# **Designated National University Corporation Proposal**

National University Corporation Kyoto University, March 2017 Revised in August 2022

# Introduction Kyoto University Pursuing academic freedom and knowledge creation for the global community

Since its foundation in 1897, Kyoto University (hereinafter referred to as KU) has developed a distinctive institutional culture of academic freedom grounded in a spirit of self-reliance and self-respect. As one of Japan's leading research universities, it emphasizes the value of creativity and innovation in all its scholarly endeavors, while encouraging interdisciplinary dialogue in its efforts to contribute to global society through dynamic education and advanced research, which are a key component of the university's mission.

To achieve those aims, the university provides an environment in which individuals can explore and express their capabilities to the fullest, seeking to cultivate world-leading researchers and human capital.

The world is now facing radical changes that were not imaginable in the 20<sup>th</sup> century. The foundations of people's lives are being shaken by issues such as political and cultural conflicts, as well as economic inequalities emerging in the progress of globalization, unanticipated large-scale disasters arising from rapid global environmental changes, the rapid spread of new infectious diseases, food scarcity, and growing population pressures. In the face of such complex circumstances, universities have a key responsibility to consider what they stand for and what their responses should be.

Based in the 1,200-year-old culturally-rich city from which its name is derived, Kyoto University has a historical commitment to cultivating outstanding researchers and global leaders, while proactively addressing local and global concerns. The university seeks to maintain its broad and comprehensive vision and mission, while continually strengthening its robust foundation for creative education and the advancement of research to address contemporary concerns affecting the world as whole.

## Kyoto University's WINDOW Concept

KU has pro-actively developed and enhanced its operations throughout its 125-year history. The WINDOW Concept, formulated in 2015, set a guideline for the university's current decade of endeavors. It portrays the university functioning as a "window" that provides its highly motivated students and gifted researchers with a comprehensive mindset and access to society and the world at large.



The six goals of the WINDOW Concept

In March 2021, KU President Nagahiro Minato formulated the university's "Key Presidential Policies: Operating as a World-Leading Research Institution." With the aim of promoting the university's continuing development as a world-class research institution, the policies encompass three broad objectives: reforming the university's education and research support system, ensuring the diversity of its human resources, and strengthening its financial base. Based on those objectives, the policies establish guidelines in the following six areas:

I. Education and Student Support II. Support for Research Activities by Faculty Members III. Improvement of the Operational Management System IV. Facilities V. Organizational Management VI. Fund-Raising Activities

The Key Presidential Policies, which are based on the WINDOW Concept and the University's Designated National University Corporation Proposal, focus on the following areas:

- Strengthening research capabilities / boosting international cooperation and collaboration
- Recruitment and development of human resources / internationalization
- Deepening collaboration with society

As well as the following areas that facilitate and support those listed above:

• Strengthening university governance and enhancement of the financial base

# Strengthening research capabilities / boosting international cooperation and collaboration A flexible and dynamic approach to knowledge creation

## 1. Current status and evaluation

In spite of the difficulties in objectively evaluating the research capabilities of a university, the QS World University Rankings by Quacquarelli Symonds (QS) ranked KU 37<sup>th</sup> in its 2016–2017 edition, while in its rankings by subject, QS ranked KU 6<sup>th</sup> in Chemical Engineering, 15<sup>th</sup> in Biological Sciences, and 15<sup>th</sup> in Chemistry.

The QS rankings by subject indicate that KU's research in multiple areas, such as those mentioned above, has consistently been evaluated very highly according to international standards. Considering the growing international cooperation being promoted by the university, it is expected that KU's status as a world forerunner in cutting-edge research will continue to lead in these areas.

KU has historically been renowned for the creation of new interdisciplinary research fields. The fact that it is home to the largest number of integrative (multidisciplinary) research institutes and centers among all universities in Japan serves as strong evidence of this.

Similarly, the fact that KU was distinguished by the Japanese government's World Premier International Research Center (WPI) Initiative for its active promotion of interdisciplinary research among its research institutes and centers—through efforts such as the establishment of the Kyoto University Research Coordination Alliance (KURCA) and the Center for the Promotion of Interdisciplinary Education and Research (C-PiER)—contradicts the general idea that Japanese universities lag behind major Western universities in this regard.

Clearly, that impression is the result of the fact that initiatives of this sort are reflected in international indices and rankings only after considerable time has elapsed. Nevertheless, KU remains committed to pursuing such initiatives in order to continue pioneering the creation of new fields of research and addressing both local and global emerging issues.

#### 2. Initiatives

## (1) Promotion of world-leading cutting-edge research

## 1) Regenerative medicine and advanced medical research

Japan is currently addressing the problems of a rapidly aging society, and KU remains among the forerunner institutions in the search for solutions. The most evident example of this is the university's work in the field of regenerative medicine, preemptive precision medicine based on diverse biological information such as genome data, and radical measures against age-associated diseases such as cancer, all of which represent key challenges in modern medicine.

Dr. Shinya Yamanaka, a professor in the university's Center for iPS Cell Research and Application (CiRA) and the 2012 Nobel laureate in physiology or medicine, is a world-leader in the field of fundamental research into iPS cell technology-based regenerative medicine. In collaboration with the Kyoto University Hospital, he works towards quicker clinical applications of his research outcomes.

The Innovation Center for Next Generation Clinical Trials and iPS Cell Therapy (Ki-CONNECT) began its operations in 2020, and has been promoting research activities to enable the early clinical application of iPS

cell technologies in regenerative medicine. The center has a dedicated clinical trial ward and professional staff that support early clinical development, including first-in human clinical trials. The Clinical Bio-Resource Center, a biobanking platform located in the same building, collects human clinical bioresources and associated clinical information to support diverse cutting-edge research.

KU is Japan's number one clinical biobank and registrar center for the consolidation of biological large data, including data on genomes and intractable diseases. The university actively promotes international collaboration as a national center of preemptive and precision medicine in cooperation with leading mathematical information groups. Similarly, KU's basic research on cancer immunology has led to a global paradigm shift in the treatment of cancer. The Center for Cancer Immunotherapy and Immunobiology (CCII), led by Director Tasuku Honjo, a distinguished professor who won the 2018 Nobel Prize in Physiology or Medicine, was also established in 2020, with the aim of addressing wide-ranging issues in cancer immunology and immunotherapy, and contributing to the rapid development of cancer care. The center advances basic research on cancer immunology to serve as an international research center and foster the next generation of researchers in that field. It also promotes clinical research and is strengthening collaboration with companies to improve the effectiveness of cancer immunotherapy. Through advancing its medical and biological research, fields in which it is particularly accomplished, KU is strongly committed to continue fostering human health and wellbeing, and to the future of medicine and healthcare in the context of rapidly aging societies.

The University of California, San Diego (UCSD)—ranked 11<sup>th</sup> in Biological Sciences and 20<sup>th</sup> in Medicine in the 2017 edition of the QS World University Rankings by subject—has excelled in regenerative medicine-related fields, working in close cooperation with local pharmaceutical companies and prominent bio-venture research institutes.

Researchers at KU share UCSD's approach and deem it a suitable benchmarking target in those fields. With this in mind, KU has established the Kyoto University Research Center San Diego (KURC-SD) on the UCSD campus. The center promotes the application of research results for the benefit of society by matching the university' pharmaceutical research "seeds" in advanced medical and life sciences with industrial "needs." The center will continue to enhance cooperation with UCSD, and further strengthen its function as a center for international research collaboration and industry-academia collaboration on the West Coast of the United States.

