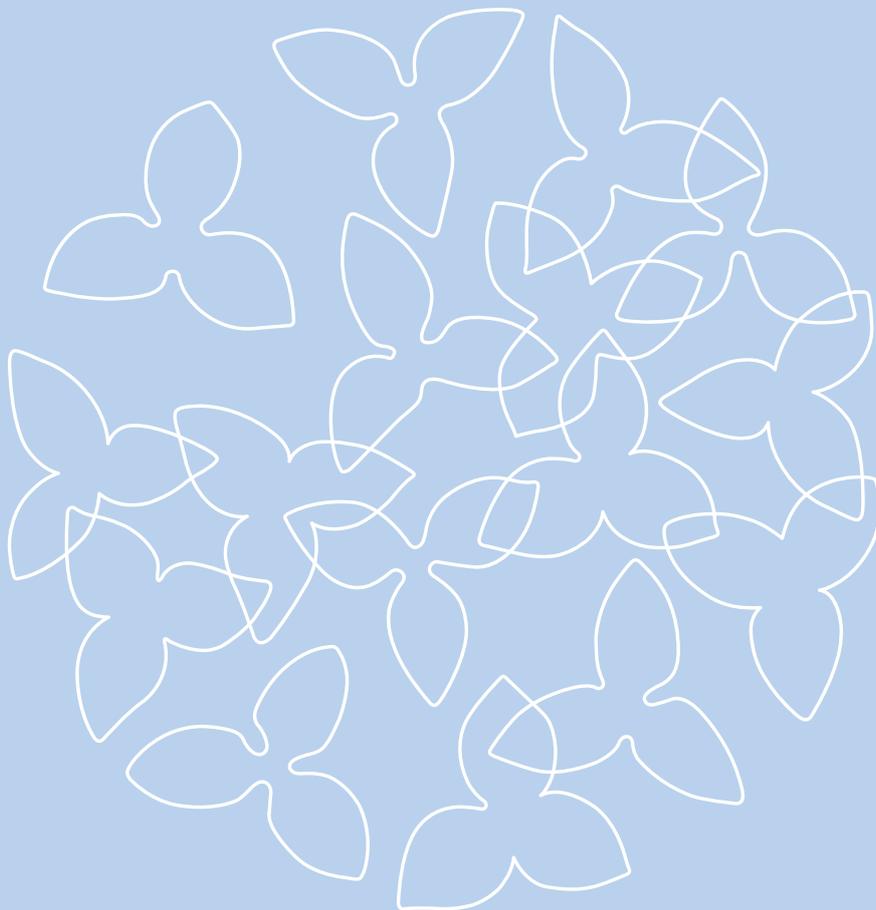




Hokkaido University Integrated Report

2023

(Abridged version in English)





HOUKIN Kiyohiro

20th President of Hokkaido University

Born in Sapporo in 1954. Doctor of Medicine. Dr. Houkin graduated from the Hokkaido University School of Medicine in 1979, and has worked as neurosurgeon at Hokkaido University Hospital and at private hospitals. He was appointed the Director of Hokkaido University Hospital in 2013, and has been serving in his current position since October 2020.

Toward a New Japanese University Model HU VISION 2030 as a Survival Strategy

HU VISION 2030

We announced the HU VISION 2030 in July 2023. It is our vision for Hokkaido University for the year 2030, and is structured in three tiers: (1) the society Hokkaido University aspires to realize, (2) the appropriate new Japanese university model for it (“Novel Japan University Model”), and (3) eight visions and 47 action plans intended to realize this model university. The following is an explanation of (2), the Novel Japan University Model we are pursuing.

Hokkaido University’s New Vision as a Japanese University Novel Japan University Model

In the HU VISION 2030, we aim to be a university with an autonomous structure that creates significant social impacts by strengthening ties with international and local communities and engaging in social co-creation with our educational and research resources. We call this the Novel Japan University Model. Importantly, it is impossible to realize this model with the current state of universities.

Strengthening ties with international and local communities is a major trend among universities these days, and some may criticize the Novel Japan University Model as not being very different from the traditional image of a university. To dispel this misconception and to realize the Novel Japan University Model at Hokkaido University, I would like to introduce some of the activities we have been promoting over the past two years.

Enhancing Research Capability, Advanced Human Resource Development Capability, and Comprehensive Knowledge Creation

The essential value that society expects of a university is scientific and technological research, advanced human resources development, and comprehensive knowledge, which are the products and driving forces of the university ecosystem. These unique “products” of a university cannot be created by any other social organization.

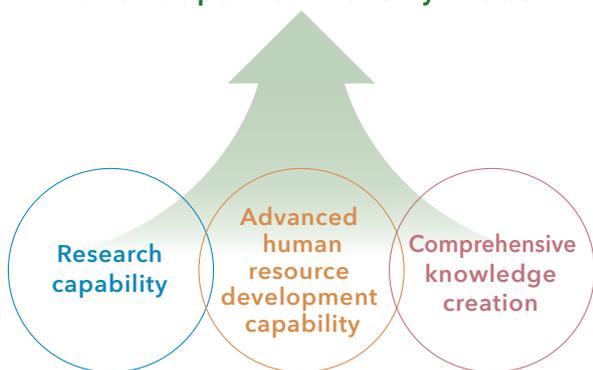
In the HU VISION 2030, we call innovative science and technology, as well as the top 10% academic papers, produced as a result of research capability, “excellence.” Many specific examples of Hokkaido University’s excellence



can be found in this Integrated Report.

Regarding international collaboration, we have formulated a global strategy for 2040 and decided to focus our resources on collaboration with strong Strategic International Partnership (SIP) universities to create highly effective international collaborations. We also believe that internationalization is not a mere additional university function, but that it is a fundamental strategy to improve our research capabilities. Another example of collaboration is the Hokkaido University Alliance, a cooperative organization of universities intended to create synergies in education, research, and social co-creation among the many universities in Hokkaido. The Hokkaido University Alliance exceeds the boundaries of conventional Japanese university alliances since it structurally creates significant synergies through the autonomous collaboration of eight universities and other organizations in Hokkaido (the founding members are national university corporations). Hokkaido University has therefore invested its own financial resources to strengthen the position of University Research Administrator (URA) and promote substantial collaboration among universities in Hokkaido in the fields of education, research, and social co-creation. This university collaboration is another important element of the Novel Japan University Model.

Novel Japan University Model



Strengthening Our Capability to Collaborate with Society

Over the past two years, we have restructured and strengthened our organization to actively advance co-creation with local and international communities. We have established the Department of Public Engagement and plan to create a position called “Local Research Administrator (LRA)” to provide a strong connection between local governments and universities in the region. These efforts are

expected to strengthen the system to actively promote the COI-NEXT project and the Vision for Digital Garden City Nation project, which have already been implemented to contribute to the resolution of regional issues. In the future, the foundation will be laid to not only realize these projects, but also to undertake and advance even more social cooperation projects.

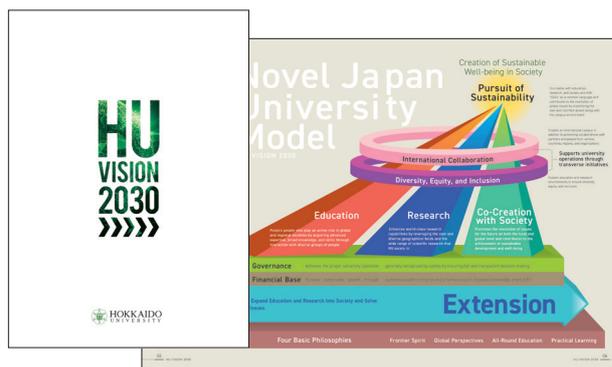
This is a significant, positive departure from the traditional university function, and will greatly strengthen the role of a university as a “social organization” that can be placed on the same level as local governments and businesses. The purpose of strengthening this capacity to collaborate with society is to secure the necessary self-financing resources and to build an ecosystem that will create a virtuous cycle of university reform. We call this mechanism “social development capability” or “extension.”

HU VISION 2030 as a Survival Strategy

HU VISION 2030 is a strategy to ensure that Hokkaido University continues to be an indispensable part of society.

We believe this cannot be achieved without the Novel Japan University Model, a new university model that will create a virtuous cycle of growth in both excellence and extension. It is essential to strategically strengthen research capabilities, dramatically enhance social collaboration, and boldly reform university governance and rigid financial systems. The approach to these fundamental issues is the core of the Novel Japan University Model, and we are resolved to fulfill our accountability in various ways in the future.

The HU VISION 2030 is a major engine of development. Simultaneously, given the current severe situation universities face, it is also a compass for their survival, as “without development, there is no survival.” The Integrated Report 2023 is the first report of Hokkaido University’s efforts to realize the Novel Japan University Model by 2030, seven years from now.



Value Creation Process at Hokkaido University

Society (local and global)

Ecosystem that Creates a

Hokkaido University

Management resources Capital as sources of value creation

History

- 150-year history
- Accumulation of knowledge as a national university

Climate

- Practical learning in the vast milieu of Hokkaido
- The world's largest research forests and marine research

