



Promoting Unique Management Reform at Kyoto University

Developing and Expanding the Designated National University Corporation Initiatives

January 20, 2022

Designated National University Corporation Committee Hearing

Overview of KU's Proposal for Designated National University Corporation Status

KU's Mission Statement

Tackling multifaceted issues, maintaining and developing academic freedom, and **contributing to harmonious coexistence within the human and ecological community on this planet.**



Generate new knowledge, foster innovation, and guide the development of future society.

I. A flexible and dynamic approach to knowledge creation

- Global leader of advanced research in diverse fields
 - Explore new interdisciplinary research fields and develop international collaboration in fields of strength
- Promote world-leading cutting-edge research**
 - 1) Regenerative medicine and advanced medical research**
 - Contribute to human health and wellbeing, and to the future of medicine and health care in the context of a rapidly aging society
 - 2) Fusing sciences: chemistry and biology**
 - Pioneer new academic areas encompassing a wide variety of fields
 - 3) Kyoto University Institute for Advanced Study (KUIAS)**
 - An international hub distilling the knowledge and skills of leading researchers
 - On-site Laboratories**
 - Establish locally-managed laboratories in cooperation with overseas partner institutions (Figure: On-site laboratory system)



II. Generating a high-level and diverse flow of talent

- Enhance the internationalization of education
 - Develop diverse human resources/acquire talented human resources
- Initiatives focusing on students**
- Kyoto University International Undergraduate Program (KYOTO iUP)**
 - An international undergraduate program for domestic and international students
 - Fostering doctoral-level human resources (knowledge professionals) through MEXT's Superior Graduate Programs**
 - Graduate Student Training (GST) Center**
 - Provides training programs to cultivate graduate students with superior teaching and research capabilities
 - International Student Recruitment Office**
 - Strategic recruitment of talented international students
 - Extensive support for graduate and international students**
- Initiatives focusing on young researchers**
- The Hakubi Project**
 - Employ outstanding young researchers regardless of field of study
 - Increase the number of young faculty members**
 - Increase the percentage of regularly-employed young faculty members to 30% within the fourth round of medium-term goals

IV. KU's world-class management style

- Formulate strategic plans through practical coordination between top-down policy and bottom-up ideas
- Secure stable financial resources that the university can strategically use for its own initiatives

Strengthen governance

- Kyoto University's Provost and the Planning and Coordination Council**
- Evidence-based management of the university from an international perspective (International Strategy Office, Institutional Research Office, University Research Administrators)**

• Formulate strategic plans in coordination with the university's departments and faculty consorts

Strengthen the university's financial base

- Increase self-generated income: 1) Donations, 2) Learning programs for adults, 3) Effective use of assets**
- Establish profit-making enterprises**

I. A Flexible and Dynamic Approach to Knowledge Creation ①

- Global leader of advanced research in diverse fields.
- Explore new interdisciplinary research fields, develop international collaboration in fields of strength, and showcase the university's distinctive research internationally.

Medical Innovation

KU Innovation Center for Next Generation Clinical Trials and iPS Cell Therapy (Ki-CONNECT) (2020)

- Clinical application of iPS technology for various intractable diseases.
- Hospital wards and facilities dedicated to clinical trials.
- Clinical biobank linked to clinical information.

 Benchmark : UCSD

Center for Cancer immunotherapy and Immunobiology (2020)



- International center for basic cancer Research.
- Next generation researchers in cancer and immunity fields.
- Collaborative clinical studies with industries for improved efficacy of cancer therapy.

International Hub for Frontier Fusion Studies

KU Institute for Advanced Study

- World-leading distinguished scholars.
- Hub for international exchange of students and researchers for fusion research (international collaborative labs).



WPI centers

Institute for Integrated Cell-Material Sciences (iCeMS)

- Fusion of nanotechnology and life science
- Advanced technology lab (Zeiss).

 Benchmark: Harvard

Institute for the Advanced Study of Human Biology (ASHBi)

- Fusion of human life and genome science/mathematics.
- Forefront genome informatics and primate research facilities.

