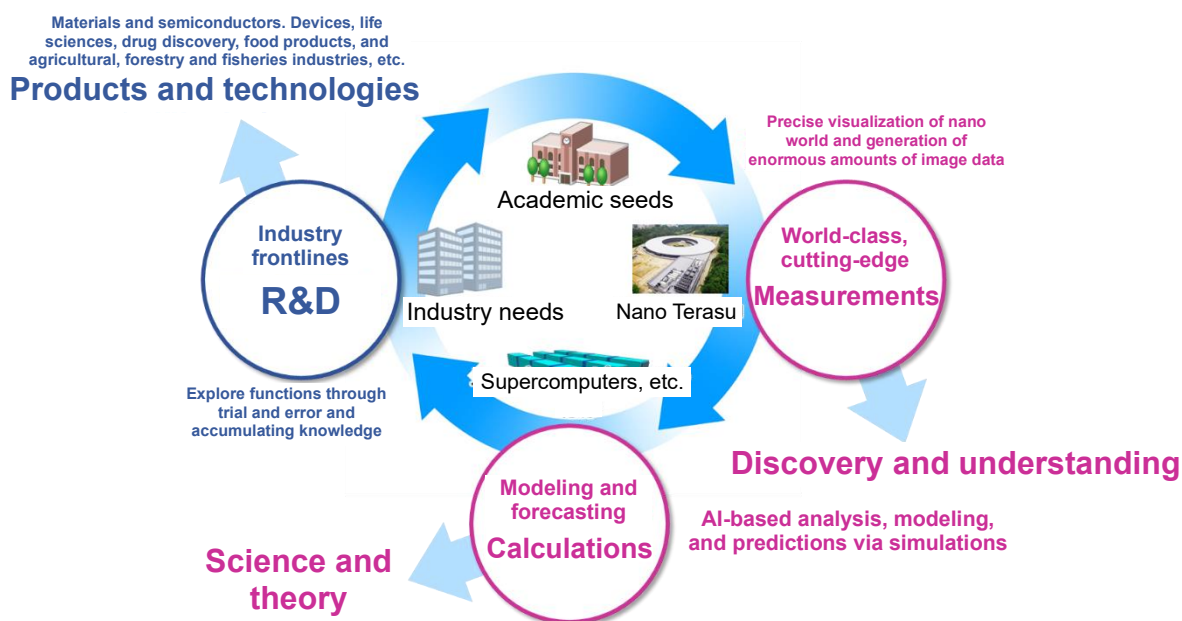
(3) Aobayama Universe (began operations on April 1, 2024)

With aim of R&D DX, which the university is promoting, the Research Center for Green X-Tech (center director: Tomonaga Okabe, Professor, Graduate School of Engineering), which conducts various research for the realization of a sustainable society, and the Space Business Frontier Research Center (center director: Kazuya Yoshida, Professor, Graduate School of Engineering), which establishes clean rooms for production and testing of small satellites and conducts timely development, have been established and NanoTerasu can be utilized as well, as private companies engaged in joint research with the university and startup companies come to occupy the facilities.



【About R&D DX】

Through R&D DX, which analyzes and models the data measured by NanoTerasu and which conducts measurements and combines calculations even for simulations, it serves as a co-creation platform for accelerating R&D in semiconductors, drug discovery, food products and many other industries.



■ Partnership between Tohoku University and Mitsui Fudosan to realize the Science Park Concept

Tohoku University, which is promoting the societal application of cutting-edge technologies and working to solve social issues and create new social value, and Mitsui Fudosan, which has contributed to innovation creation by providing places and communities, entered into a long-term partnership to realize the Science Park Concept. The following summarizes what is being promoted by both institutions.

1. Collect feedback from companies taking on the challenge of developing cutting-edge technologies and consider the ideal form of co-creation space, Science Park first and foremost

Through collaboration by both parties, diverse and detailed feedback will be collected specific to R&D divisions from companies doing joint research with Tohoku University, companies that use NanoTerasu, startup companies, and a broad range of companies involved in developing cutting-edge technologies, and a specific ideal form of co-creation space will be considered, including necessary functions for Science Park and the type of community needed.