Academic knowledge

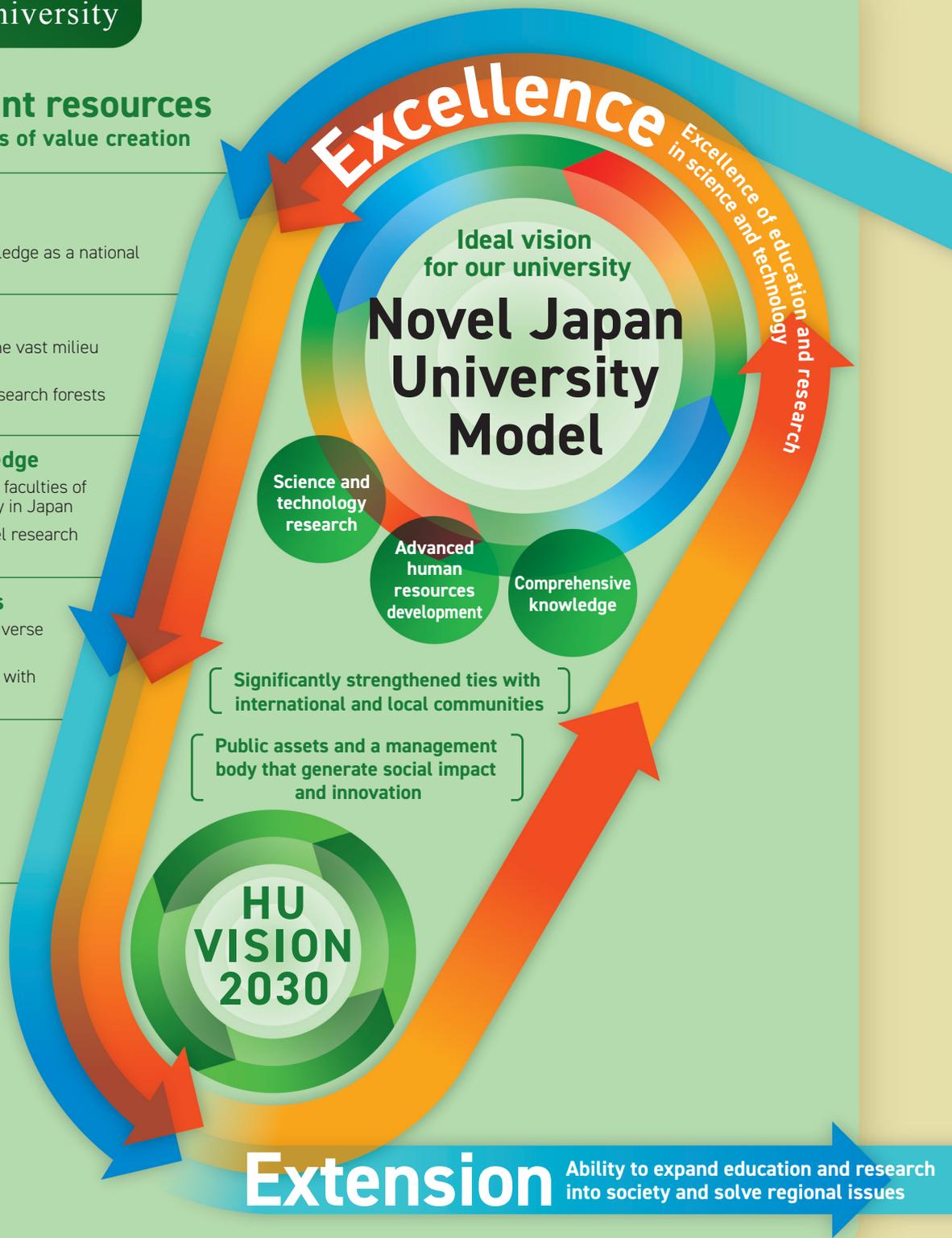
- The largest number of faculties of any national university in Japan
- Leading-edge, top-level research and education

Human resources

- Unique ideas from a diverse range of personnel
- International activities with broad perspectives

Setting

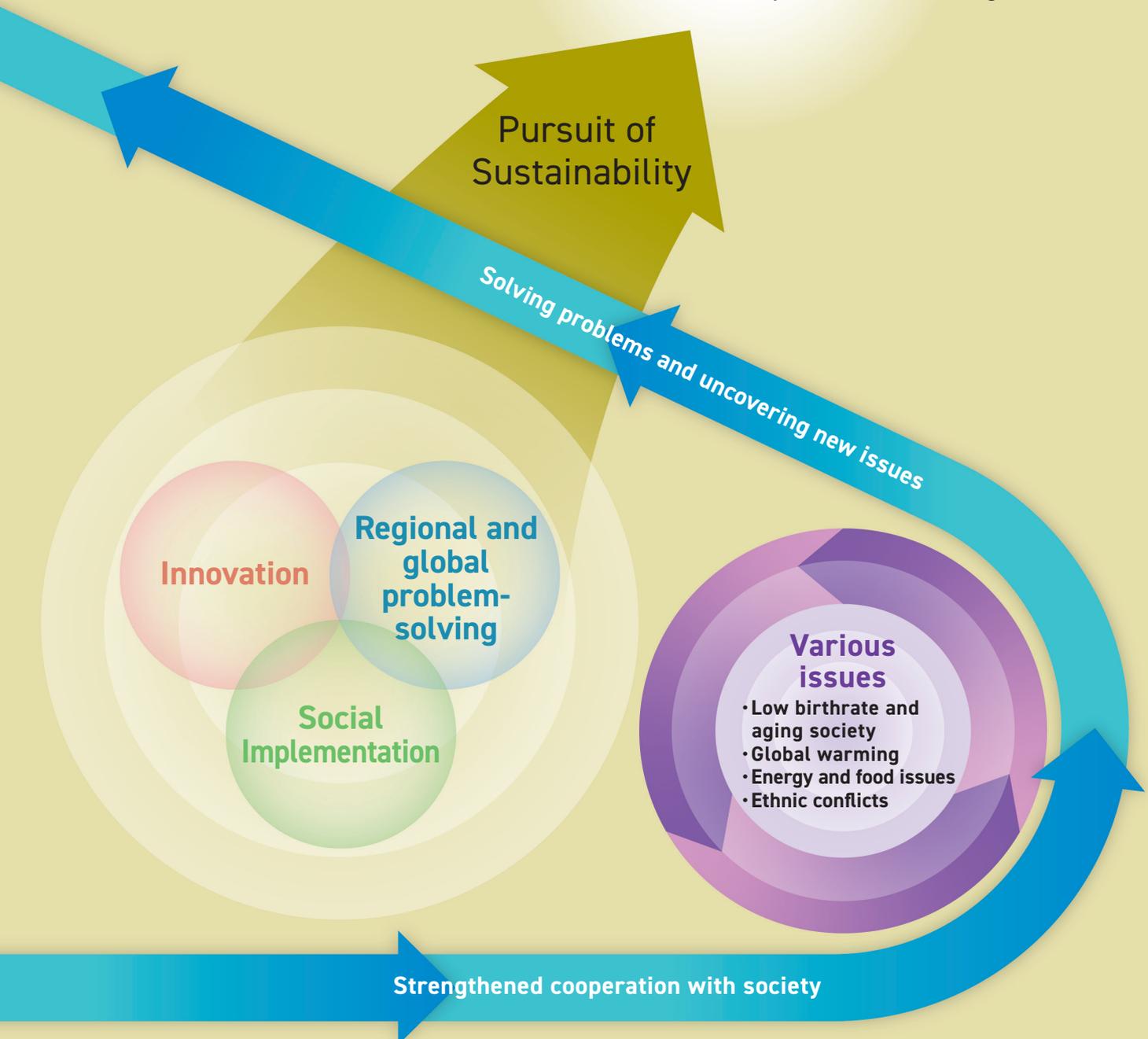
- Formation of an international campus
- Development of an interdisciplinary research environment



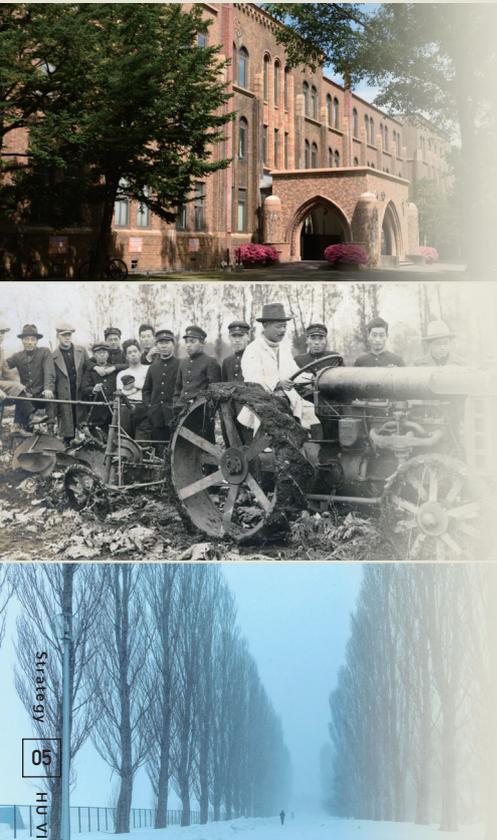
Virtuous Circle of University Reform

Creation of Sustainable Well-being in Society

shaped by education, research, and social co-creation related to the earth, society, and human beings



HU VISION 2030



HU VISION 2030 »»»»»



photo by Hiroki Ito (GEOGRAMS)

Toward our Novel Japan University Model, a Medium-term Vision for the Creation of a Virtuous Circle and Ecosystem of Excellence and Extension

Since it opened in 1876 as Sapporo Agricultural College, Hokkaido University has focused on fostering human resources who will contribute to the development of Hokkaido and spread their wings across the world. Building on the spirit of Dr. W.S. Clark, the University has continued to lead the world as one of Japan's core universities, and will celebrate the memorable 150th anniversary of its founding in 2026. In 2014, "Future Strategy for the 150th Anniversary of Hokkaido University" was established. It presents specific reform strategies for the University to reach by 2026. In 2023, the University formulated HU VISION 2030, a medium-term vision for Hokkaido University to reach by 2030. It is the manifestation of the University's strong will and concrete strategy to continue to contribute to solving regional and global issues through innovation, using two engines: "Excellence" of education and research in the fields of science and technology, and "Extension", the ability to extend education and research into society and solve regional issues.



Eight Visions that Define Specific Principles

HU VISION 2030



»»01 Education

Hokkaido University fosters human resources who play an active role in global and regional societies by acquiring advanced expertise based on cutting-edge research and broad knowledge and skills necessary to co-create a diverse future society, including Society 5.0, through interaction with a diverse group of people in a rich natural environment.

HU VISION 2030



»»02 Research

Hokkaido University further enhances its world-class research capabilities through innovation and resolution of issues by leveraging the vast and diverse geographical fields and a wide range of scientific research that it excels.

HU VISION 2030



»»03 Co-Creation with Society

Hokkaido University promotes the creation of research results, social implementation, and the resolution of issues for the future of the region and the world through co-creation with society and contributes to the achievement of sustainable development and well-being.

HU VISION 2030



»»04 International Collaboration

Hokkaido University creates an international campus where students, researchers, faculty, and staff of diverse backgrounds thrive and contribute to solving global issues in partnership and collaboration with people from various countries, regions, and organizations to lead a sustainable and prosperous society of the future.

HU VISION 2030



»»05 Diversity, Equity, and Inclusion

To ensure diversity, equity, and inclusion at Hokkaido University, the university fosters its education and research environment, contributes to the development of human resources, and strives to fulfill the Hokkaido University Diversity Statement.

HU VISION 2030



»»06 Governance

Hokkaido University ensures fair and transparent decision-making through the separation of duties and strong collaboration of the executive board that supports the President's leadership. The university establishes the foundation on which all university members create values with pride, hope, and a sense of fulfillment and realizes university operation broadly recognized by society.

HU VISION 2030



»»07 Financial Base

Hokkaido University pursues sustainable growth through self-sustained administration and a “virtuous cycle of human resources, knowledge, and funds” by expanding its diverse and robust financial resources.

HU VISION 2030



»»08 Pursuit of Sustainability

Hokkaido University leads the social transformation to realize a sustainable society through education, research, and co-creation with society by maximizing its physical and intellectual assets developed on the campus environment with vast and rich fields.