3

I. A Flexible and Dynamic Approach to Knowledge Creation ②



UC San Diego (UCSD)

Efforts at UCSD (Benchmark Target)

Implementation of advanced research activities in medical fields and close collaboration with numerous local pharmaceutical companies and bio-ventures on the basis of medical center hospitals.

Efforts at KU

Established a KU Liaison Office and on-site laboratory on the UCSD campus to promote research collaboration with UCSD and local partners.

Annual showcase at which university startups present their research “seeds” to local investors and pharmaceutical companies held since 2019.



Wyss Institute at Harvard U

Efforts at the Wyss Institute (Benchmark Target)

The Wyss Institute is a world-leading frontier Institute that is exploring a new scientific field focusing on mesoscopic interaction between molecules and living organisms.

Efforts at KU

iCeMS promotes research to develop new interdisciplinary fields focusing on the fusion of materials science and bioscience. It now has five on-site laboratories and one international collaborative laboratory (France), and its scientific achievements are becoming comparable to those of the Wyss Institute.

KPI (Progress Status)

KPI ①: Number of papers published in the world's top 5% journals By the 4th Period of the Medium-Term Goals: 900 (3rd Period: 800).

AY 2018	AY 2019	AY 2020	AY 2021
869	854	863	795 (tentative)

KPI ②: Number of international full-time researchers By the end of AY 2027: 600 (end of AY 2021: 500).

AY 2018	AY 2019	AY 2020	AY 2021
434	420	391	428

*As of the end of November 2021

KPI ③: Number of researchers going abroad/from abroad (medium to long-term) (excluding students).

By the end of 2027: Going abroad: 400 (360 as of the end of 2021)
From abroad: 600 (549 as of the end of 2021)

	AY 2018	AY 2019	AY 2020	AY 2021
Going abroad	205	189	24	—
From abroad	607	578	297	150

*As of the end of November 2021

*Figures for KPI ③ are calculated in the following year (Going abroad: November / From abroad: around May).

*Figures decreased after 2020 due to the COVID-19 pandemic.

4

I. A Flexible and Dynamic Approach to Knowledge Creation ③

● Strengthening research capability and internationalization

On-site Laboratories

- ✓ Locally-managed laboratories established in cooperation with overseas partner research institutions, etc.
- ✓ Promoting world-leading cutting-edge research by proactively implementing research exchange.
- ✓ Recruiting talented international students and strengthening collaboration with industrial partners.

On-site Laboratories

- 1 Kyoto University Research Center San Diego (San Diego, USA)
- 2 IFOM-KU Joint Research Laboratory (Kyoto, Japan)
- 3 Kyoto University-Tsinghua University Cooperative Research and Education Center for Environmental Technology (Shenzhen, China)
- 4 Kyoto University On-site Laboratory at Mahidol University for Educational and Research Collaboration in Environmental Studies (Bangkok, Thailand)
- 5 Smart Materials Research Center (Rayong, Thailand)
- 6 Kyoto University Shanghai Lab (Shanghai, China)
- 7 Center for Advanced Genomic Field Science (Kampala, Uganda)
- 8 iPS Cell Research Center at Gladstone Institutes (San Francisco, USA)
- 9 Center for Integrated Biosystems (Taipei, Taiwan)
- 10 Quantum Nano Medicine Research Center (Kyoto, Japan)
- 11 Laboratory for Green Porous Materials (Singapore)
- 12 Center for Integrated Data-Material Sciences (Wellington, New Zealand)

Overseas Centers (ASEAN, European, and North American Centers)

- ✓ Supporting education and research activities.
- ✓ Promoting internationalization of students, faculty, and staff members.
- ✓ Strengthening networks with local alumni associations and research institutions, etc.



KPI (Progress Status)

KPI ④: Cumulative number of on-site laboratories established
By the end of AY 2027: 5 in total

AY 2018	AY 2019	AY 2020	AY 2021
5	11	12	13

Outbound type: 10, Inbound type: 2, Cross-bound type: 1

A total of 13 on-site laboratories have now been established
→ Goal significantly exceeded.