#### 2) Fusing sciences: chemistry and biology

KU's Institute for Integrated Cell-Material Sciences (iCeMS) was founded in 2007 under the Japanese government's WPI Initiative. The institute has been forging into new and emerging research areas through interdisciplinary research combining chemistry, nanotechnology, and basic biology—all fields in which KU has traditionally made highly recognized international progress.

Reputed international researchers working at the institute have successfully developed the world's first porous materials (the research paper describing its outcomes received the highest number of citations for 2014 in the German scientific journal *Angewandte Chemie*), while similar internationally acknowledged achievements have been made in the fields of chemical biology, and cell development and differentiation.

Researchers in the field have been collaborating on the development of new research areas focusing on mesoscopic interactions between molecules and living organisms. As of 2017, only two research institutes

were internationally recognized in this new field: KU's iCeMS and Harvard University's Wyss Institute for Biologically Inspired Engineering, with KU slightly surpassing Harvard's achievements in terms of indicators such as the average number of citations per paper, the h-index, and the average number of collaborative research partner countries per paper.

Since April 2017, iCeMS has been integrated into the Kyoto University Institute for Advanced Study (KUIAS), which is described below. This reconfiguration has given the institute the added benefit of a university-wide support system, and has further facilitated the sustained advancement of its cutting-edge research activities as a leading international research hub.

Interdisciplinary research in nanotechnology and basic biology are leading to radical innovations in various industries, including energy and new materials industries, as well as in diverse academic disciplines, such as medicine and healthcare. To achieve such progress, iCeMS has been implementing collaborative research with Japan's National Institute of Advanced Industrial Science and Technology (AIST) and other partner institutions abroad (including five on-site laboratory partner institutions, and the French National Center for Scientific Research [CNRS]) since April 2017. In October 2019, iCeMS also established the "ZEISS-iCeMS Innovation Core" with Germany's Carl Zeiss Microscopy GmbH as a center for research and development in bioimaging techniques. The results of these efforts are expected to contribute to the development of future solutions to global-scale issues, including energy problems and environmental concerns.

#### 3) Kyoto University Institute for Advanced Study (KUIAS)

The Kyoto University Institute for Advanced Study (KUIAS), established in 2016, aims to advance cuttingedge research in all fields of study through international exchange and by leveraging the university's unique characteristics and strengths.

The institute aims to foster young researchers with interdisciplinary expertise. In addition to the faculty members already assigned to KUIAS, further members, including international scholars, were employed through support from the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) in FY 2017 and 2019. KUIAS provides a platform free from restrictions related to gender, age, or nationality, in which highly accomplished researchers from KU and around the world combine their knowledge and share it with students and young researchers.

① A pioneering research institute under a new management system

Building on KU's efforts under the WPI Initiative, KUIAS benefits from strong leadership from the presidential level and a flexible, agile management system (no restrictions related to gender, age or compensation, an internationalized administrative system, and a top-down personnel management structure that fosters clear yet permeable communication lines), and endeavors to create an environment in which researchers can concentrate on their research.

The institute consists of an advanced research center, where creative research in diverse academic fields is advanced by internationally recognized researchers who are employed as distinguished professors and carry out their research in KU's institutes while systematically promoting cutting-edge research. Currently, Prof. Shigefumi Mori—awarded the Fields Medal in 1990—is the director of KUIAS.

② Accelerating collaboration with domestic and international research institutes and international exchange by young researchers In 2017, iCeMS became the first research institute to operate within KUIAS. In October 2018, the Institute for the Advanced Study of Human Biology (ASHBi) was also established within KUIAS, and has been promoting interdisciplinary research combining biology and mathematics and combining biology and the humanities and social sciences to create new human biology studies. KUIAS has also established collaborative research centers including the AIST-Kyoto University Chemical Energy Materials Open Innovation Laboratory (ChEM-OIL) with AIST, the RIKEN-Kyoto University Science, Technology and Innovation Hub with RIKEN (also a national research and development corporation), and the Toyota Riken-Kyoto University Research Center (TRiKUC) with Toyota Riken (an incorporated foundation). Through these efforts, KUIAS promotes world-leading research and innovation and fosters young researchers. The institute will continue to organize regular conferences to facilitate interaction among students from around the world in diverse areas of study (including mathematical science, physical chemistry, and biology, among other fields), and to further contribute to the development of human resources in new fields.

#### Expected outcomes

KUIAS will drive KU's creative research by organizing innovative research institutes staffed by highly accomplished researchers in diverse fields. To do this, KU actively encourages the international dissemination of new research developments from Japan by functioning as a hub for collaboration with world leading and highly renowned researchers from Japan and overseas, while fostering the next generation of researchers and developing new research areas.

Such efforts are expected to continue boosting indicators of performance, including the number of academic papers published in internationally renowned journals.

#### (2) On-site laboratories

KU has implemented a system in cooperation with overseas higher education and research partner institutions to establish locally managed laboratories on each other's campuses. The initiative is facilitated by the conclusion of agreements with mutual terms and conditions for bilateral research exchange programs with partner institutions at the on-site laboratories.

The terms and conditions cover matters such as the working environment, program duration, and benefits for researchers. Within this framework, KU has dispatched teams of researchers overseas and hosted teams of high-caliber international researchers in its labs. By promoting mobility, research teams will be able to work with local researchers at the on-site laboratories, and proactively involve local students in their activities to contribute to the development of human capital.

KU will encourage its faculty members to work at the on-site laboratories at partner institutions and to provide them with necessary support. To do this, cross-appointment systems have also been implemented. Through these initiatives, the university will provide more opportunities for young faculty members and researchers to gain international education and research experience and engage in advanced cutting-edge research in Japan and abroad.



#### Expected outcomes

In addition to links between faculty, staff, and researchers, the personal connections formed through joint research at on-site laboratories will boost the intake of high-caliber international students and ease the way towards collaboration with local industries. Such endeavors are also expected to lead to the development of double and joint degree programs.

The on-site laboratory system will produce considerable advantages for individual researchers working on joint international projects, and also advantages in terms of the dissemination of research results both in Japan and abroad, while promoting personnel exchange based on education and industry-academia collaboration.

## 3. Key Performance Indicators (KPI)

KU will use the following key performance indicators (KPI) and set specific targets to facilitate the establishment of an international hub aiming to concentrate the knowledge and skills of leading researchers and to provide a model for the development of a virtuous cycle of research and personnel exchange.

(1) The number of academic papers published in internationally renowned journals (ranked in the world's top 10%)

In 2017, as an objective for the fourth period of its Medium-Term Goals (2022–2027), KU aimed to increase the number of academic papers written by its scholars published in the top 5% of internationally renowned journals from 726 papers in 2015 to at least 900 papers per year. However, to obtain a more stable indicator, this objective has been amended, and the university now aims to increase the number of academic papers published in the top 10% of internationally renowned journals from 1,003 papers in 2015 to an annual average of 1,100 papers by the end of FY 2027.

(2) The number of international full-time researchers

KU aims to increase the number of full-time international faculty members and researchers from 395 (as of October 1, 2016) to at least 600 by the end of FY 2027.