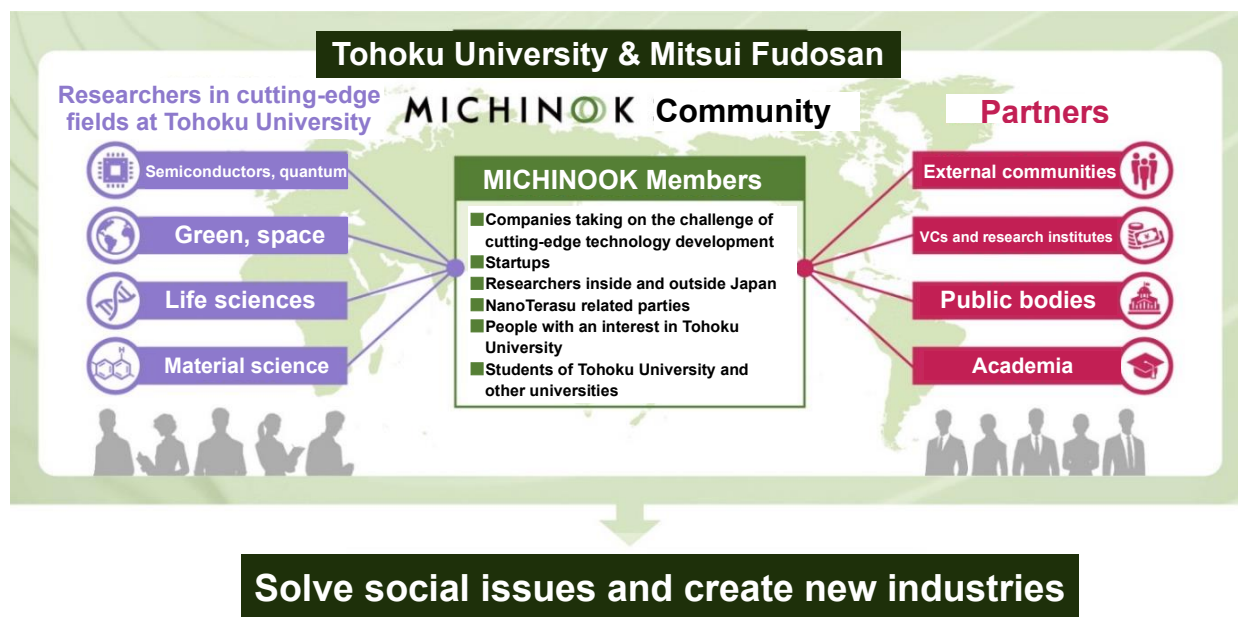
2. Promote co-creation in multiple academic areas and form a community that generates innovation

In multiple academic areas that are the strength of Tohoku University, multiple stakeholders both inside and outside Japan will be called upon to expand the community, accelerate co-creation, and, further, to interact and partner beyond academic demarcations. A community will be formed and administered that generates innovation through industry-academia partnerships in a way not limited to networking between universities and companies, etc.

This partnership will continue for the long term, and with Tohoku University and Mitsui Fudosan working together to expand the community and promote the Science Park Concept, the aim is for cutting-edge technologies to be applied in society through industry-academia partnerships, to create innovation and to solve social issues and create new industries.

■ About the MICHINOOK membership organization

Tohoku University and Mitsui Fudosan will create and administer the MICHINOOK Community, a new membership organization that gathers diverse players from inside and outside Japan to conduct co-creation with existing academic communities.



Feature (1) Interdisciplinary community starting with semiconductors/quantum, green/space, the life sciences, and materials science

This community will not be limited to a single academic discipline; it will be made up of multiple disciplines in which the university has world-class researchers and a world-class research environment, specifically, semiconductors/quantum, green/space, life sciences, and materials science. Interactions and partnerships will be promoted between the university and companies in each discipline. Along with initiatives to create innovation, co-creation activities will be promoted that go beyond the demarcations of multiple academic disciplines. The academic areas targeted by the program will be gradually expanded going forward.

Feature (2) Promote innovation creation by combining open exchange opportunities and closed exchange opportunities

By appropriately combining open exchange opportunities, where information is widely shared, such as the latest research trends and examples of successful social applications, and closed exchange opportunities, where co-creation is conducted with limited members based on the needs of each company, an environment will be provided that allows for innovation to be created while taking into account the competitiveness of companies.