⑤ Smart Materials Research Center

- ✓ Twelve published papers produced through international research collaboration. Partner institution VISTEC was ranked first in the Nature Index ranking in Thailand.
- ✓ Conducts international student recruitment activities, including holding study-abroad explanatory sessions at top universities in Thailand, including VISTEC.

① Kyoto University Research Center San Diego

- ✓ Expanding the university's industry-academia research collaboration network by holding an annual showcase to present medical research "seeds" and technologies.
- ✓ Has co-hosted 12 online seminar series on medical research with UCSD so far. A total of over 1600 researchers have participated in the seminars.

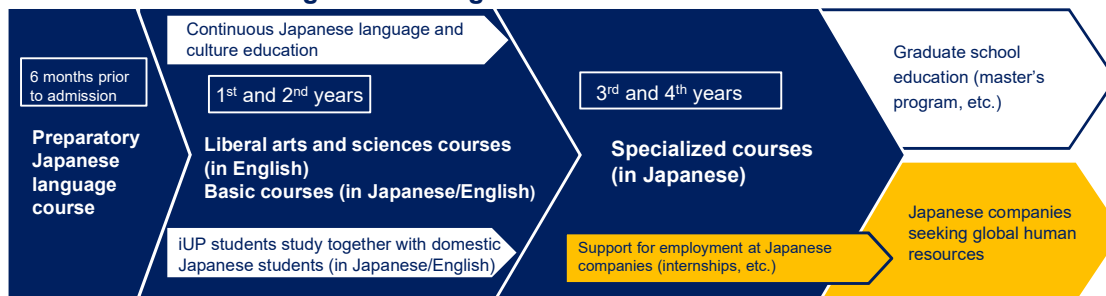
5

II. Generating a High-Level and Diverse Flow of Talent ①

- Enhance the internationalization of undergraduate and graduate education.
- Develop diverse human resources at all levels—from students to faculty members—and recruit talented human capital in Japan and from overseas.

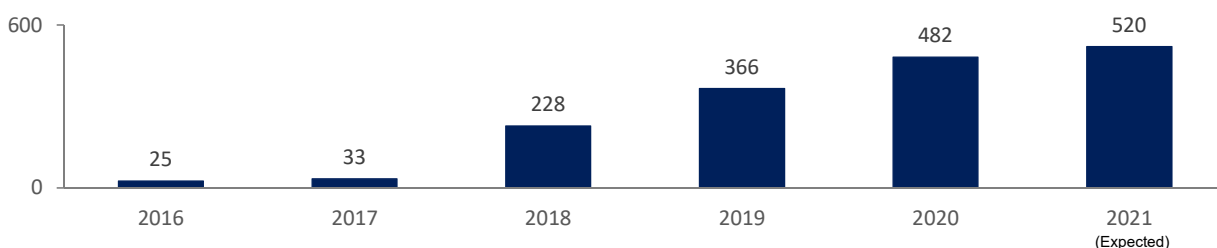
Kyoto iUP

KU International Undergraduate Program



Aim to enroll a maximum of 80 talented international undergraduate students in each grade (total program enrollment of approx. 320 students).

Number of Kyoto iUP applicants



II. Generating a High-Level and Diverse Flow of Talent ②

Establishment of the Graduate School Education Support Organization (2021)

- Integrated planning and implementation of graduate school liberal arts education and career development support.
- Support for the enhancement of graduate school functions for the development of researchers and highly specialized professionals.

Expanded support for graduate students' living expenses.

Recruiting talented international students.

Providing educational opportunities to promote career development and industry-academia collaboration.



7

II. Generating a High-Level and Diverse Flow of Talent ③

UC Berkeley

Efforts at UC Berkeley (Benchmark Target)

Despite the low number of faculty members per student (ST Ratio), the Teaching Assistant (TA) system is effectively utilized to provide graduate students with comprehensive educational support, enabling many to engage in advanced and diverse work as instructors with salary.