(3) The number of mid- and long-term international researcher exchanges (excluding students) To promote international mobility of faculty members, KU plans to increase the number of international mid- and long-term researcher exchanges from 841 cases in 2014 to at least 1,000 cases per year by FY 2027. (4) The number of laboratories established through the on-site laboratory system

As a new initiative to strengthen its research capabilities, KU planned to establish at least five new on-site laboratories in total by the end of FY 2027. However, during the third period of its Medium-Term Goals, KU has established 13 on-site laboratories in total. During the fourth period of its Medium-Term Goals, the on-site laboratories are anticipated to establish self-sufficient management systems as centers for international research collaboration.

## **Recruitment and development of human resources / internationalization** Generating high-level brain circulation

## 1. Current status and evaluation

An internationalized teaching system that maintains a high standard of research and education is essential for a top-class university. KU's approach to education has traditionally been linked to the creative research undertaken by its faculty, and it has been highly evaluated internationally. The university was ranked 31<sup>st</sup> for the "teaching pillar" in the 2016–2017 edition of the THE World University Rankings.

However, due to international travel restrictions in the wake of the novel coronavirus pandemic's outbreak in 2020, the number of international students hosted and the number of students sent abroad have decreased significantly, which has greatly affected international student mobility at KU.

As part of its efforts to improve that situation, while continuing to implement internationalized education programs, including international joint/double degree programs, KU will also make efforts to meet the specific needs of the times, including the utilization of online courses.

The declining ratio of young faculty members (under forty years of age) is also an important issue, and it is necessary to implement effective measures for the recruitment and cultivation of researchers. KU has implemented new measures to increase the number of young and female faculty members during the fourth period of its Medium-Term Goals.

At the same time, the number of international faculty members at KU is comparatively small compared to other world-leading universities. With these issues in mind, KU will strengthen its mechanisms to promote "brain circulation," recruiting and developing diverse human resources from around the world at the undergraduate to faculty levels, regardless of gender, race, ethnicity, or nationality. In doing so, the university is advancing the goals of its WINDOW Concept, functioning as a "window" to society and the world as a whole.

## 2. Initiatives

## [Initiatives focusing on students]

## (1) Kyoto University International Undergraduate Program (Kyoto iUP)

An important element of the "brain circulation" that KU seeks to promote is increasing the recruitment of diverse and talented students both from Japan and overseas and developing them as researchers who can play an active role in the international community and as human resources who can offer benefits to companies pursuing international operations.

KU has implemented a new education program, Kyoto iUP, which allows motivated international undergraduate students to learn side-by-side with Japanese students. To recruit talented international students for the program, KU has actively engaged in public relations and recruitment activities at leading schools in diverse countries, while identifying and addressing their effectiveness and issues.

A key feature of the program is that it does not require students to be proficient in Japanese at the time of admission. However, by providing continuous and intensive Japanese language education to the international students in the program, the university enables them to take and complete specialized courses taught in Japanese.

Internships with private companies before graduation provides Kyoto iUP students with career exposure and enhances feedback and support for the placement of international students in Japanese companies and organizations. An effective career-development support system is also provided for Japanese students, including the issue of a course certificate.

Through the Kyoto iUP program, KU provides a richly international campus environment for both Japanese and international students, enhancing their ability to mutually appreciate diverse values and different cultures, and developing not only their foreign language skills, but also, and more importantly, their communication skills.

#### Expected outcomes

As Japanese society and industry become increasingly internationalized, qualified domestic and international human resources with foreign language and communication skills will be of great value. Well-educated international human resources with Japanese language skills are in great demand by Japanese companies at home and abroad, and graduates from the program will be in a great position to contribute to Japan's international competitiveness.

# (2) Fostering doctoral human resources (knowledge professionals) through the WISE Programs (Doctoral Programs for World-leading Innovative and Smart Education)

KU has established cross-disciplinary and multi-departmental education programs focusing on fields in which it has renowned strengths, and for which society has a high demand (e.g. chemistry, advanced medicine, biological science, etc.). The programs are typically operated in collaboration with other sectors, especially with industry. Through these programs, the university has fostered doctoral-level human resources who can lead in the creation and application of new knowledge, and who can develop innovative ideas for the benefit of society.

Specifically, KU is developing curricula focusing on advanced cross-disciplinary subjects, key research activities as minor subjects, lectures delivered by industry experts from partner companies, research collaboration with partner institutions, and internships in allied for-profit organizations and businesses, including opportunities in companies located overseas.

KU is currently developing a rigorous mechanism to assure the quality of all its educational programs, including the implementation of qualifying examinations and a stable educational environment with financial support. Students who finish the programs will be awarded a certificate of program completion in addition to their degree certificates.

Currently, KU has three WISE programs, and has established the Center for Interdisciplinary Graduate Education within the Division of Graduate Studies to support them. The Division of Graduate Studies also contains the Center for Basic Graduate Courses, which manages general and cross-departmental education for graduate students to provide them with essential comprehensive knowledge and skills, and the Center for Career Development and Global Education, which promotes industry-academia cooperative education, academic path and career support, and international student mobility. These centers will work together to design cross-departmental curriculum and proactively promote graduate education reforms.

Through this reorganization, KU has implemented a robust comprehensive system to examine and evaluate

program details (PDCA: Plan-Do-Check-Act), including educational assessment and quality assurance.

#### Expected outcomes

By providing opportunities to engage in practical training and collaborative research in cooperation with industry, these programs will foster highly competent human resources for the broader community, especially for the industrial sector.

The human resources developed through these programs will be able to contribute to addressing medical-, environmental-, resource-, and energy-related issues for the sustainable development of global society, and will possess the advanced knowledge to lead the world through new forms of scholarship and innovation. The university foresees the creation of a virtuous cycle amid the high degree of competition generated as the programs encourage motivated students to advance to the doctoral level.

#### (3) Establishment of the Division of Graduate Studies

There is an increasing need to foster excellent doctoral human resources who can lead every sector of society. With the aim of encouraging students to advance to doctoral-level study, KU established the Division of Graduate Studies in October 2021 to provide expanded financial support for students, attract talented international students, and provide education opportunities that contribute to career development and industry-academia collaboration. By integrating some of the measures relating to graduate students and international students (launched at the time of its application for DNU status) into the Division of Graduate Studies, KU will enhance and integrate its structure for the planning and implementation of its general education system and career development support.

#### 1) Enhancing the functions of the Graduate Student Training (GST)

The Teaching Assistant (TA) system effectively fosters comprehensive teaching abilities and interpersonal skills in graduate students as part of the curriculum, and it serves as a way to improve the general quality of education of those who participate in the system. Generally, the TA system is regarded in Japan as a tool to enhance graduate students' academic lives, and it relies on the instruction and supervision of related faculty members. KU is no exception to that trend.

The University of California, Berkeley (UC Berkeley) was ranked 16<sup>th</sup> in the Teaching indicator of the 2016–2017 edition of the THE World University Rankings, although its indicator for Student-to-Staff Ratio is as low as 227<sup>th</sup> (12 students per staff member). To deal with a decreasing number of faculty members in the face of over 6,000 undergraduate students per grade, UC Berkeley has been making effective use of its TA system.