Study and Think Together in the World and in the Community



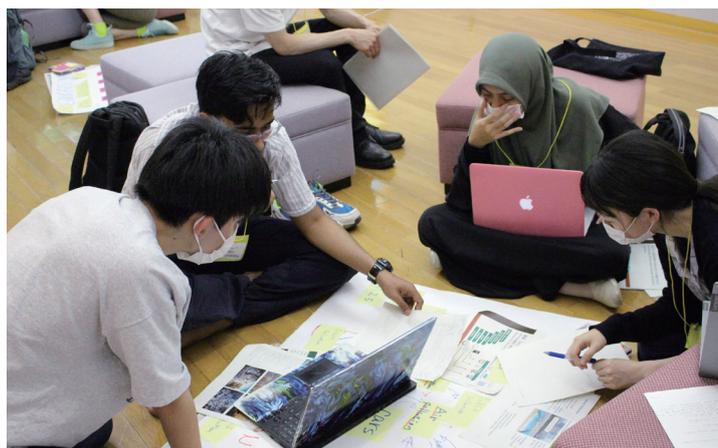
OGGs Program to Consider and Study Sustainability with Students from Overseas Partner Universities

One program for Global Goals (OGGs) is an international collaborative study program for graduate students established in April 2022 with the aim of developing human resources who can contribute to the realization of a sustainable society. Taking advantage of the Hokkaido University's assets in field research and overseas networking, this program is characterized by its cross-disciplinary nature, with faculty members from diverse areas of expertise and students with varied interests.

The OGGs program, which emphasizes field study, has two tiers: the Basic Program, which includes short-term overseas field studies, and the Advanced Program, which enables students to enhance specialization through mid- to long-term study abroad.

In AY 2022, OGGs offered 20 courses of the international collaborative study curriculum. These included overseas field study in Thailand,

Finland, and India, as well as group working in Hokkaido. A total of 366 students from 21 countries took the OGGs program courses.



Multicultural understanding and international communication skills enhancement through Active Learning in international collaborative study program.

OGGs

<https://oggs.oia.hokudai.ac.jp/en>



HU Students Give a Class at Kamisatsunai Elementary School to Imagine the Future of the Region with Elementary School Students.



The workshop was alive with opinions offered one after another.

Nakasatsunai Village Kamisatsunai Elementary School in the Tokachi region is participating in the University's Regional Future Society SOUZOU Project – From Imagination to Creation project (a joint project with elementary schools in Hokkaido). Through this project, a wide range of initiatives are jointly developed to create opportunities for elementary school students to learn about the region together with graduate school doctoral students. As part of these initiatives, elementary school students and HU students collaborated on the theme of “Imagine Kamisatsunai 20 Years from Now.”

In February 2023, MIYAMOTO Atsushi, Specially-Appointed Associate Professor at the Institute for the Advancement of Higher Education, and students from the Graduate School of Agriculture gave a class at Kamisatsunai Elementary School. We plan to continue working with elementary, junior high and high schools in various regions to contribute to the local community through life education.



A Future Woven from the Threads of Tradition on this Campus, which is Rich in Nature

Hokkaido University Festival (Hokudai-sai), a Huge Event on Campus

The usual academic atmosphere on the Sapporo Campus is completely transformed during the three-day weekend in the first week of June every year. The 65th Hokkaido University Festival, a symbolic celebration of student life, was held without any effects of COVID-19 for the first time in four years in June 2023.

More than half of our students come from outside Hokkaido, and friendships are often forged through the festival.

The finale was the customary “Miyako zo Yayoi with a Cast of 10,000” chorus. First, the cheering squad sang the school song “Tokoshie no Sachi,” then all the gathered students, alumni and faculty members sang the dormitory song “Miyako zo Yayoi.” We hope that this will remain in the hearts of the students, not as the end of the festival, but as a song of encouragement and support for the beginning of everlasting friendships.

Photo courtesy (2 photos of Hokkaido University Festival): Like Hokudai



The school and dormitory song banners are lowered in the school building, and a large chorus responds to the call of the cheering squad.



Many booths line the main street of the campus.

Hokkaido University Otsuka Award for Outstanding Female Students Pursuing a Career in Research

The Hokkaido University Otsuka Award is an incentive program for female students who have completed a doctoral course at a graduate school within the concerned academic year and who aim to become researchers. The award was established in 2005 to honor female students who are enthusiastic about their studies and research, as part of the University’s gender equality program, in view of the small percentage of female researchers.

The Otsuka Award, which embodies both the development of outstanding young researchers and the cultivation of internationally-minded individuals who can play an active role in the world, has been presented to a number of female students. The 2022 recipients will not only live

up to Professor Otsuka’s name, but will also continue to be active in various fields as young researchers in search of unchanging truth.



Commemorative photo taken at the award ceremony in March 2023. Professor Emeritus Otsuka is third from the right in the front row.

Promotion of Research Contributing to the Development and Production of Vaccines from Japan for Infectious Diseases

World-class R&D Center for Vaccine Development



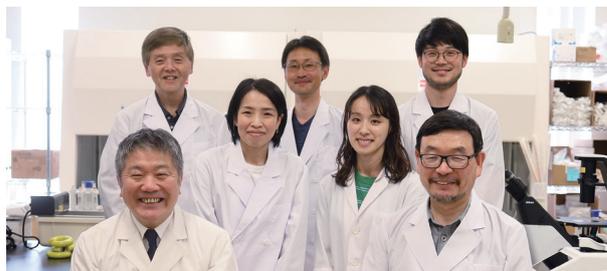
The Institute for Vaccine Research and Development (IVReD) was established at

the University's Creative Research Institution in October 2022, as one of the synergy centers under the project of Japan Initiative for World-leading Vaccine Research and Development Centers by the Strategic Center of Biomedical Advanced Vaccine Research and Development for Preparedness and Response (SCARDA) program of the Japan Agency for Medical Research and Development (AMED).

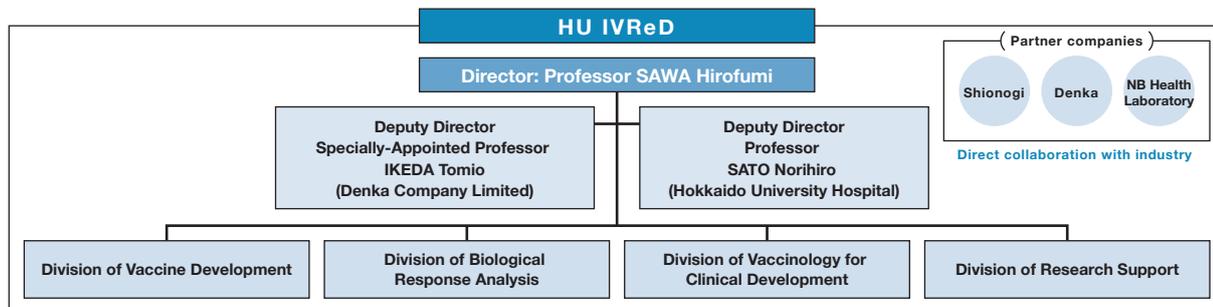
The IVReD has been established as an all-Hokkaido University cooperative system, involving Hokkaido University Hospital (a core hospital for clinical research), the Faculty of Medicine, the Faculty of Pharmaceutical Sciences, the Faculty of Veterinary Medicine, the Institute for Genetic Medicine, and the International Institute for Zoonosis Control. IVReD also collaborates with Denka Company Limited, Shionogi & Co., Ltd., and NB Health Laboratory Co., Ltd., as well as universities and research institutes in domestic and foreign countries, to contribute to the rapid development and provision of

domestically produced vaccines for the next pandemic.

The organizational structure consists of four divisions (the Division of Vaccine Development, the Division of Biological Response Analysis, the Division of Vaccinology for Clinical Development, and the Division of Research Support), following a plan to conduct research and development in five stages: (1) research on viruses and other pathogens, (2) structural biology research, (3) basic vaccine research, (4) core vaccine research, and (5) research related to evaluation systems, mainly targeting respiratory diseases such as influenza, COVID-19 and tuberculosis.



IVReD contributes to fostering young researchers and actively promotes the appointment of graduates of the Graduate School of Infectious Diseases' WISE Program (Doctoral Program for World-leading Innovative & Smart Education) for One Health Frontier as faculty members.





Establishment of a Pathogen Library and Promotion of Clinical Research

One of IVReD’s strengths is its collaboration with the International Institute for Zoonosis Control, for the establishment of a library and database of microorganisms that can cause infectious diseases in humans to further vaccine research and development.



SAWA Hirofumi
 IVReD Director
 Head, Division of Biological Response Analysis
 Distinguished Professor

Focus on Strengthening Cooperation among Divisions and Dissemination of Information

I oversee liaison, coordination, and information sharing between the divisions, and with domestic and overseas partners. Since 2005, I have been a member of the Research Center for Zoonosis Control (today’s International Institute for Zoonosis Control), where I have networked with researchers in various fields. In addition to collaboration, I would like to actively work on the dissemination of information to the outside world.



SUZUKI Yasuhiko
 Head, Division of Research Support
 Distinguished Professor
 International Institute for Zoonosis Control

IVReD
<https://www.ivred.hokudai.ac.jp/en/>



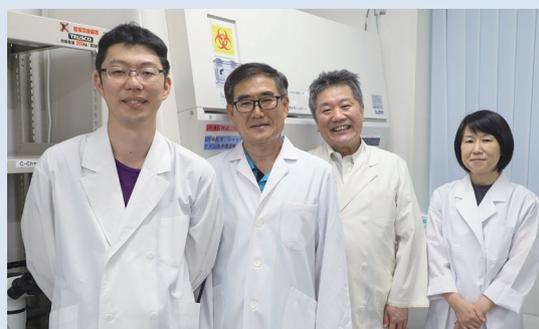
Development of Xocova® — Japan’s First Domestically Produced COVID-19 Treatment —

On November 22, 2022, the Ministry of Health, Labour and Welfare approved the manufacture and sale of Xocova® Tablets 125 mg for the treatment of COVID-19 under the emergency regulatory approval system (Article 14-2-2 of the Act on Pharmaceuticals and Medical Devices). Xocova® is a therapeutic agent discovered by a group led by Professor SAWA Hirofumi, then head of the Division of Molecular Pathobiology, International Institute for Zoonosis Control at the University, and Visiting Professor SATO Akihiko of Shionogi’s Division of Anti-Virus Drug Research, in collaboration with Shionogi & Co., Ltd.

As a result of more than 10 years of joint research on antiviral drugs and various emerging and reemerging infectious disease viruses, the University and Shionogi have developed this new product.

General distribution began on March 31, 2023, and the

product is being supplied to medical institutions and pharmacies nationwide, which is expected to help realize early treatment.