Efforts at KU

Established the GST Promotion Office in 2020 to plan and implement training to improve graduate students' teaching and research skills, and develop basic training for TA quality assurance.

Established the Graduate School Education Support Organization in October 2021 to assume the functions of the GST Promotion Office to improve courses for the development of graduate students' teaching skills.

Imperial College London

Efforts at Imperial College London (Benchmark Target)

Among the world's top universities, the ratio of international students is particularly high at 54.2%, and Imperial College London has been implementing strategic recruitment of talented international students from around the world.

Efforts at KU

Established the International Admissions Assistance Office (IAAO) in April 2019 to provide support for the recruitment of talented international students. Researched and analyzed the university education systems of different countries around the world, and engaged in recruitment activities through the development of short-term exchange programs.

Established the Graduate School Education Support Organization in October 2021 to assume the functions of the IAAO and further improve efforts, including strategic recruitment of highly talented international students to graduate schools.

KPI (Progress Status)

KPI ①: Number of students from abroad
 AY 2027: 4,000 (Approximately 17% of all students)
 (End of AY 2021: 3,300 (Approximately 14% of all students))

AY 2018	AY 2019	AY 2020	AY 2021
3,558	3,902	3,302	3,216

*As of the end of October 2021

KPI ②: Number of students going abroad (excluding students traveling overseas to attend academic conferences)
 AY 2027: 2,000 (Approximately 9% of all students)
 (End of AY 2021: 1,600 (Approximately 7% of all students))

AY 2018	AY 2019	AY 2020	AY 2021
1,544	1,332	24	83

*As of the end of November 2021

KPI ③: Cumulative number of joint and double degree programs
 End of AY 2027: 20 in total (End of AY 2021: 14)

AY 2018	AY 2019	AY 2020	AY 2021
21	24	25	26

*As of the end of November 2021

KPI ④: Number of multi-nationally authored papers produced by students
 End of AY 2027: 1,000 (End of AY 2021: 820)

AY 2018	AY 2019	AY 2020	AY 2021
681	600	668	—

*KPI ④ is calculated in May every year.

8

II. Generating a High-Level and Diverse Flow of Talent ④

The Hakubi Project



- Recruiting young researchers tackling challenging research subjects based on open-minded and creative thinking.
- 90% of researchers who completed the Hakubi Project in 2020 have attained tenured or tenure-track positions at a university or research institution in Japan or overseas.
- Contributes to the increase of early-career faculty members, the enhancement of research capacity, and the cultivation of talented young researchers at the university.

Toward the fourth period

- ✓ Plans to develop and implement efforts to retain researchers who have completed the Hakubi Project at the university, and efforts to increase the number of female researchers employed through the project.

Tenure track for faculty

Recruiting and fostering excellent early-career faculty members

- Increase the number of positions for early-career faculty members through the Strategic Project to Secure Positions for Young Faculty Members.
- Advance efforts to increase the number of early-career faculty members by raising awareness of the importance of achieving an appropriate age balance among the members of each of the university's faculty consorts.

Toward the fourth period

- ✓ Establish a functional enhancement system.(*)
- ✓ Establish a system to enable the adjustment of employment quotas to employ young and female faculty members, and a system that enables employment quota transfer to increase the number of female professors.

*Personnel system to promote the flexible and effective reorganization of education and research organizations to recruit diverse and excellent researchers, including young and female researchers.

KPI (Progress Status)

KPI ⑤: Cumulative number of researchers employed through the Hakubi Project
AY 2027: 325 (End of 2021: 215)

AY 2018	AY 2019	AY 2020	AY 2021
154	167	181	193

*As of the end of November 2021

KPI ⑥: Percentage of regularly-employed young faculty members (under 40 years old)
AY 2027: 30.0%