The UC Berkeley's Graduate Student Instructor (GSI) Teaching and Resource Center has been playing an important role in training graduate students to become capable teaching assistants who are adept in a variety of sophisticated work. Using UC Berkeley's initiative as a model, KU established the Graduate Student Training (GST) Promotion Office which engaged in planning and implementing training to improve the teaching and research skills of its graduate students. The GST Promotion Office also developed basic training courses to ensure quality assurance of TAs. However, to further improve training courses to develop the teaching skills of graduate students, the functions of the GST Promotion Office were integrated into the Academic Life and Career Support Office, which was established under the Center for Career Development and Global Education of the Division of Graduate Studies.

The Academic Life and Career Support Office has been providing training programs covering fundamental teaching, personal skills, and educational theory and methodology to selected graduate students. Those students will then work as teaching assistants, assisting faculty members with undergraduate education and other tasks. KU has also established an evaluation system for TA activities to compensate teaching assistants systematically based on objective assessments, and which issues a teaching assistant certificate to graduate students who complete the TA activities.

### Expected outcomes

The introduction of a standardized university-wide training system through the Division of Graduate Studies will increase quality assurance of programs and raise the general quality of graduate education. Certification by the Division of Graduate Studies will also benefit graduate students in their career development. These measures are also anticipated to have the secondary effect of enhancing actual research efforts by faculty, and contributing to the enhancement of the university's overall research capabilities.

## 2) International Student Recruitment

Among the world's top universities, Imperial College London (ICL) has a particularly high ratio of international students. At the time of Kyoto University's application for DNU status, the percentage of international students at ICL was as high as 54.2%, while the percentage of undergraduate international students was 45.3%. Interestingly, although international students from non-EU countries have been decreasing in the UK in general, ICL has been strategically implementing international student recruitment activities around the world, and building a foundation for acquiring talented international students that renders it particularly competitive in this regard.

Following the example of the international student recruitment activities of ICL, KU established its own International Admission Assistance Office (IAAO) in April 2019 to proactively recruit talented international students and promote strategic public relations and recruitment activities based on an analysis of the particular education circumstances of different countries.

Specifically, the university utilizes its overseas offices, regional alumni associations, and other networks, and it sets specific target countries for recruitment activities. KU's initial focus is on ASEAN countries, in order to leverage the university's history of strong relationships, personal and institutional networks, and active collaboration in those countries, and to consolidate the efforts of the university's ASEAN Center and other offices and facilities located in the region. KU has been making efforts to identify the initiatives being implemented by its departments to recruit talented international students, and also participate in study abroad fairs and other events through the ASEAN Center. While expanding its range of target countries and activities, KU has integrated the functions of the IAAO into the Global Education Promotion Office, which was established in the Center for Career Development and Global Education of the Division of Graduate Studies, in October 2021. KU will continue to strengthen its functions to further enhance efforts to strategically recruit talented international students to its graduate schools.

## Expected outcomes

While organizing its education and admissions information, through an analysis of international student markets, proactive public relations and recruitment activities undertaken directly by the university's staff, KU expects to identify the diverse needs and potential requirements of international students.

There is a generally accepted correlation between more motivated students, typically with higher evaluation

records, and their choice of English-speaking countries as study abroad destinations. Recognizing this trend, KU is actively providing comprehensive and detailed information about its high-level English-based education, research possibilities, and comprehensive support system to potential international students in their countries of origin. By doing so, KU seeks to increase its recruitment of high-caliber international students.

#### (4) Recruitment and support measures for graduate and international students

In comparison with other Japanese universities, a high proportion of KU's students advance to graduate school studies; however, the ratio of students who advance to doctoral programs has been declining in recent years. Financial burden is one of the major reasons for the decline; promising young researchers are forced to give up on their research for financial reasons. Improvements to the support system for graduate students, including financial support, are urgently needed in order to strategically recruit and foster highly motivated students in Japan and abroad.

KU has a well-grounded research support system, through which it plans to amplify the support provided in order to address these issues. Through the establishment of the KU Scholarship Program for Doctoral Studies in FY 2017, it aims to give wider access to scholarships and other sources of funding for outstanding students who are advancing to doctoral programs.

The university will also grant a full tuition exemption to all eligible doctoral students who apply for it. Furthermore, KU has also been enhancing its financial support for students in other ways, such as implementing the CF (Create the Future) Project, which provides a scholarship to support the development of the next generation of excellent researchers in diverse fields by utilizing private donations given for that purpose. A system will also be established to provide continuous support to international students all the way from admission to graduation, while increasing and improving accommodation facilities (e.g. mixed dormitories for both international and Japanese students), increasing the number of tutors, and improving mental healthcare services. In addition to scholarships, another form of aid the university provides is to proactively support high-caliber international students by covering their travel and other expenses.

To implement the above measures, KU is seeking to remove the limits on the number of students that can be enrolled in the university's graduate schools. When this reform is implemented, it will facilitate the proactive recruitment of talented and motivated students, both from Japan and overseas, who meet the university's standards for admission.

KU has also been advocating the deregulation of tuition fees in order to implement a more flexible tuition system for international students, and for different courses and programs based on their contents, quality, and workload.

#### Expected outcomes

KU expects that these measures will result in an increase in the number of talented and motivated students from Japan and overseas, who, uninhibited by financial constraints, will be able to learn in the university's welcoming environment, where the quality of its education and research will propel them as active players in society. As a whole, this initiative is expected to make a significant contribution to the quality and acceleration of "brain circulation."

# [Initiatives focusing on young researchers] (1) The Hakubi Project

KU launched the Hakubi Project in FY 2009 as an internally funded initiative to foster and support young researchers. The project accepts applications from around the world regardless of the applicant's field of study. It provides young researchers with an ideal environment to devote themselves to their research for five years, encouraging free and creative thinking, and enabling them to tackle particularly challenging research.

The program is highly recognized internationally, and data gathered by KU shows that, as of the end of FY 2021, approximately 80% of the young researchers who have completed the program have gone on to attain tenured or tenure-track positions at a university or research institution in Japan or overseas.

In addition to the conventional global program, in FY 2016, the university introduced a system to link the program with its tenure-track staff employment through MEXT's Leading Initiative for Excellent Young Researchers (LEADER). The university intends to encourage researchers who have completed the Hakubi Project to continue working at KU, promote efforts to increase the number of female researchers, and enhance its research-support features, including the provision of support for startup research.

## Expected outcomes

KU foresees the increase in the number of young researchers as a key mechanism to enhance research capabilities, both at the university and beyond. This initiative will directly foster capable and active young researchers and will provide outstanding young researchers from overseas with opportunities for stable employment in KU and elsewhere.

#### (2) Recruiting and fostering excellent young faculty members

Young faculty members are typically the most vital human resources for the future of universities, however, the number of scholars in this group is decreasing due to staff reductions and unstable employment conditions. At KU, the number of faculty members under forty years of age, including regular faculty and program-specific fixed-term faculty, has steadily decreased (from 29.1% in 2009 to 18.6% in 2018, and 69.2% in 2009 to 47.2% in 2018, respectively). However, the percentage of regularly-employed young faculty in 2021 was 19.7%, which represents an increase from the 2018 ratio. On the other hand, the percentage of program-specific fixed-term young faculty members decreased to 41.5 in 2021.