Anti-Virus Drug Development Research Team at the International Institute for Zoonosis Control
 From left: Lecturer SASAKI Michihito, Visiting Professor SATO Akihiko, Professor SAWA Hirofumi, Associate Professor OBA Yasuko



Experiment Farm as seen from the rooftop of the Smart Agriculture Education and Research Center

Research and Education Driving Smart Agriculture, a Pillar of Global Agriculture

**“Smart Agriculture Education and Research Center,”
where one can see, feel, and experience the future of agriculture**



NOGUCHI Noboru

Dean, Research Faculty
of Agriculture
Professor
Distinguished Professor



A control room from where up to four robotic farm machines can be operated at once. From here, it is possible to monitor fields in Iwamizawa City and Urausu Town in Hokkaido, as well as in Ishikawa and Kochi Prefectures, where remote agriculture has already been implemented.

The Smart Agriculture Education and Research Center was completed in February 2023 in a corner of the Experiment Farm of the Field Science Center for Northern Biosphere. It fully opened in the summer of 2023 and is equipped with a robot farm machine control room where visitors can observe cutting-edge remote agriculture, three laboratories for companies collaborating in joint research, and a hangar that robot farm machines can automatically enter and exit. Taking advantage of its easy accessibility near Sapporo Station and the adjacent 38-hectare farmland, the Center also features an open laboratory, demonstration fields, and demonstration exhibits. Its three main missions are education of students about, research and development in, and social awareness of smart agriculture. Professor NOGUCHI Noboru of the Research Faculty of

Agricultural Science has been conducting research on agricultural robotics for more than 30 years and is known as a leading researcher on smart agriculture. He says, “With communication equipment, it is possible to operate robot farm machines overseas. You can farm in Australia in summer when it is winter in Japan, or in Brazil during the day while it is night in Japan. I would like to contribute to the world’s food production by proposing a new concept: ‘Made by Japan’ rather than ‘Made in Japan,’ that is, agricultural production by Japanese technology.”

The Smart Agriculture Education and Research Center has been visited by many researchers and farmers from Japan and abroad, and various new technologies that will support smart agriculture of the future are attracting attention.



The Smart Agriculture Education and Research Center
The facility covers an area of 3,000 m².

Article on the opening ceremony of the Smart Agriculture Education and Research Center

<https://www.global.hokudai.ac.jp/blog/smart-agriculture-education-and-research-center-inaugurated/>



Japan's First and Only Smart Agriculture Education Hub

In FY 2022, the University's proposal was selected by the Ministry of Agriculture, Forestry and Fisheries as part of the Smart Agriculture Education Promotion Commission Project, and the University became the first smart agriculture education hub school in Japan.

The project included training of working farmers and teachers,

online courses, and the preparation of smart farm instruction materials. A wide range of outreach activities were also conducted, including farm tours for elementary school classes in Sapporo. Since the University's proposal has again been selected in FY 2023, the University will continue its approach of solving social issues and social implementation.

Let's Learn Agriculture and Baseball Together! KUBOTA AGRI FRONT Opens.

KUBOTA AGRI FRONT, an agricultural learning facility, opened in the Hokkaido Ball Park F Village in Kitahiroshima City on March 30, 2023. The facility was established by Kubota Corporation based on the tripartite cooperation agreement signed in October 2021 with the University and Fighters Sports & Entertainment Co., Ltd., and visitors can enjoy and learn about the appeal and possibilities of food and agriculture.

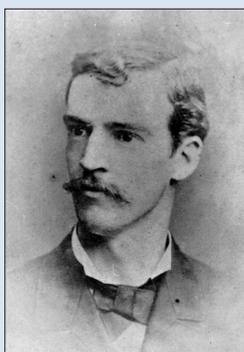


"KUBOTA AGURI FRONT" spells the cutting edge and frontline of food and agriculture.

Dining Room Named after a Sapporo Agricultural College Professor

In the new stadium ESCON FIELD HOKKAIDO there is a Penhallow Dining Room in the Hokkaido Nippon-Ham Fighters players' area (clubhouse).

It was named after David Pearce Penhallow, a foreign professor at the Sapporo Agricultural College, who first popularized baseball in Hokkaido, during the Meiji era.



D. P. Penhallow.



Penhallow Dining Room, where players can relax in a peaceful atmosphere

New Launch at the Data-Driven Interdisciplinary Research Emergence Department (D-RED) Taking on the Challenge of Innovation Creation

New Unit Launched by Female Professors Intended to Reform Lifestyles



HASEYAMA Miki

Vice President
D-RED Director
Head, Lifestyle Innovation Unit
Dean, Faculty of Information Science and Technology
Professor



At a regular press conference on April 18, 2023
From left: Professor OGAWA Mikako, Faculty of Pharmaceutical Sciences; Professor ISHIZUKA Mayumi, Faculty of Veterinary Medicine; Professor HASEYAMA Miki, Vice President, Dean, Faculty of Information Science and Technology, D-RED Director; Professor YANO Rika, Dean of the Faculty of Health Sciences; and Professor KUROIWA Asato, Faculty of Science; Professor HIDA Kyoko, Faculty of Dental Medicine.

The Data-Driven Interdisciplinary Research Emergence Department (D-RED), established in July 2022, is a hub that simultaneously promotes advanced interdisciplinary research and social implementation by making full use of data-driven science, which is one of the strengths of the University. The Lifestyle Innovation Unit, D-RED's first unit, was formed in March 2023 with the support of Nitori Holdings, Co., Ltd. Six female professors serve as participating members, and it is planned to increase their number.

Professor HASEYAMA Miki, D-RED Director and Head of the Unit, expressed her determination, saying, "We have created an unprecedented unit to change not only research but also lifestyles (way of life, outlook on life, values, and customs) at Hokkaido University, which is a treasure house of diversity. Innovation creation requires that we maintain diversity, collaboration, and integration. We would like to break down all barriers, including unconscious biases and bottlenecks, and create a forum for broad discussion with new perspectives."

Specific activities include holding Lifestyle Innovation Meetings (discussion forum) in collaboration with faculty, staff, and students on and off campus, as well as with businesses and local governments, to develop solutions for local issues. D-RED plans to hold symposiums and workshops about twice a year. The aim is to create innovation by incorporating the unique perspectives of female researchers active in diverse research fields.



Rendering of the D-RED facility (currently under construction and scheduled to be launched by the fall of 2023)

Cultivating New Perspectives on Human Nature at the Intersection of Diverse Knowledge

Interdisciplinary Research and Graduate Education on Human Nature



The Center for Human Nature, Artificial Intelligence, and Neuroscience (CHAIN) is envisioned as a central hub for interdisciplinary research and education at the intersection of three disciplines: the humanities and social sciences, neuroscience, and artificial intelligence (AI). It fosters cutting-edge interdisciplinary research and

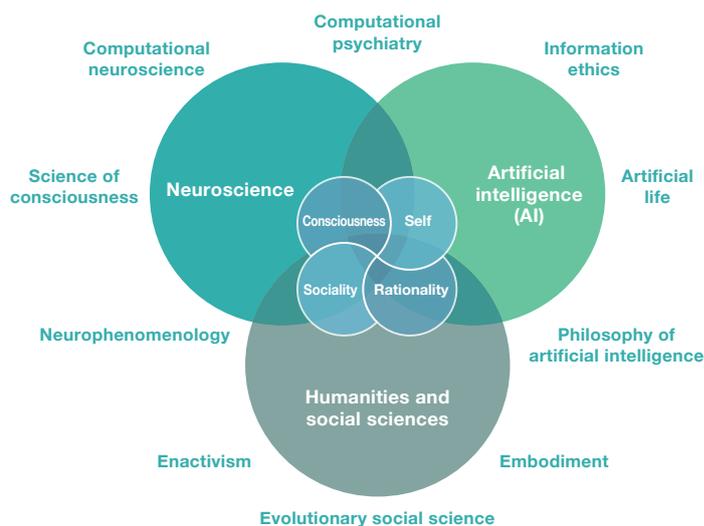
graduate education that seamlessly integrates insights from humanistic and naturalistic disciplines. For example, recent progress in neuroscience research on neural mechanisms and the development of artificial neural networks in AI have paved the way for novel approaches to age-old philosophical questions regarding the nature of consciousness and the self. Recognizing the profound interconnectedness between longstanding philosophical questions and

contemporary challenges in neuroscience and AI, CHAIN aims to cultivate fresh perspectives on human nature at the intersection of these diverse fields.

Focused on the four core themes of consciousness, self, sociality, and rationality, CHAIN pioneers groundbreaking research and education

that seamlessly merge the fields of humanities and social sciences, neuroscience, and AI. This would allow, for example, AI and neuroscience to illuminate the enigmatic depths of the human mind, while philosophical insights and psychological research can inspire novel avenues for AI development and neuroscientific research.

Educational programs	1. Program-Based Learning
	Learning basic knowledge and skills in areas outside one's own expertise through coursework.
	2. Platform Learning
	A summer school and winter school are held every year, with several leading researchers invited from Japan and abroad.
	3. Practical Learning
	Internships at laboratories in different fields both on and off campus, research studies at overseas laboratories, internships at partner companies.
Major research themes	1. Virtual Reality and Human Nature
	Cognitive psychology experiments using the latest technologies that enable first-person experiences such as virtual reality (VR) and augmented reality (AR).
	2. Mechanism of the Superposition of Self and Others
	Basic research of AI agents that superimpose themselves and others for their understanding.
	3. Ethics of Artificial Agents
An interdisciplinary research project that explores how humans and artificial agents should coexist by integrating perspectives from philosophy, ethics, artificial intelligence, artificial life, and psychology.	
4. Salience and Affordance	
	Exploration of salience (the phenomenon of something standing out) by an interdisciplinary group including philosophers, cognitive scientists, and psychiatrists.

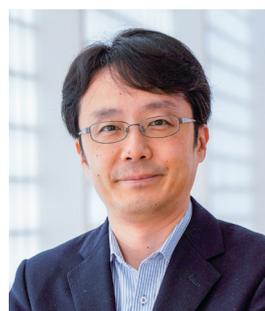


CHAIN
<https://www.chain.hokudai.ac.jp/en/>



Where Researchers from Diverse Fields Converge to Address the Turning Point of Human Civilization

CHAIN provides a well-equipped and inviting space for researchers and students to connect, share ideas, and engage in collaborative research. It also offers an education program that brings together students from multiple schools and disciplines. Furthermore, it provides ample opportunities for joint research with renowned researchers and companies both in Japan and across the globe. AI seems to have ushered in an unprecedented turning point in human civilization. To determine the shape of the future society and how to navigate this new world, it is imperative that we conduct research that involves a profound interaction between philosophical and ethical considerations and technological studies of AI.