AY 2018	AY 2019	AY 2020	AY 2021
17.7%	18.9%	19.4%	19.0%

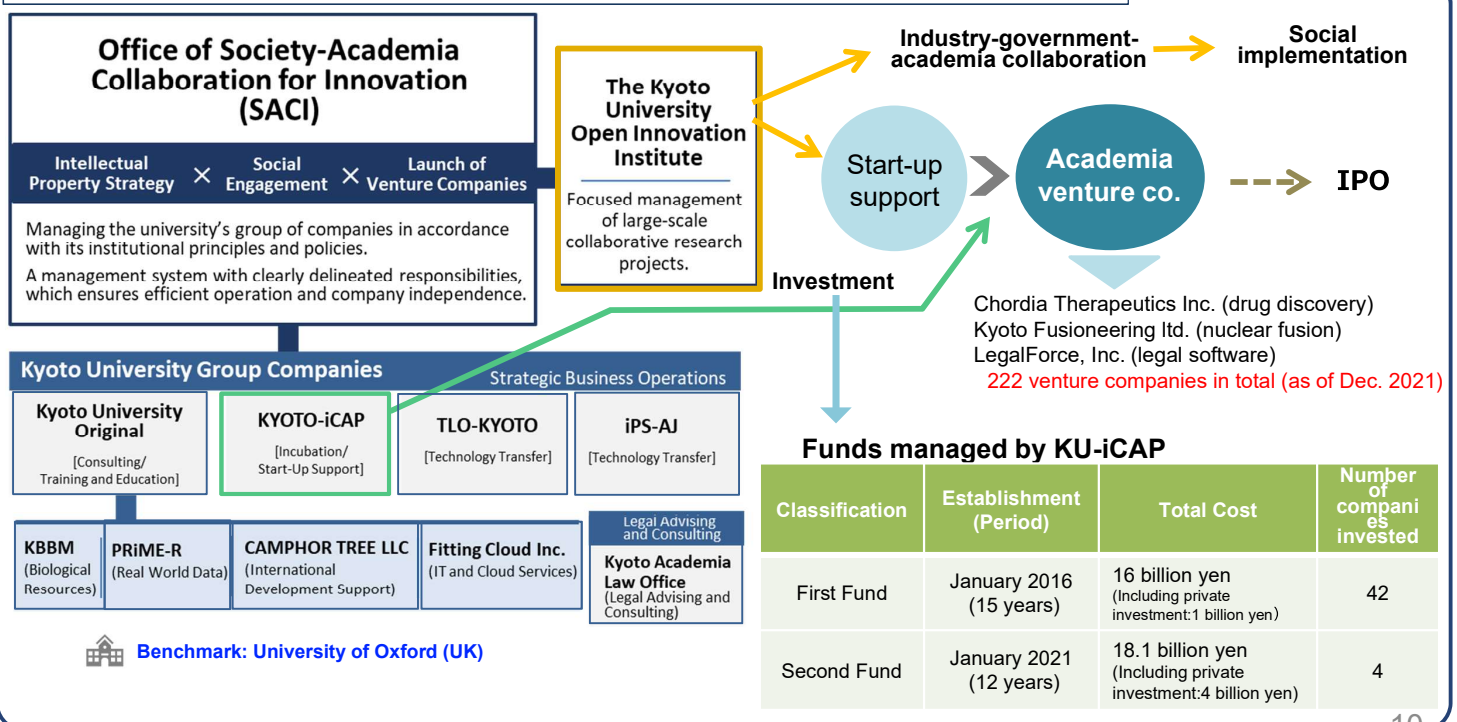
*As of the end of October 2021

9

III. Exploring New Forms of Social Engagement ①

- Establish the “Kyoto University model” for industry-government-academia collaboration to operate businesses with diverse functions, and create an industry-academia collaboration “value chain.”
- Strengthen the dissemination of Kyoto University's new approaches to the humanities and social sciences.

The “Kyoto University Model” for industry-academia collaboration



10

University of Oxford

Efforts at the University of Oxford (Benchmark Target)

Implementation of international industry-government-academia collaboration and technology transfer activities based on advanced academic research.