As both regular faculty and program-specific fixed-term faculty work together for the development of research and education at KU, within the fourth period of its Medium-Term Goals, KU aims to increase the percentage of young faculty members, including researchers, to at least 30%. The particular characteristics of different academic fields have a great influence on the achievement of this goal, and so, since 2018, the university has developed different paths for the promotion of young faculty members in different faculty consorts (groups of faculty members in related academic fields).

There is a fixed quantity of regular faculty and other positions in each faculty consort, which are allocated to be filled by the university's central administration. As a university-wide initiative, KU has preferentially allocated those positions to young faculty members. In the fourth period of its Medium-Term Goals, KU will enhance its efforts to ensure diversity by establishing a function enhancement and promotion system to support reorganization efforts in line with each department's target ratio of female faculty members, each

consort's young faculty development system, each field's trends and future prospects, and through creating a quota lending system, etc., for the employment of female and young faculty members.

## Expected outcomes

In order to maintain a strong foundation for higher education and science and technology innovation in Japan, it is important to maintain an appropriate age and generational balance among researchers over the long term. Proactive employment of young faculty members and the improvement of the research environment are important investments for strengthening the research capabilities of the university. The implementation of these measures is expected to bring significant benefits for the sustainable improvement of the university's research capabilities and the strengthening of its human infrastructure.

## 3. Key Performance Indicators (KPI)

KU will use the following Key Performance Indicators (KPI) and set specific targets in its endeavor to recruit, foster, and produce highly equipped world-class human resources and cultivate brain circulation.

## (1) Annual international student intake

To accelerate internationalization of education at the university, KU aims to increase its annual intake of students from abroad from 2,441 students (approximately 11% of all students) in 2014 to at least 4,000 students (approximately 17% of all students) in 2027.

## (2) Students going overseas annually (excluding attendance of conferences)

To promote the internationalization of student activities, KU aims to increase the number of students going overseas annually from 1,469 students in 2015 (approximately 6% of all students) to at least 2,000 students (approximately 9% of all students) in 2027.

#### (3) Joint and double degree programs

A goal was set to increase the number of international joint and double degree programs from seven programs at the end of FY 2014 to at least twenty programs by the end of FY 2027. However, KU has already implemented twenty-six programs during the third period of its Medium-Term Goals, and it will continue to operate them during the fourth period.

## (4) Multinationally authored academic papers by students

To promote the internationalization of student activities, KU aims to increase the annual number of multinationally authored academic papers by students from 646 papers in FY 2015 to at least 1,000 papers by the end of FY 2027.

## (5) Researchers employed through the Hakubi Project

KU aims to increase the number of researchers employed through the Hakubi Project from 125 researchers in FY 2016 to at least 325 researchers by the end of FY 2027.

## (6) Percentage of young faculty members (under forty years of age)

A goal was set to increase the percentage of regularly employed young faculty members from 20.7% of all regular faculty members as of January 1, 2017 to at least 30.0% by FY 2027 (bearing in mind that the figure was 29.6% as of January 1, 2009). However, as all faculty members, including program-specific fixed-term faculty members, engage in education and research, KU aims to increase the percentage of young faculty members to over 30% of all faculty members.

## **Deepening collaboration with society** Finding new ways to contribute to the international community

## 1. Current status and evaluation

Throughout its 1200-year history, the city of Kyoto has been a center of unique culture, art, and tradition. As such it can proudly boast a strongly independent venture spirit. Within this exceptional setting, KU's academic excellence is internationally recognized. As evidence of this, the university was ranked 27<sup>th</sup> in the 2016 edition of the THE World Reputation Rankings.

Designated National University Corporation status strategically positions KU to continue actively promoting its social engagement, focusing on the establishment of a new system that encourages international industry-government-academia collaboration based on the university's innovative research, its comprehensive international network of partners throughout Asia, and its historically proactive dissemination of new approaches to the social sciences and humanities, as epitomized by the globally influential Kyoto School of philosophy.



Collaboration with society

KU's industry-government-academia collaboration activities are based on its creative and cutting-edge research. To enhance both the quality and quantity of these activities, the university's Office of Society-Academia Collaboration for Innovation (SACI) has been at the center of efforts to improve university operations, including its organizational structure, policies, regulation, and evaluation.

As a result, the university has generated substantial income from research collaboration with private companies (approximately 7.2 billion yen from 1,460 projects in 2021) and income from patents (approximately 930 million yen in 2021).

Within the university's organizational structure and operations, however, the strategic planning and practical implementation of industry-government-academia collaboration activities have not yet been clearly defined. This has brought about situations where, for example, a plan-do-check-act (PDCA) method has not yet been applied, and performance in areas such as staff working conditions and the provision of career paths have been weakened. Because of this, KU has restructured its subsidiaries: TLO-KYOTO Co., Ltd. and iPS Academia Japan, Inc., which provide services related to technology transfer, Kyoto University Innovation

Capital Co., Ltd. (KYOTO-iCAP), which provides services related to venture support, and the Kyoto University Original Co., Ltd., which provides consulting, training and education services. Furthermore, to intensively promote "organization-to-organization" industry-academia collaboration that is not bound by conventional limits, the Open Innovation Institute (OII) was established as an organization for the implementation and management of large-scale industry-academia research collaboration. Through practical cooperation between SACI, OII, and the subsidiaries, KU has accelerated large-scale industry-academia research collaboration with the aim of increasing private sector investment, and strongly promotes the application of research results for the benefit of society.

Contributing to the global community is central to the university's mission, and the promotion of international industry-government-academia collaboration is a key approach in boosting the university's strong social engagement, while developing new ways to assure a solid financial base to support the very core of KU's mission: to offer society the best possible education and innovative research.

This section of the proposal focuses on two key areas in which KU cooperates with society: 1) Multilateral cooperation through industry-government-academia schemes that facilitate the development, commercialization, and transfer of the knowledge and research outcomes produced by the university; and 2) KU's traditional academic strength in social sciences and humanities fields.

The focus of this section (particularly the expected outcomes described in the KPIs) should not be interpreted to mean that KU is committed solely to improving these indicators alone, to the exclusion of other forms of social cooperation, such as university social responsibility (USR). The indicators are intended to quantitatively reflect changes within the university as a starting point for evaluation.

#### 2. Initiatives

#### [Initiatives to enhance industry-government-academia collaboration]

# (1) Establishment of the "Kyoto University Model" to promote the use of research results and intellectual property

Due to the broad scope and independent nature of activities carried out so far, and especially when looking to the future, KU conducted an evidence-based review of its industry-government-academia collaboration endeavors, which were divided into two groups with clearly defined structures and roles: the Strategic Planning Group for policy making, and the Practical Implementation Group for the implementation of projects based on specialized expertise.

Through this organizational restructure the university is able to maintain and enhance the principles upon which it cooperates with society, polishing its strategies, and making better use of its accumulated experience and knowledge relating to industry-government-academia collaboration in a way that actively promotes new and dynamic projects based on this kind of broad and inclusive type of collaboration.

The SACI's role, in terms of serving as the Strategic Planning Group, managing aspects such as intellectual property strategy and compliance, has been greatly improved. While the university's subsidiary companies function as the Practical Implementation Group, achieving high operational efficiency and profitability.

Under the governance of KU, the subsidiary companies operate in accordance with the university's principles and policies, while also maintaining their independence to ensure efficiency. The subsidiary businesses are collectively called "Kyoto University profit-making enterprises."