TAGUCHI Shigeru
 CHAIN Director
 Professor
 Faculty of Humanities and Human Sciences

Charting the Course for Human-AI Co-existence

CHAIN's role as a hub for student engagement and interaction is paramount. I hope that students will seize this opportunity to cultivate the skills necessary for engaging in meaningful dialogues across traditional disciplinary boundaries. The relationship between AI and humans demands careful consideration by society at large. As AI continues to permeate our lives, we may need to reevaluate existing social institutions and norms. CHAIN can play a pivotal role in preparing for this transformative future by establishing a foundation of knowledge and concepts that can guide the development of responsible social guidelines for living together with AI.



MIYAHARA Katsunori
 Specially Appointed Lecturer,
 CHAIN

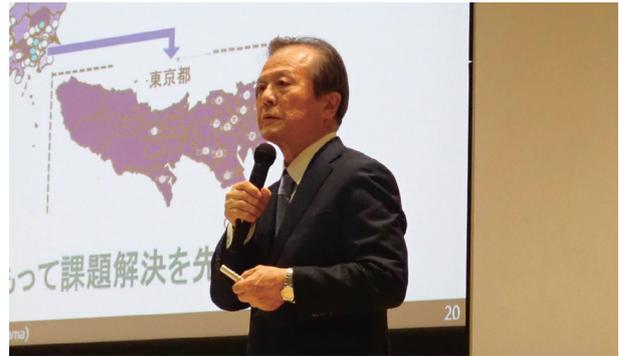
Initiatives of the Social and Regional Emergence Department to Solve Social Issues

Establishment of the Social and Regional Emergence Department and the First Hokkaido Emergence Conference to Explore Solutions for Regional Issues

The University established the Social and Regional Emergence Department within the Institute for the Promotion of Business-Regional Collaboration in April 2022 to promote regional collaboration and foster human resources who will participate in regional collaboration. It is a coordinating organization that promotes consortium-type open innovation through industry-academia-government co-creation by leveraging Hokkaido's strengths to solve all kinds of social issues, including the declining birthrate, aging population, industrial decline, and food crisis.

In April of the same year, the Hokkaido Emergence Conference was held for the first time as a forum for diverse stakeholders, including the University, the Ministry of Education, Culture, Sports, Science and Technology, the Hokkaido Government, local governments and private companies in Hokkaido, to exchange opinions on identifying and solving issues in Hokkaido. At the second Hokkaido Emergence

Conference in December of the same year, KOMIYAMA Hiroshi, the 28th President of the University of Tokyo (currently Chairman of Platinum Society Network), and HOUKIN Kiyohiro, President of Hokkaido University could debate various matters.



Chairman Komiyama speaks at the 2nd Hokkaido Emergence Conference.

Further Contribution to the Community through Strengthened Industry-Academia-Government Collaboration

Agreement on Collaboration and Cooperation with the City of Sapporo

The University and the City of Sapporo signed an Agreement on Collaboration and Cooperation in December 2022 with the aim of contributing to the resolution of regional and social issues through mutual cooperation and co-development by linking the University's knowledge and human resources to the City of Sapporo's urban planning efforts.

At the lecture meeting commemorating the signing of the agreement, there were lectures on topics like urban development, startup support, and medical care, while a discussion between President Houkin and Mayor Akimoto led to a lively exchange of opinions on a wide range of areas and initiatives on which they promote collaboration.



Lecture commemorating the signing of the agreement

Agreement on Collaboration and Cooperation with JAL for Regional Revitalization and Human Resource Development

The University and Japan Airlines Co., Ltd. ("JAL") signed an agreement in June 2022 under the theme of "Creating a Sustainable Society." Based on this agreement, the University with its educational and research functions, knowledge, and technology, and JAL, with its commitment to contribute to local communities with mid-term ESG strategy, now collaborate on such matters as global warming countermeasures, regional revitalization, and human resource development. Specific initiatives already underway include the consideration of joint research utilizing data collected with aircraft and the secondment of JAL employees to the University.



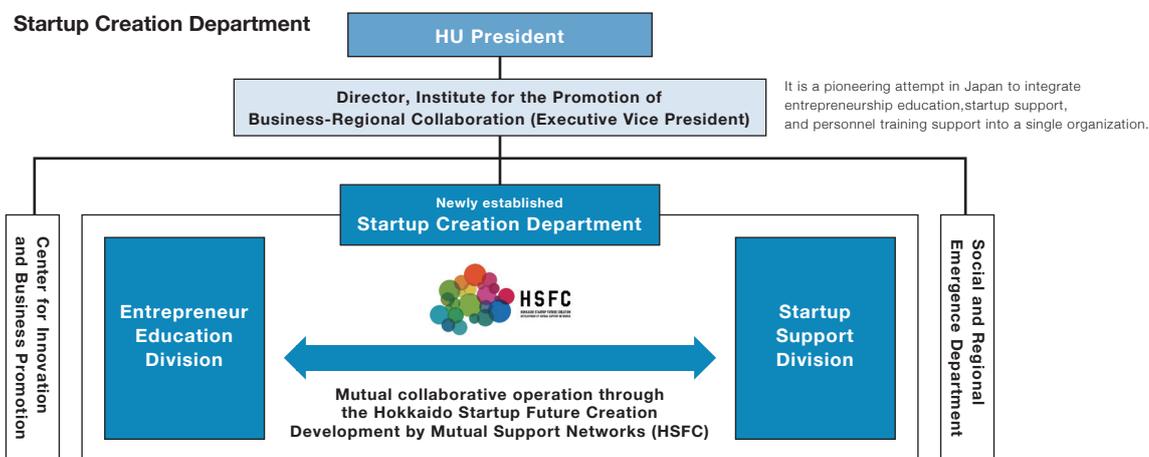
AKASAKA Yuji, President and Representative Director of JAL (right) and HOUKIN Kiyohiro, HU President

Supporting Startups from Hokkaido University to Establish Hokkaido as an Advanced Region for Solving Global Issues

Newly Established Startup Creation Department to Strengthen the Ability to Create University Startups

To strengthen the ability to create university-launched startup companies with a Hokkaido-wide perspective, the Startup Creation Department was newly established on April 1, 2023 inside the Institute for the Promotion of Business-Regional Collaboration. The Entrepreneur Education Division and the Startup Support Division were established within the Department to effectively identify

potential entrepreneurs while building a bridge to startup support. This organization is expected to create a favorable environment for the birth and growth of a diverse range of startup companies in Hokkaido, which will positively influence the inflow of skilled human resources and revitalization of the Hokkaido economy through the emergence of new industries and the creation of employment opportunities.



Hokkaido University Brand to Disseminate Our Research Results

A Series of Hokkaido University Brand Products Utilizing the Resources of Hokkaido University

The Field Science Center for Northern Biosphere owns a large area of farmland, experimental forests, and fish-culture experimental station, where various products (agricultural products, marine products, lumber, etc.) are produced through its daily research activities. In the past, these were only sold on campus or unfortunately disposed, but from the perspective of “SDG12. Responsible Consumption and Production,” we are promoting to commercialization for disseminating our university’s research results widely.

For example, we have various fruits produced at the Yoichi Experiment Farm, Hokudai Milk and vegetables produced at the Sapporo Campus Experimental Farm, Hokudai Shorthorn from the Shizunai Livestock Farm and Japanese huchen “ITOU” and cherry salmon farmed in aquaculture experiments at the Nanae Fresh-Water Station. A menu with these Hokkaido University special ingredients were served only on the Hokkaido University Homecoming Day in September 2022 as a valuable occasion for introducing our numerous “resources” more widely.



A breakfast dish by Keio Prelia Hotel Sapporo (Hokudai Shorthorn)



Leading a Sustainable and Prosperous Future Society through Cooperation and Collaboration with Various Countries, Regions, and Organizations

Hokkaido University
Global Vision 2040



Hokkaido University's International Strategy for 2040

In December 2021, Hokkaido University formulated “International Strategy of Hokkaido University Toward the Year 2040 – Global Vision 2040” to foster internationalization, which illustrates the strategic direction of the university for the medium- to long-term future until 2040.

International Strategy of Hokkaido University Toward the Year 2040 is available on the University's website:
<https://www.global.hokudai.ac.jp/about/international-strategy-of-hokkaido-university-toward-the-year-2040/>



Building Strategic Partnerships

HU VISION 2030 was developed in line with the direction of the International Strategy and includes a renewed commitment for exchanges with strategically desirable partner institutions.

By establishing strategic international partnerships, we aim to promote synergistic research and education with overseas universities with cutting-edge research achievements and build strong and mutually beneficial relationships that enable us to jointly acquire domestic and international external funding in the areas of collaborative research we engage in.

As of March 2023, the University had two strategic partner institutions, Seoul National University (South Korea) and the University of Melbourne (Australia).

In April 2023, the President visited the University of Massachusetts Amherst (U.S.A.), and the two universities agreed to further deepen collaboration as strategic partner institutions.



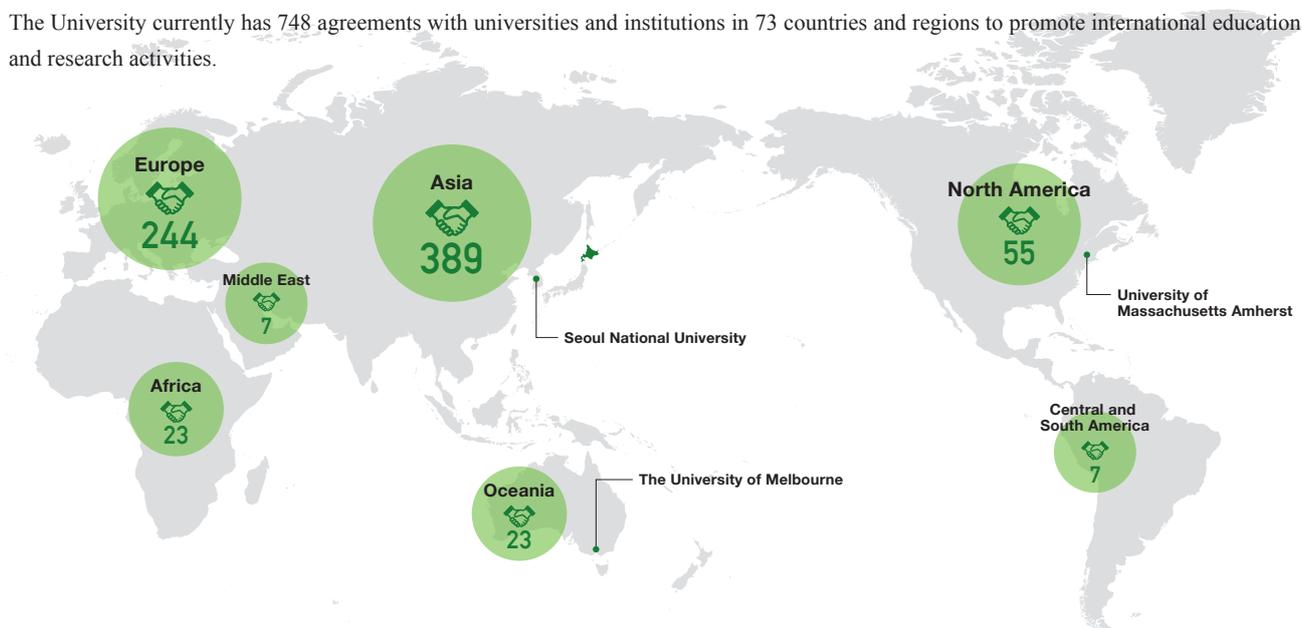
25th Joint Symposium with Seoul National University (November 2022)