【Services for Members】

Service (1) Provided opportunities for interactions and partnerships

Throughout the year, seminars will be held introducing the latest research trends in each discipline, the life sciences, semiconductors, and space, and symposiums will be conducted across disciplines. Open exchange opportunities will be provided with researchers in various fields at Tohoku University and between companies taking on the challenge of developing cutting-edge technologies. For paying members, there will be gatherings for paying members only, matching opportunities with researchers and students based on companies' individual needs, and matching opportunities between member companies, as closed exchange opportunities will also be provided.

Service (2) Information provided on Tohoku University

Various programs and events provided to companies by Tohoku University and information such as researcher profiles will be regularly provided to members and an environment is being prepared that will allow access to intellectual property and library data possessed by Tohoku University.

Service (3) Information provided via member companies

Information on events and symposiums conducted by member companies can be provided through the community's media and events. By making the initiatives of member companies widely known and communicating information to local companies as well, co-creation activities will be promoted that have from a local to global field of view.

Service (4) Providing places at Tohoku University

Taking all of the campus of Tohoku University as the field, co-creation activities will be promoted between member companies and the university and between member companies, so member companies will be given access to such places as various meeting rooms, community spaces, work spaces, and affiliated libraries.

【Membership Program】

Services needed by companies engaged in developing cutting-edge technology development will be provided and to ensure broad participation in the community by many members, Special Members A and B will be pay an entry fee and annual membership dues while individual members and student members will have no entry fees or annual dues.

Types of Members	Target	Entry fee and annual dues	Usable services				Schedule
			Networking events	Information provided by Tohoku University	Information provided by member companies	Places provided	
Special Member A	Companies with 301 or more employees	Fee payable (*)	●	●	●	●	Registration begins in August 2024 (planned)
Special Member B	(1) Companies with 300 or fewer employees (2) Non-profit organizations, etc.	Fee payable (*)	●	●	●	●	
Individual Member	Individuals affiliated with a company, etc.	Free of charge	● (partial)	● (partial)	—	—	Registration begins in August 2024 (planned)
Student Member	Students of Tohoku University and other universities	Free of charge	● (partial)	● (partial)	—	—	

*Details on entry fees and annual dues for Special Members A and B will be provided as soon as they are decided.

【Partnerships】

Life Science Innovation Network Japan (hereafter, “LINK-J”) and cross U, organizations established by Mitsui Fudosan with various members of industry, financial institutions, venture capital, public bodies, and academia, will promote activities thorough partnerships with various companies and groups. Gradually increasing partners is expected to expand the co-creation space to a global scale.

<Partnerships (planned)>

Communities outside the university	LINK-J, cross U, etc.
Financial institutions and venture capital	The 77 Bank, Sumitomo Mitsui Trust Bank, Tohoku University Venture Partners, etc.
Public bodies	Miyagi Prefectures, Sendai City, etc.
Academia and academic research institutes	Overseas academic exchange partner schools, universities and academic research institutes inside and outside Japan

<About LINK-J and cross U>

LINK-J is a general incorporated association established by Mitsui Fudosan and willing industry and academia partners. It promotes open innovation through industry-government-academia partnerships, and by lending vitality to communities it seeks to support new industry creation.

It has partnered with well-known groups and universities overseas, including the University of California San Diego and BIOCOM, and will promote personnel and technology exchange inside and outside Japan and across field boundaries in the highly interdisciplinary life sciences, an area that includes medicine, science and engineering, and new technologies like ICT and artificial intelligence. LINK-J currently has 810 members (as of March 2024) and in 2023, the group and special members held 1,142 events.



cross U is a space business co-creation platform established in September 2022 aimed at invigorating the space industry primarily involving players in the space business and Mitsui Fudosan.

A partnership agreement has been entered into with Japan Aerospace Exploration Agency (JAXA) and support is received for activities. Joint events are also held with the National Center for Space Studies (CNES) and NASA's Ames Research Center (NASA Ames)

In the MICHINOOK community, with community activities being promoted on the theme of space, it will consider partnering with NIHONBASHI SPACE WEEK, a space business event, among the largest in Asia, that is held by cross U.

NIHONBASHI SPACE WEEK



【Message of Support】

Michael Spence, President & Provost, University College London (UCL)

I was deeply impressed with Tohoku University's vision for solving global problems through close collaboration between industry and society and not only through academic partnerships. Going forward, I heartily look forward to seeing MICHINOOK develop into a world-class research environment, draw people involved from inside and outside Japan and be a place that creates many new industries.