Through these profit-making enterprises, KU will strengthen corporate governance as a stockholder of industry-government-academia collaboration projects, maximize the provision of social value, and promote the use of the university's research results and intellectual properties. Specifically, the university has established and operates four companies with the following functions, which receive capital investment from the university:

#### ① Consulting

KU has established the Kyoto University Originals Co., Ltd., a 100%-owned subsidiary of the university. It was established in line with a revision to the National University Corporation Act (on April 1, 2017), which expanded the scope of businesses in which national universities can invest.

Kyoto University Originals provides consulting and think-tank services based on the university's research results, the dissemination of information about research results, and the implementation of tailored learning programs for adults.

## ② Technology transfer

The TLO-KYOTO Co., Ltd. —a 68%-owned subsidiary of the university—performs functions related to the management of intellectual properties, as well as research collaboration and technology transfer matching that links the university's research results with companies seeking to utilize and commercialize them. Furthermore, the iPS Academia Japan, Inc., in which the university has 100% voting rights, was established in August 2020 to further enhance the university's technology transfer support services as a technology licensing organization specializing in iPS cell technology.

#### ③ Venture support

KU has established the Kyoto University Innovation Capital Co., Ltd. (KYOTO-iCAP) as a 100%-owned subsidiary of the university to perform functions related to investment in, and provision of, hands-on support to startup companies and carve-out ventures seeking to commercialize the university's research results through public-private innovation programs.

To operate effective and sustainable profit-making businesses, KU will promote personnel exchanges between the SACI and the subsidiary companies, and introduce a system to acquire, develop, and secure capable human resources, seeking to provide them with new skills and diverse career paths.

The university also established the Kyoto Academia Forum next to its branch office in Marunouchi, Tokyo, as a support center to promote the industry-government-academia collaboration activities of the university and its subsidiaries both domestically and overseas. Its activities focus on providing information about the university's broad and inclusive collaboration activities in this area and strengthening networks with Japanese companies and economic organizations, foreign embassies, foreign economic organizations, etc.

In this regard, KU has made use of the lessons learned, experience, and benchmarks set by the University of Oxford, which has promoted cutting-edge academic research-based industry-government-academia collaboration and technology transfer activities in a similar way to KU.

The University of Oxford established Oxford University Innovation (OUI) as a university wholly-owned subsidiary in 1987. OUI consists of three business sections: a section engaging in patent management and

technology transfer of the university's research results, a section providing consulting services by the university's researchers, and a section that conducts surveys and provides human resource development services for companies.

The scale of OUI's operations (approximately 3.44 billion yen), including its income from technology transfer, was approximately ten times as large as that of KU (approximately 0.39 billion yen) based on figures from 2015, however its structure and the way that it functions greatly inspires that of KU.

Having received Designated National University Corporation status, KU plans to establish a holding company to supervise its four subsidiaries (TLO-KYOTO Co., Ltd., iPS Academia Japan, Inc., Kyoto University Originals, and KYOTO-iCAP). The holding company is envisioned to operate under the supervision of the SACI in accordance with policies decided by the university, and it will be managed as an integrated group company through practical cooperation, and with appropriate allocation of operations among the four subsidiaries. To this end, the university will continue to request legal reforms to allow national university corporations to invest in such a holding company.

## Expected outcomes

Through personnel exchange among the four subsidiary companies (and, in the future, the holding company) in the process of operating the university's profit-making businesses, it is expected that KU will enhance its strategic management of intellectual properties and licensing, establish new industry-government-academia collaboration activities, and further improve research and education activities that will, in turn, continue to spill into society as a whole.

# (2) Promotion of industry-government-academia collaboration on an organization-to-organization basis

KU has planned and implemented several pioneering industry-government-academia collaboration schemes that break the mold of conventional research collaboration frameworks. These include, for example, large-scale alliances with pharmaceutical companies, as represented by the Medical Innovation Center and the Hitachi-Kyoto University Laboratory.

Based on the accumulated experience at the university, this proposal includes the development of further research collaboration initiatives on a strategic organization-to-organization basis to address the increasingly complex social issues of today's society as well as those that can be expected to emerge in the future.

To this end, KU will take advantage of its qualities as a comprehensive university, involving researchers from diverse academic fields (including the humanities and social sciences) in the process of promoting collaboration with society as a whole from the conceptual design stage, and exploring issues in cooperation with industry and beyond. Through these initiatives, KU seeks to foster a "capacity for invention" based on its high-level basic research capabilities.

In order to boost research activities, KU envisions a system to enable the flexible operation of collaborative research among different laboratories to attract and produce new knowledge, as well as diverse financial and human resources, which will allow faculties and departments a high degree of freedom in the use of external funds acquired for research collaboration.

#### Expected outcomes

By mobilizing the university's creative and advanced research, as well as its accumulated knowledge, KU will advance research that addresses the world's social issues and drives innovation. The university's international industry-government-academia collaboration activities will also contribute to the further development of its education, research, and social engagement activities, and the cultivation of human resources.

#### [Initiatives to enhance the university's contributions to society]

(1) Contributing to the mutual development of Japan and countries in ASEAN

KU's history of engagement with the countries of Southeast Asia dates back to the pre-war era, and is longer than any other Japanese university. Since the establishment of the university's Center for Southeast Asian Studies (CSEAS) in 1965, research activities conducted throughout the region have expanded continuously, and the connections built and cherished have grown stronger. As part of those efforts, KU is honored to have been home to outstanding individuals who are committed to bringing positive changes to society, as in the case of Daw Aung San Suu Kyi, who was once a visiting researcher at CSEAS in her younger years, and served as Myanmar's State Counselor.

In recent years, KU has engaged in various successful initiatives which it is consolidating and expanding, including a joint project carried out with Japan's International Cooperation Agency (JICA) that provides direct support for higher education and research in Myanmar in the fields of engineering and agriculture.

Another central initiative has been the establishment of KU's ASEAN Center in Bangkok in 2014, which performs diverse support functions and bridges the university with the region, while satellite offices have been established throughout Thailand, Indonesia, Malaysia, and other countries that carry out actual research and implementation of grass-roots projects.

These satellite offices were established under the Japan-ASEAN Science, Technology and Innovation Platform (JASTIP)'s Promotion of Sustainable Development Research Initiative within the framework of the Collaboration Hubs for International Research Program (CHIRP) 2015, which is funded by the Strategic International Collaborative Research Program (SICORP) of the Japan Science and Technology Agency (JST).

As a cooperative platform for the whole of Japan and ASEAN countries, during its first phase (September 2015 to August 2020), JASTIP promoted research that contributed to the United Nations Sustainable Development Goals (SDGs), and implemented the JASTIP-Net scheme to seek research collaboration partners from a wide range of research institutions, universities, and private companies in Japan and ASEAN to address strategic issues set by JASTIP. The research and development and human resource exchange conducted at the satellite offices has promoted the development of the next generation of researchers and coordinators who can lead science and technology collaboration in the future.