President Houkin and Chancellor Kumble Subbaswamy of the University of Massachusetts Amherst

Partnerships with Overseas Universities

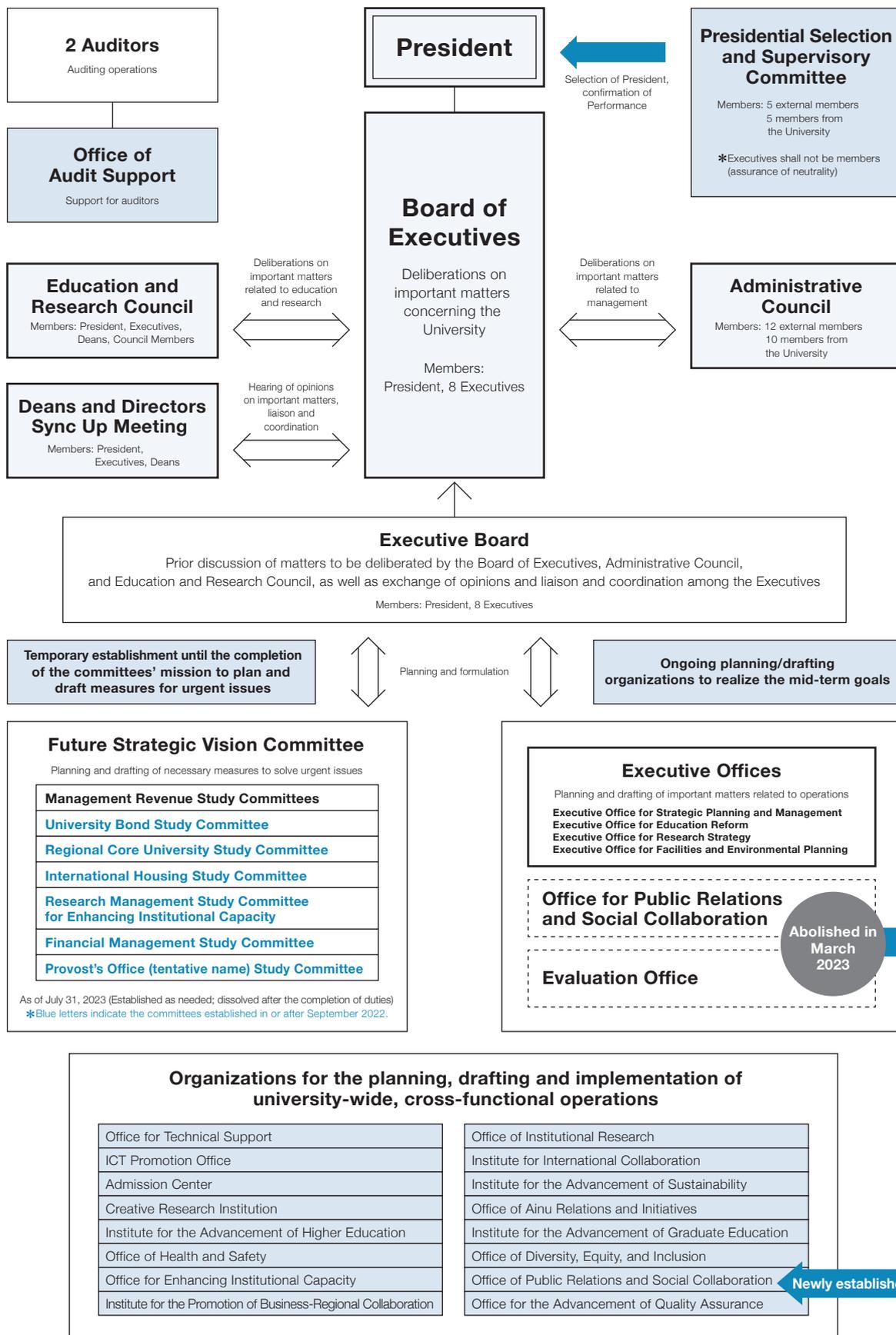
The University currently has 748 agreements with universities and institutions in 73 countries and regions to promote international education and research activities.





Hokkaido University Governance

Decision-Making Structure of Hokkaido University



Transforming to the entities for the planning, drafting and implementation

Newly established in April 2023

A Diverse, Global DEI University Where Everyone Can Study and Work Safely

Numerous HRD Programs to Promote the Advancement of Female Researchers

The University comprises nearly 30,000 people in various positions and with various attributes. For such diverse people to maximize their abilities, learn, and create new knowledge, it is essential to realize a bias-free campus where people can deepen their understanding of others and overcome unconscious prejudice and discrimination. Promoting diversity, equity and inclusion (DEI) is a prerequisite for universities to fulfill their role in society. The University announced a Statement on the Promotion of Diversity & Inclusion in December 2021, and established the Office of Diversity, Equity, and Inclusion (“Office”) in April 2022.

One of the main pillars of the Office’s efforts is to support the development of female researchers. Aiming to promote the success of female researchers and create a multifaceted research environment, the Office is working to create an environment conducive to career continuity, promote the employment of female faculty members, and foster female research leaders. In particular in the area of human resource development, opportunities to meet and interact with many excellent role models (1. for self-improvement, 2. for challenging oneself, and 3. for raising one’s perspective) are provided to encourage personal growth despite the low percentage of female researchers in high-level positions.

Establishment of the “KATSURADA Yoshie Award” to Honor Outstanding Female Researchers

The Hokkaido University KATSURADA Yoshie Award was established in March 2023 in honor of Professor Emerita KATSURADA Yoshie, who became the first female professor in charge of a course at any former imperial university. This award recognizes female faculty members who have conducted outstanding academic research and are expected to actively serve in the next generation of managerial positions.

The award was established to honor the achievements of this pioneering woman who paved the way for herself with high aspirations as a researcher in an era when it was difficult for women to advance in society. It is intended to encourage recipients and the many female faculty members who will follow them to promote women to higher and managerial positions.

KATSURADA Yoshie, mathematician

After graduating from Otaru High School for Girls, KATSURADA Yoshie (1911–1980) maintained a strong passion for mathematics and entered Hokkaido Imperial University in 1940 to pursue a career as a mathematics researcher. In



1950, she became the first woman in Japan to receive a doctorate (Doctor of Science) in the field of mathematics for her work on “Nonholonomic Systems in Higher Spaces.” In 1967, she became the first female professor in charge of a course at any former imperial university.



Deepening Understanding of the History and Culture of the Ainu People to Realize an Ethnically Coexisting Society Anti-Prejudice and Discrimination

Establishment of the Office of Ainu Relations and Initiatives

Aiming to realize a campus environment where Ainu people are proud of their ethnicity and identity, and where this pride is respected, the University established the Office of Ainu Relations and Initiatives in April 2022.

As an educational and research institution rooted in Hokkaido, the University promotes awareness and understanding of the history

and culture of the Ainu people both on and off campus, helping to build a symbiotic society in which both Ainu and non-Ainu members recognize each other's diverse values. Its initiative is also expected to contribute to the achievement of the Statement on the Promotion of Diversity & Inclusion.

Promoting understanding of the Ainu people through education

To ensure that all Ainu students, faculty and staff members can concentrate on their studies, education, and research with peace of mind, it is necessary that all members of the university develop a deeper understanding of the Ainu people. In academic year 2022, a lecture on the Ainu people was included in the trial implementation of a general education course, "Introduction (Learning at Hokkaido

University)," which is set to become a compulsory course for all first-year students entering the university from academic year 2023. The lecture was given under the theme of diversity, and it included explanations of the historical background of the Ainu people and Hokkaido University, and also propounded respect for ethnic diversity.

Review of Ainu Language Notation on the Campus Guide Map

In FY 2022, the Office of Ainu Relations and Initiatives and the Public Relations Division of the General Affairs and Planning Department collaborated to revise the Ainu language notation on the campus guide map. The Ainu language had previously been shown on the Japanese, English, Chinese, and Korean maps on a trial basis (written in the Roman alphabet), but due to feedback from Japanese users in particular, namely that it was difficult to read, the Japanese maps now have these written in katakana. The campus guide map is available at the University's Information Center and University's website.

<p>12 Bust of Dr. William S. Clark Clark esikarun kani noka</p>	<p>17 Former School of Agriculture Library teeta kanpi pu</p>
	<p>Designed by Seiichiro Chujo, it was built at almost the same time (1902) as the Former School of Entomology. It served as the central library for more than 60 years after it was built. Currently, it is used by Hokkaido University Press, among others.</p>
<p>William Smith Clark was the first Vice President of Sapporo Agricultural College. Some of his words are Hokkaido University mottos, like "be ambitious" and "lofty ambition." The bust was erected in 1926 as a project to commemorate the 50th anniversary of the university's founding (the current bust is a post-war recommission).</p>	<p>18 Elm Grove cikisani tay</p>
<p>13 Clark Memorial Hall Clark esikarun uwekarpa cise</p> <p>This was the first large-scale student hall at a national university in Japan. Built in 1959, it was part of the project to commemorate the 80th anniversary of the university's founding. It is now an essential facility for students' campus life.</p>	<p>Dozens of elm trees (Japanese elm) tower into the sky. Although some of them were planted in later years, huge trees over 100 years old had been growing on the site naturally since before Sapporo Agricultural College was relocated here. Lying at the end of the Toyohira River alluvial fan, the location has plenty of groundwater and is an excellent place for elms to grow naturally.</p>
	<p>19 Monument to Wheat Research munki kanpinuye esikarun suma sos</p> <p>Dr. Hitoshi Kihara continued Dr. Toru Sakamura's work and pioneered a new area of cytogenetic research of wheat. A monument depicting chromosome units was erected in 1976 to commemorate the place where Dr. Kihara started his research.</p>

Campus Guide Map (excerpt)