Mark Lundstrom, Chief Semiconductor Officer, Purdue University

I believe MICHINOOK will gather together stakeholders from around the world, industry, academia, government, and the private sector in one place and develop the Green Vision, a vision for the future of Fukushima and Tohoku. In addition, I expect an innovation ecosystem to be formed in which academic communities assemble and diverse sectors overcome conventional area boundaries.

Audry Tang, Digital Minister, Taiwan

New technology development at Tohoku University is a strong step forward to opening a new road to sustainable solutions and expresses the stance of leaving no one behind. I highly commend Tohoku University's exemplary commitment to exploring the depths of the unknown. Let's further strengthen innovative, co-creative research results and liberate the future together.

【Messages from the Presidents】

Teiji Tominaga, President, Tohoku University

The Tohoku University Science City Concept, MICHINOOK, has gotten off to a full-fledged start, and we are aiming to build a co-creation space with many companies and others. Through this, we hope to create the global cutting-edge and present solutions to social issues that can contribute to humanity. To realize this, we are partnering with Mitsui Fudosan, which has an extensive track record and knowledge, as we aim to be a general research university that leads the world. Keep your expectations for us high.



Takahashi Ueda, President, Mitsui Fudosan

Now in Japan, there are great expectations for innovation produced by industry-academia partnerships in cutting-edge technology fields. There are signs deflation is ending and we are also at a historical turning point from the “lost 30 years”. At this timing, I believe it is a matter of fate that we are able to promote the Tohoku University Science Park Concept together, an initiative that symbolizes industry-academia collaboration. There is much to expect going forward for this partnership between Tohoku University and Mitsui Fudosan.



***1 NanoTerasu next-generation synchrotron radiation facility.** Official name: 3GeV synchrotron radiation facility. Nickname: NanoTerasu. A world-class, cutting-edge, large-scale research facility, it is capable of observing the nano world of one billionth of one meter.

***2 Spintronics:** Research and technology that simultaneously utilizes two characteristics of electrons, their electric charge and their spin. The application of spintronics is expected to realize electronics with higher function and lower power consumption than before.

【About Tohoku University】

Since its founding, Tohoku University has put forth the principles of “Research First,” “Open Doors” and “Practice Oriented Research and Education.” It has produced talented human resources, and its world-class research results has made it a leader in innovation for society’s future. It has entered into academic exchange agreements with 241 universities around the world, including University College London and Purdue University, so it possesses a broad global network. As a university in and with society, based on comprehensive knowledge that combines knowledge from the humanities, social sciences, and natural sciences, the school aims to solve social issues and create new social value to realize a sustainable society and is promoting the application of cutting-edge research in society.

【About Mitsui Fudosan】

As a platformer that provides places and communities during the current paradigm shift in society and the economy, Mitsui Fudosan has contributed to the creation of new industry by mobilizing the wisdom of companies, society and the people that make them up. In addition, since 2020, the company has established a dedicated department for industry-academia partnerships and has taken on the challenge itself of creating innovation. Under the new Group long-term vision formulated in April 2024, exploring new domains that transcend those of real estate has been put forward as one of its business strategies, and it established the new Innovation Promoting Division to further promote initiatives through industry-academia partnerships.

■Sustainability in the Mitsi Fudosan Group

Based on the meaning of its “& mark,” “to generate new value with society through cooperation, coexistence and co-creation, we forge ahead, innovating,” the Mitsui Fudosan Group views the “creation of social value” and the “creation of economic value” as two wheels of a cart. Accordingly, we believe that the creation of social value leads to the creation of economic value, and that this economic value then creates even greater social value.

Moreover, we identified six Group Materiality priority issues when formulating our new management philosophy in April 2024. These Group Materiality priority issues are (1) Contribute to industrial competitiveness, (2) Coexist with the environment, (3) Health and Vitality, (4) Safety and security, (5) Diversity and inclusion, and (6) Compliance and governance. The Mitsui Fudosan Group will work to address each of the materialities through its core business activities and contribute to the promotion of sustainability.

(References)

・ Group Management Philosophy and Long-Term Vision

<https://www.mitsuifudosan.co.jp/english/corporate/innovation2030/>

・ Group Materiality

https://www.mitsuifudosan.co.jp/english/esg_csr/approach/materiality/

* The initiatives outlined in this release are designed to help address the following three Sustainable Development Goals (SDGs).