The results of the JASTIP project were highly evaluated, and JST has decided to continue its support for the project. Through the research collaboration developed during the second phase (September 2020 to March 2025), the university is actively seeking to pursue student recruitment, provide educational support, promote the application of research results for the benefit of society in cooperation with private companies and NGOs in the ASEAN region, and to also continue developing a Japan-ASEAN collaboration platform to increase familiarity with Japan's activities in the region through academic policy discussions and cooperation with

international organizations and government agencies. Furthermore, to maintain and develop the cooperative relationship between Japan and ASEAN for sustainable development, even after the completion of the JASTIP project, KU's university research administrators (URAs) will promote the development of STI (Science, Technology, and Innovation) coordinators (who coordinate mutually beneficial international research collaboration between Japan and ASEAN) with the official approval of the ASEAN Committee of Science, Technology and Innovation (ASEAN-COSTI).

### Expected outcomes

It is expected that the development of the ASEAN countries will also drive new science and technology development in Japan, and the establishment of a comprehensive system to promote science and technology innovation and transfer based on equal partnerships between Japan and ASEAN is likely to continue contributing to the sustainable development of efforts to address global issues.

## (2) Disseminating Kyoto University's new approaches to the social sciences and humanities

KU has cultivated a distinctive approach to the social sciences and humanities that emphasizes unique field research and academic papers that retain their relevance and impact even 100 years after their initial publication.

The early 20<sup>th</sup> century saw that culture manifested as unique strains of thought and diverse field research, in a period in which Eastern cultural identity was accumulated amid friction with the modern rationalism of the West. By the late 20<sup>th</sup> century, the achievements of the university's scholars had been translated into other languages and reappraised in Asia and around the world as a philosophical movement known as the Kyoto School. In the 21<sup>st</sup> century, KU's research in the social sciences and humanities continues to be known around the world through foreign-language books written by KU's researchers and published overseas.

The university now seeks to promote the formation of new cultural identities for the post-globalization era through collaboration in international research, which includes, for example, a joint master's degree program with Germany's Heidelberg University in the humanities field of trans-cultural studies (launched in October 2017).

KU is committed to continue promoting the internationalization of research in Japan's social sciences and humanities by providing support and improving the education and research environment for international researchers and students at KU who have a strong interest in the culture of Kyoto and Japanese thought.

Building on the university's long history of humanities studies, KU aims to enhance its collaborative efforts in cutting-edge research areas relating to human intelligence, including brain science, cognitive science, genome science, and information science—fields in which the university is particularly strong. As KU advances towards the mid-21<sup>st</sup> century, it seeks to develop new approaches to the social sciences and humanities that will continue to benefit humankind, while sharing and transmitting those skills and knowledge from Kyoto to the world.

In April 2022, the Institute for the Future of Human Society was established as a center to support the university's social sciences and humanities research, and to contribute to natural sciences creating new fields and comprehensive knowledge. Through the institute, KU will strengthen its research and dissemination capabilities in the social sciences and humanities, and promote interdisciplinary collaboration among researchers in diverse fields.

## Expected outcomes

Amid the rapid advancement of internationalization and technology, the international community is now confronting various conflicts of value and widening disparities. To address those challenges, KU draws on its long history of studies in the humanities and social sciences.

By developing and disseminating new academic fields through collaboration in international research, while fostering integration and fusion of the humanities and sciences, KU expects that it will not only make a great cultural impact on future generations, but also make major contributions to solving the world's current and future social issues.

## **3.** Key Performance Indicators (KPI)

With a view to utilizing the university's education and research achievements to benefit society, KU will use the following KPIs and set specific targets.

## (1) Sales and income from Kyoto University Profit-Making Enterprises

KU established Kyoto University Originals as a consulting service, and achieved a profitable income/expenditure balance by the third period of the university's Medium-Term Goals (2016–2021).

By learning from important benchmarks set by profit-making enterprises such as those of the University of Oxford, KU aimed to increase the sales and income from its profit-making enterprises to 1.5 billion yen within the fourth period of the Medium-Term Goals (approximately five times the average annual income made from intellectual properties in the second period of the Medium-Term Goals). However, as iPS Academia Japan, Inc. was established as a subsidiary, KU will increase the goal from 1.5 billion yen to 2 billion yen.

## (2) Amount of collaborative research funds

KU will increase the amount of collaborative research funds received from private companies to 8 billion yen per year within the fourth period of the Medium-Term Goals (approximately double the annual average of the second period).

## (3) Income from intellectual properties

KU aimed to increase the amount of income from intellectual properties to 500 million yen per year within the fourth period of the Medium-Term Goals (approximately double the average annual income in the second period). However, as the amount of income in FY 2021 has already reached approximately one billion yen, considerably exceeding the target, the target will be increased to one billion yen per year during the fourth period of the Medium-Term Goals, with the expectation of being able to continue earning the same or higher income.

## (4) Number of venture companies established

KU aimed to establish 40 Kyoto University venture companies in the third period of the Medium-Term Goals, in addition to the venture companies established in the second period (twenty-five companies). However, 82 venture companies were established during the third period. KU now plans to establish a further forty venture companies in the fourth period.

#### Strengthening university governance and enhancement of the financial base

Kyoto University's world-class management style

#### 1. Current status and evaluation

#### [Strengthen the governance of the university]

The institutional entities responsible for KU's main functions—education and research—are basically arranged into two large groups, on the one hand education and research organizations such as faculties, graduate schools, and research institutes are collectively referred to as "departments," while on the other hand there are faculty consorts (which group together faculty in related fields).

Frank discussion among motivated staff members (bottom-up) plays a key role in improving the university's organization and operations. However, a sound top-down approach to governance is also necessary for the swift and effective achievement of the research capacity enhancement and education internationalization initiatives described in this proposal. KU actively strives to keep both ways open.

In the past, the university did not have in its organizational structure a unit dedicated to formulating its midand long-term visions for the future and strategies to achieve them; in addition, academic independence is highly valued at KU. These two factors have rendered internal communication among the managerial sector, faculty consorts, and departments comparatively looser than other universities. To strengthen the university's governance and to develop a strategic and effective system to enhance the university's work, it is necessary to establish a permanent structure to coordinate communication and cooperation between the management, departments, and faculty consorts while respecting its historical autonomy.

With the aim of promoting the university's continuing development as a world-class research institution, the Key Presidential Policies also emphasize the importance of ensuring diversity in human resources. In 2022, two female executive vice-presidents were appointed to ensure the diversity of the university's executive staff. In addition, an executive vice-president for transparency and regional contribution has been newly assigned to enhance the international reputation and presence of the university.

#### [Strengthening the financial base]

The university has made proactive efforts to strengthen its financial base, including making budget requests for national university corporation operating expense subsidies, obtaining various competitive funds, receiving collaborative research funds from the private sector, and increasing the amount of funds that can be used to cover indirect costs.

Using the university's President's Discretionary Fund as a financial resource (approximately 3.5 billion yen in FY 2017), KU formulated the Kyoto University Focused Strategic Action Plan (2016–2021) to implement the research capacity enhancement and education internationalization initiatives described in this proposal.

In Japan, the financial resources which a university can strategically use for such initiatives are extremely limited. This becomes even more evident when compared with the way research universities in Europe and the US are legally framed and manage their resources.

This clearly denotes a need for Japanese universities to find new ways to increase self-generated income through activities such as collecting donations from alumni association networks, implementing profit-making businesses (including the use of intellectual properties), and effectively utilizing university assets.

KU used the Grant for the Promotion of National University Reform and Enhancement to provide the startup costs for urgent measures to recruit and develop human resources and measures to enhance research capabilities (such as supporting on-site laboratories). The university will now continue these activities using its own financial resources.