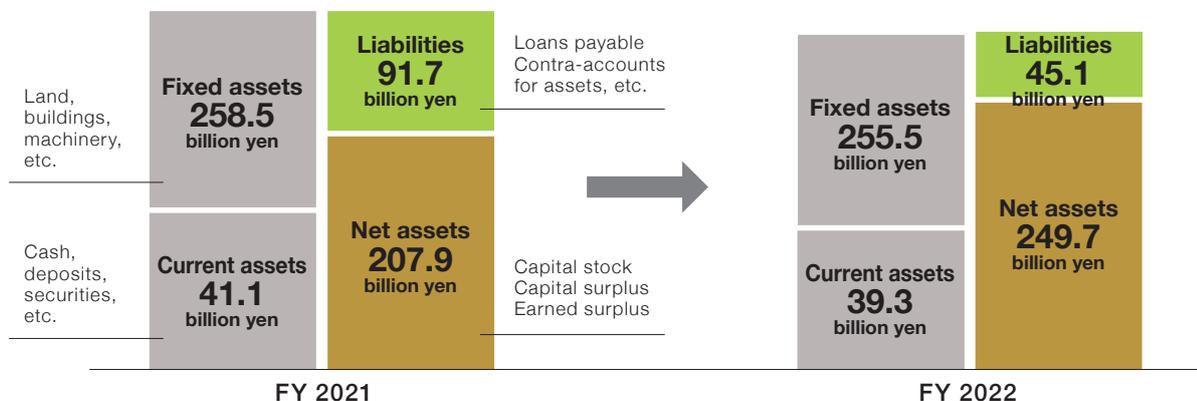


Signboard in front of the Office of Ainu Relations and Initiatives

Hokkaido University FY 2022 Financial Highlights

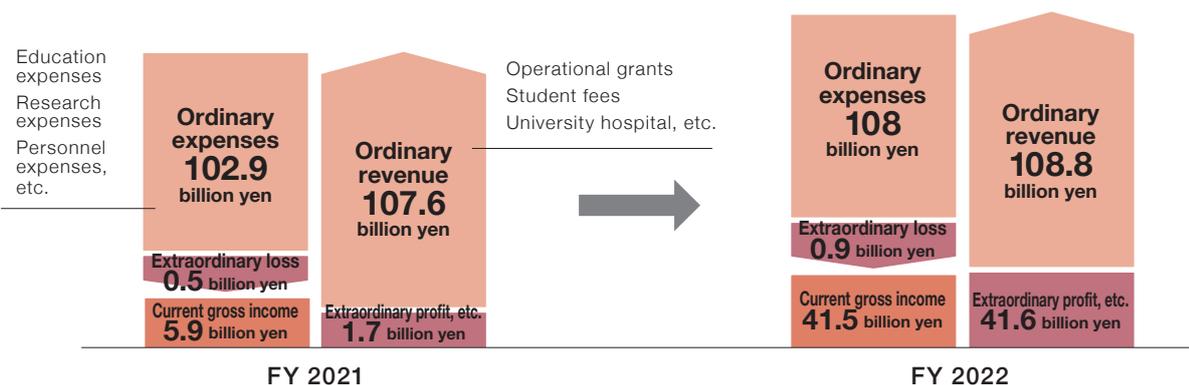
National university corporations prepare annual financial statements, clarify their financial and operational status, and submit these to the Minister of Education, Culture, Sports, Science and Technology for approval. The main financial statements are outlined here.

Balance sheet (B/S) University assets, etc. on the closing date (March 31)



In FY 2022, liabilities decreased by 46.6 billion yen due to the elimination of contra-accounts for assets in principle following the revision of accounting standards. However, net assets increased by 41.8 billion yen due to a significant increase in earned surplus resulting from extraordinary profits and other factors.

Profit-and-loss statement (P/L) Operation status of the university in one business year (April 1 to March 31)



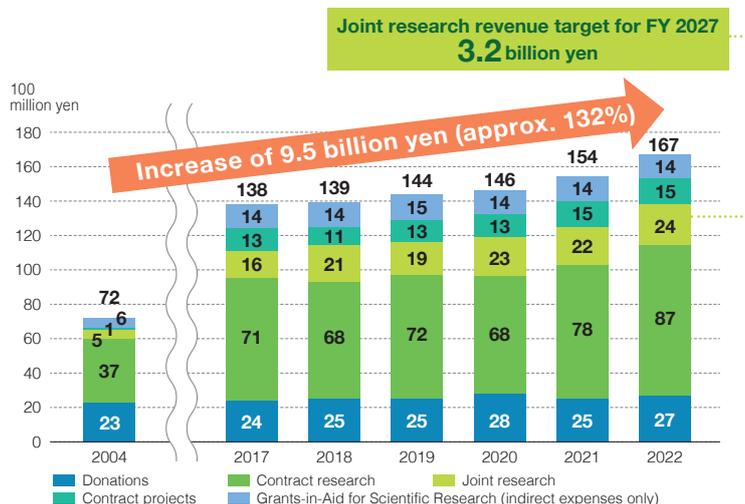
In FY 2022, ordinary expenses increased by 5.1 billion yen due to increased medical expenses including increases in material costs. Ordinary revenue increased by 1.2 billion yen due to increased revenue from affiliated hospitals, mainly from an increase in the number of patients and the use of higher-priced injections, etc. Current gross income increased by 35.6 billion yen because extraordinary profits were recorded for FY 2022 only, following the elimination of contra-accounts for assets.

*Each amount is rounded down to the nearest unit, so totals may not agree.

Changes in external funding income

The University has been diversifying its financial resources by taking advantage of various opportunities, including the crowdfunding system. As a result of these efforts, the amount of external funding received continues to increase year after year.

We will continue our efforts to expand the acquisition of external funds in conjunction with our existing activities, such as holding seminars to obtain external funds.





Further Strengthening of the Financial Base by Taking Advantage of Various Opportunities

Start of Operation of Hokkaido University Crowdfunding

One of the pillars of the University’s efforts to strengthen its independent financial base is the support of a wide range of people outside the University. To receive the support of many people, it is important to sincerely communicate the social mission of the University and to gain their empathy. As an effective means to

achieve this goal, we established the Hokkaido University Crowdfunding System. The system started operating in November 2022, and the cumulative total reached approximately 83 million yen as of June 2023. We sincerely thank all of you for your support.

Hokkaido University Frontier Foundation

Exactly 130 years after Sapporo Agricultural College opened, the Hokkaido University Frontier Foundation was established in 2006 to further promote the University’s autonomy and independence.

【Example of Projects Utilizing Donated Funds】

● Ukraine Student Support

A scholarship including 100,000 yen per month and travel expenses was provided to an exchange student from Ukraine who could not continue his studies in Ukraine.

Acknowledgments (excerpt)

Thanks to the scholarship, I am able to concentrate on my studies without worrying about the financial burden. I am very grateful to all of you for your support and generosity.

Mr. Chaika Yevhenii



Establishment of the Hokkaido University 150th Anniversary Fund

Hokkaido University will celebrate its 150th anniversary in 2026.

We welcome donations for projects and programs designed to look towards the next 150 years. These include a project to renovate and utilize Furukawa Hall under the key concept of "connecting people, time, relationships, dreams, and fruits," to transform the campus into a place where people of diverse backgrounds will continuously create new value. Also included is the tentatively named Innovation Front Runner program, which aims to develop human resources who will shape future society.

Application period	Until FY2026
Current amount	560,682,198 yen
Fundraising goal	5,000,000,000 yen

Hokkaido University will celebrate its 150th anniversary milestone in 2026. To advance the commemorative projects for the next 150 years, we have established an anniversary fund in March 2023. We welcome your contributions.

Total fundraising goal: 5 billion yen

Special site for 150th anniversary fundraising
<https://www.hokudai.ac.jp/fund/en>





Initiatives to Achieve SDGs Contribute to the Resolution of Global Issues

Framework for Sustainability

The Institute for the Advancement of Sustainability, established in August 2021, is a platform for the promotion of education, research, social collaboration that contribute to building a sustainable society, and for the creation of a sustainable campus. The Institute’s SDGs Initiative Office and Sustainable Campus Management Office cooperate with various departments.

Institute for the Advancement of Sustainability
<https://www.sustainability.hokudai.ac.jp/en>



Ranked 22nd Overall in the World in THE Impact Rankings 2023, and Top in Japan for the Fourth Consecutive Year

Times Higher Education, a UK-based higher education magazine, released THE Impact Rankings 2023 on June 1st, 2023. Hokkaido University is ranked 22nd in the world—and 1st in Japan, for the fourth consecutive year—out of the 1,591 universities that targeted the overall ranking. The THE Impact Rankings assess universities’ contributions to achieving the United Nations’ Sustainable Development Goals (SDGs). Participating universities are evaluated based on submitted data and metrics from external sources.

Out of the 17 SDG targets, Hokkaido University is ranked within the global top 100 in the following categories: SDG 2: Zero Hunger (68th), SDG 6: Clean Water and Sanitation (95th), SDG 9: Industry, Innovation and Infrastructure (45th), SDG 14: Life

Below Water (27th), SDG 15: Life on Land (17th), SDG 17: Partnerships for the Goals (53rd).

Goals ranked in the top 100 in the world





ASCN 2022 Conference Student Presentation Wins 1st Place Award

The Institute for the Advancement of Sustainability, Hokkaido University and the Campus Sustainability Network in Japan (CAS-Net Japan) hosted the Asia Sustainable Campus Network (ASCN)*1 2022 Conference on November 24, 2022.

The student presentation session featured presentations by 12 teams from 4 countries on sustainability initiatives at their respective universities. The presentation by students of the Special Exercise for Planning and Design I, an educational program conducted by the Faculty of Engineering and the Sustainable Campus Management Office, Hokkaido University received the 1st Place Award, the highest award.

*1 Asian Sustainable Campus Network

An organization of networks promoting the construction of sustainable campuses in China (CGUN), Korea (KAGGI), Thailand (SUN), and Japan (CAS-Net Japan), and member countries take turns to host the ASCN Conference. In 2023, the Conference was held at Korea University in South Korea.



Group photo of ASCN 2022 Conference (on-site participants)



Winning of the 1st Place Award

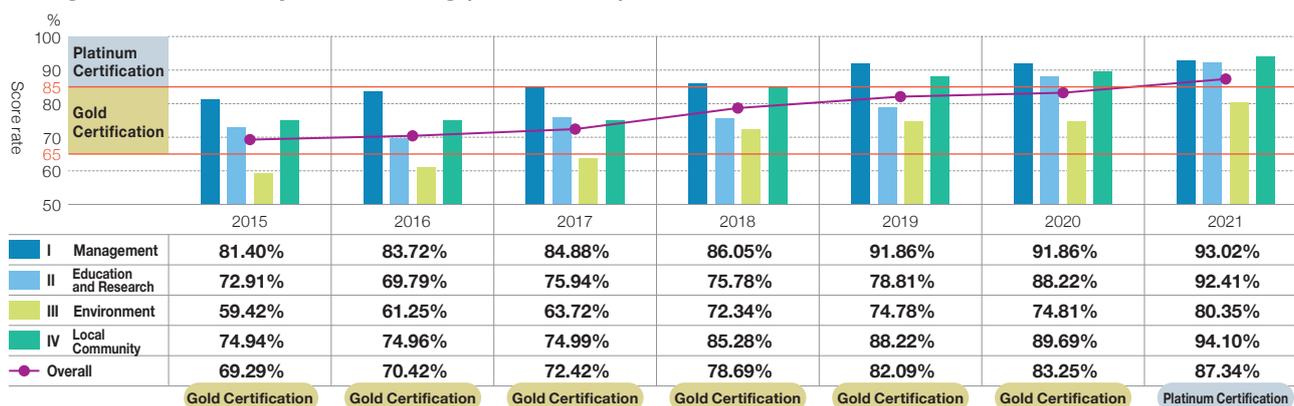
Highest Sustainable Campus Rating by ASSC

CAS-Net Japan evaluates universities in Japan using the Assessment System for Sustainable Campus (ASSC)*2 developed by the University. The University utilizes the ASSC for the “Check” in the PDCA (Plan → Do → Check → Act) cycle to continuously review and improve campus operations towards the realization of campus sustainability. The accumulation of sustainability activities steadily improved the University’s ASSC ratings in all four categories (Management, Education and Research, Environment and Local Community).

It achieved gold certification from FY 2015 to FY 2020, and platinum certification, the highest level of certification, in FY 2021 for the first time with an overall score of 87.34%.

*2 A questionnaire-based assessment system that takes a general and holistic view of university activities and identifies basic elements necessary to achieve campus sustainability as assessment criteria. The ASSC was developed by Hokkaido University’s Sustainable Campus Management Office in 2013 and is currently operated by CAS-Net Japan.

Changes in the University’s ASSC Rating (FY 2015-2021)



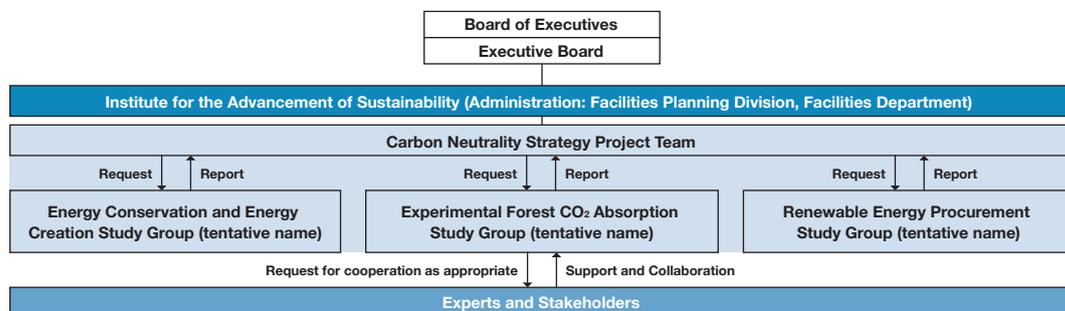
Toward a Sustainable Community through Decarbonization and Biodiversity Initiatives

Carbon Neutral Strategy Project Team Launched

To achieve carbon neutrality, it is necessary to apply various measures, including energy conservation, installation of energy-creating and renewable energy facilities, procurement of renewable energy, and offsetting with the use of CO₂ absorption in experimental forests and other areas. In addition to achieving carbon neutrality for the University, it is also essential to consider the role of the University in returning its research

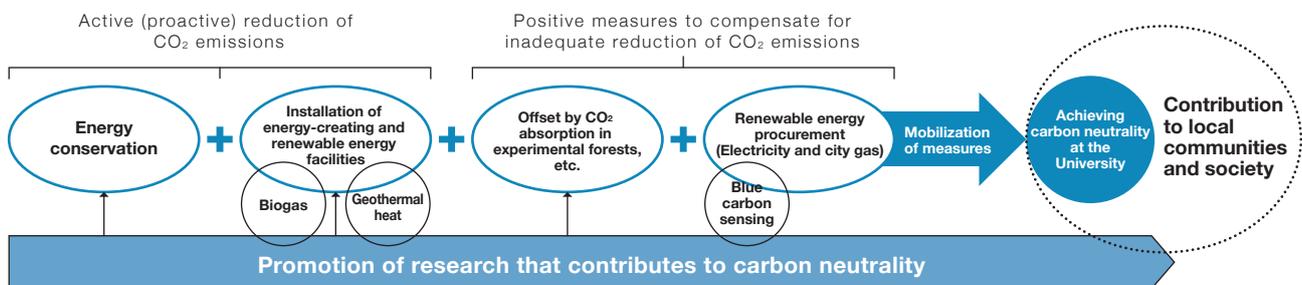
results to the local community and in making a contribution from the perspective of education and research. The University established the Carbon Neutrality Strategy Project Team (“PT”) within the Institute for the Advancement of Sustainability in November 2022. This PT takes the initiative to consider the formulation of a comprehensive and strategic university-wide policy and roadmap based on feasibility and economics.

Visual representation of the structure involved in the carbon neutral strategy



*The respective study groups are to be established sequentially based on the results of the study performed by the PT.

Toward the achievement of carbon neutrality at the University



First Japanese University to Submit a Response to CDP 2022



Approved logo for use by responding institutions during the year

The University submitted a response to the CDP Climate Change 2022 Questionnaire, recognizing the significance of not only advancing research, education and inter-university cooperation in contribution to carbon neutrality, but also actively working toward carbon neutrality as a university management entity. As a result, the University received a “B” score (management level), indicating that it has made progress establishing a system that addresses the risks and impacts of

climate change and with the implementation of measures to address them. This is the first for a university in Japan.

CDP questionnaires are sent at the request of institutional investors making ESG investments and major purchasing companies promoting supplier engagement to obtain environmental information on companies and organizations. The responses are analyzed and scored by CDP and used by investors around the world to make investment decisions.



Participation in the 30by30 Alliance for Biodiversity

“30by30” is an international goal that seeks to effectively conserve at least 30% of land and ocean as healthy ecosystems to halt the loss of biodiversity and restore it by 2030. In Japan, the 30by30 Roadmap was published in April 2022, and the 30by30 Alliance for Biodiversity, a coalition of volunteers led by of the Ministry of the

Environment Japan was established.

The University, which owns a diverse range of fields, including vast campuses and research forests, where it has long been engaged in education, research, and management activities, joined the 30by30 Alliance for Biodiversity in June 2022.

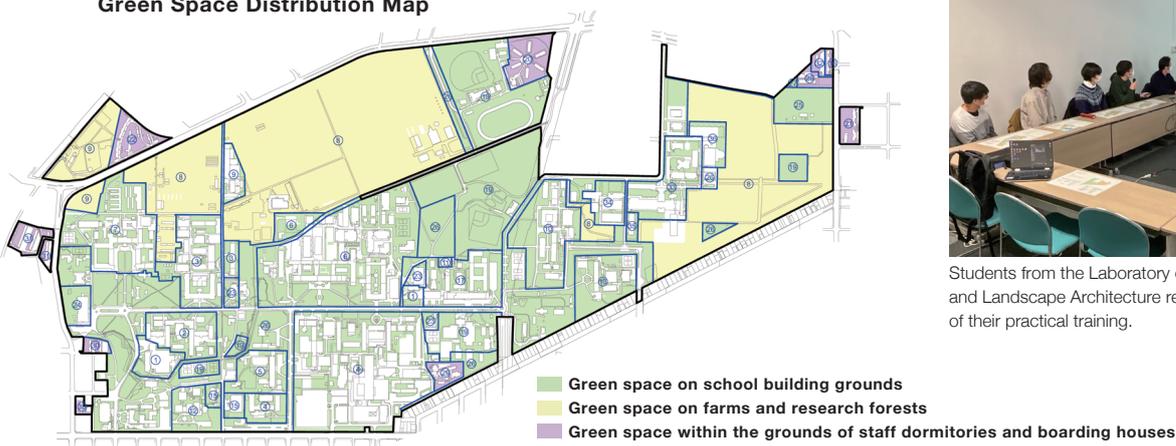
Revision of the Policy on Ecosystem Preservation and Management for a Greener Sapporo Campus

Although the Sapporo Campus of Hokkaido University is located in the center of Sapporo City, the ecological environment has been well preserved over the years, with representation of diverse flora and fauna, including rare species, and the campus itself is a place for academic research and education on the natural environment. The University has formulated its Policy on Ecosystem Preservation and Management, a basic policy established to achieve zoning of the ecological environment and continual involvement in its conservation, maintenance, and utilization.

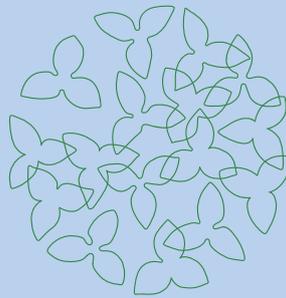
In FY2022, green space distribution data for Sapporo Campus was

created using Geographic Information System (GIS), and the latest green space area and green space ratio were calculated, and green space distribution map was created, while collaborating with students in the Laboratory of Ornamental Plants and Landscape Architecture, Department of Agrobiolgy and Bioresources, School of Agriculture. Based on these results, the “Ecological Environment Conservation Management Policy” was partially revised. The results will be used as basic data for the formulation of the next Campus Master Plan for the Sapporo Campus and for planning to achieve carbon neutrality.

**Sapporo Campus
Green Space Distribution Map**



Students from the Laboratory of Ornamental Plants and Landscape Architecture report on the results of their practical training.



HOKKAIDO UNIVERSITY

The Trillium flower is symbolic of Hokkaido University and used as its official logo. In this design, the flower symbolizes “human” by combining intelligence, individuality, and diversity. The overlapping elegant lines of the flowers represent human relationships and knowledge. The flowers’ silhouettes reflect academic and contemporary values, suitable for Hokkaido University.

Hokkaido University Integrated Report 2023 (Abridged version in English)

Published by: Finance Management Section, Budget Division,
Finance Department, Hokkaido University
Address: Kita 8, Nishi 5, Kita-ku, Sapporo, Hokkaido 060-0808, Japan
Tel.: +81-(0)11-706-3991
E-mail: zaikan@finance.hokudai.ac.jp
Published: December 2023

This English integrated report is also available on the website.
<https://www.global.hokudai.ac.jp/about/publications/integrated-report/>