#### 2. Initiatives

#### [Initiatives to strengthen governance]

#### (1) Kyoto University's Provost and the Strategy Council

At major universities in Europe and the US, the provost is the executive staff member responsible for coordinating communication and cooperation between the university's management and its departments and faculty consorts. Typically, the office of the provost is responsible for such coordination at the university-wide level.

As the scope and responsibilities allocated to each executive member at KU is organized very vertically, hence falling into specific rigid areas, such as "education" and "research," KU assigned a provost as the executive responsible for coordinating cooperation among departments and faculty consorts, and developing joint and comprehensive strategies. The university also established the Strategy Council, headed by the Provost. The Strategy Council oversees the ongoing coordination of cooperation with departments and faculty consorts.

For the time being, an executive staff member given a mandate by the President will function as the provost and will head the Strategy Council, which will consist of approximately ten department and faculty consort representatives (accomplished faculty members who will be responsible for the management of the university in the future).

The Strategy Council meets regularly to discuss matters such as future plans for departments and faculty consorts and organizational reform from a mid- to long-term university-wide perspective.

By coordinating with the university's departments and faculty consorts, the council formulates strategic plans based on the university's vision for the future, and it also endeavors to implement those plans quickly and effectively.

Although the council does not have decision-making authority, the outcomes of its discussions are conveyed to the President, Board of Executives, departments, and faculty consorts as feedback, and are utilized to ensure that plans and policies are implemented swiftly and effectively.



Kyoto University's Provost and the Strategy Council

## Expected outcomes

By continuously fostering practical coordination between top-down policy decisions made by the university management and bottom-up feedback from the departments and faculty consorts, KU ensures strong governance and agile implementation of plans and policies while respecting the autonomy of different departments. This system has accelerated the implementation of university-wide plans and policies based on the university's vision for the future, including the initiatives described in this proposal.

This is particularly true since the members of the Strategy Council are leading faculty members who will have a key role in the management of the university in the future, and they are directly involved in the coordination process of developing and implementing strategic plans and policies.

In addition, the increased cooperation and the accumulation of knowledge and experience related to the university's policy decisions boosts new forms of synergy in the development of capable human resources for university management.

#### (2) Evidence-based management of the university from an international perspective

## (International Strategy Office, Institutional Research, University Research Administrators)

To provide support for the formulation and implementation of KU's policies and initiatives, the university needs a support system of specialists to collect and analyze a wide range of information from Japan and overseas. The Institutional Research (IR) Office has been established within the central administration to perform that role. The IR Office gathers information relating to education, research, and other aspects of university operation from sources both in Japan and abroad, and it analyzes that data in comparison with domestic information to enhance the functioning of the university.

For the formulation of its international strategy, KU has established the International Strategy Office, which brings together representatives from all departments involved with education, research, planning, student affairs, public relations, and industry-government-academia collaboration, enabling them to share information on international trends and advance internal cooperation on all major international matters.

In 2011, KU obtained a subsidy from MEXT to employ a team (initially eight people) of university research administrators (URA) to strategically enhance its research capabilities and advance internationalization. Subsequently, in 2012, the university established the Kyoto University Research Administration Office (KURA), which comprises forty URAs under the leadership of the executive vice-president for research. KURA is the largest research support office of its kind in Japan.

KU is planning to review the URAs' activities and redefine their roles and functions to reorganize KURA as a center in October 2022. Through proactive and creative efforts to revitalize research activities, KU will enhance its university-wide research capabilities to contribute to strengthening Japan's research capacity as a center for the cultivation of highly skilled human capital.

The IR Office and KURA are two important pillars of support for the enhancement of university operations. By making the IR Office and KURA accessible to the university's departments and faculty consorts, KU provides them with broad-ranging flexible support and promotes university-wide information sharing.

#### Expected outcomes

Enhancing the functions of the IR Office in collecting and analyzing diverse information related to education, research, international exchange, and industry-government-academia collaboration will facilitate a precise, evidence-based approach to university management and prevent arbitrary decision-making.

KU also expects that further enhancing the structure and functions of KURA will enable it to make a significant contribution to the university internationalization efforts described in this proposal (support for international exchange and research collaboration, recruitment of international students, management of overseas facilities and offices).

## [Initiatives to strengthen the university's financial base]

## (1) Increase self-generated income

KU is implementing the following diverse initiatives to increase its self-generated income.

## 1) Increase of donations

Based on the University Funding Strategy, KU is currently working on ways to strengthen the sharing of information throughout the university about fund raising methods and the use of those funds. The university also expects to further enhance its donation-seeking activities.

To facilitate this, KU has improved the university-wide structure for donation-seeking by employing fundraising specialists to enhance the operations of the Kyoto University Fund Office.

KU expects to enhance its external relations activities, including its involvement with alumni associations in Japan and overseas through the Kyoto University Alumni Association, in order to maintain and develop relationships with former students and researchers who are active in different fields around the world.

## 2) Learning programs for adults

The university expects to increase its self-generated income by providing tailored learning programs for adults that are developed and taught by its faculty members. These new programs will cover diverse fields that aim to meet the needs of industry and society. They will be designed, developed, and implemented through the Kyoto University Originals subsidiary, one of the Kyoto University profit-making ventures.

The university is also planning to offer a wide variety of other certificate-bearing programs, including elearning courses for adults and summer school programs open to students enrolled at other universities.

## 3) Effective use of assets through deregulation

To ensure appropriate and efficient fund management under the revised National University Corporation Act, KU has established a Fund Management Committee comprising members with specialized knowledge and experience, including external experts. The committee deliberates matters necessary for the management of profitable financial products that can now be operated since the revision of the act. Fund Management Guidelines were produced in March 2017 (revised in May 2022) to clarify and enhance operating procedures.

Through this structure, the university envisions an increase in its self-generated income by investing in more profitable financial products. In return, those profits are expected to add to the university's investment capital. In this way, KU will create a virtuous cycle of increasing donations, new investments, and broaden its profit-making capabilities based on the University Funding Strategy.

The university will also request an expansion of the range of purposes for which long-term loans may be taken out by national university corporations.

## (2) Develop the Kyoto University Profit-Making Enterprises

The income earned by the university through the Kyoto University profit-making enterprises (operated by the Practical Implementation Group for industry-government-academia collaboration activities) is expected to function as a key resource for the university's future financial base.

The concept of the Kyoto University profit-making enterprises has been described in the "Collaboration with society" section in item "2. Initiatives to enhance Industry-Government-Academia collaboration." part (1).

#### 3. Key Performance Indicators (KPI)

KU will use the following KPIs for the evaluation and enhancement of the financial base to support the initiatives described in this proposal.

#### (1) Donations received by the Kyoto University Fund Office (including funds for specific projects)

KU aimed to increase the total amount of donations to at least 12.5 billion yen by the end of FY 2021. However, 56 billion yen in donations was received during the third period of the university's Medium-Term Goals, and the total amount of donations has reached 59.4 billion yen. KU aims to receive 12.5 billion yen during the fourth period of its Medium-Term Goals, and to increase the total amount of donations to 71.9 billion yen by the end of FY 2027.

(2) Sales and income from Kyoto University Profit-Making Enterprises (as detailed in the "Collaboration with society" section)

(3) Income from intellectual properties (as detailed in the "Collaboration with society" section)