Established the wholly university-owned subsidiary Oxford University Innovation (OUI) in 1987, which comprises three business sections: patent management and technology transfer, consulting services, survey and human resource development services for companies. The scale of OUI's operations, including its income from technology transfer, was approximately ten times as large as that of KU (as of 2015).

Efforts at KU

Established four subsidiary companies to engage in practical operations to promote the use of research results and practical application of the university's research seeds: TLO-KYOTO Co., Ltd. and iPS Academia Japan, Inc. (technology transfer), Kyoto University Original Co., Ltd. (consulting, training, and education service), and KYOTO-iCAP (venture support). The establishment of the "Kyoto University Model," in which subsidiary companies work together effectively, has led to a steady increase and expansion of the scale of industry-academia collaboration projects.

KPI (Progress Status)

KPI ①: Sales and income from the subsidiary companies
The 4th period of the Medium-Term Goals: 1,500 million yen
(3rd period: become profitable) (Yen)

AY 2018	AY 2019	AY 2020	AY 2021
660 million	750 million	790 million	620 million

*Revenue from iPS Academia Japan, Inc. is not included *As of the end of November 2021

KPI ③: Revenue from intellectual property
The 4th period of the Medium-Term Goals: 500 million yen per year
(End of AY 2021: 433 million yen) (Yen)

AY 2018	AY 2019	AY 2020	AY 2021
720 million	720 million	850 million	620 million

*As of the end of November 2021

KPI ②: Amount of funding for collaborative research
The 4th period of the Medium-Term Goals: 8 billion yen per year
(End of AY 2021: 6.275 billion yen) (Yen)

AY 2018	AY 2019	AY 2020	AY 2021
5.11 billion	5.83 billion	6.34 billion	4.31 billion

*As of the end of November 2021

KPI ④: Number of venture companies established
The 4th period of the Medium-Term Goals: 40 (The 3rd period: 40)

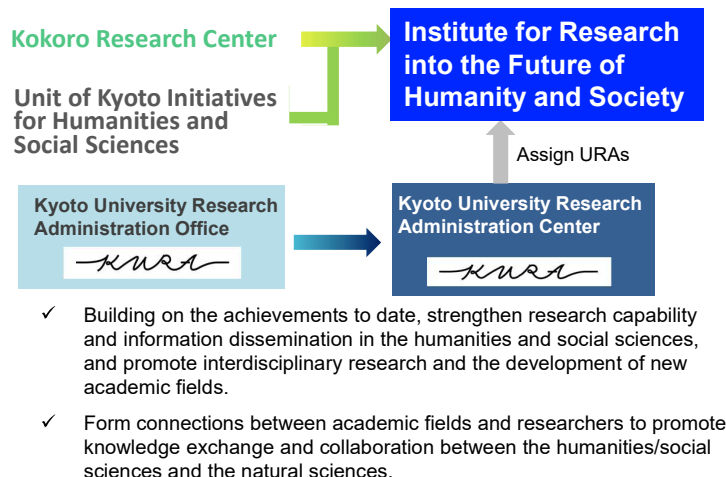
AY 2018	AY 2019	AY 2020	AY 2021
35	51	66	75

*As of the end of November 2021

Dissemination of the university's new approaches to the humanities and social sciences

- Enhancing internationalization and dissemination of research in the humanities and social sciences, and fostering a fusion of the humanities and sciences to develop new academic disciplines.
- Established the Unit of Kyoto initiatives for the Humanities and Social Sciences as a multidisciplinary organization of faculty members from diverse relevant departments. Held a series of online public lectures to enhance collaboration with industry and society.

Planned establishment of the **Institute for Research into the Future of Humanity and Society** as a hub organization to provide systematic support to the humanities and social sciences, and to contribute to the natural sciences for the **creation of new academic fields and comprehensive knowledge**.



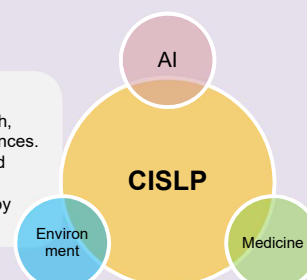
Center for Interdisciplinary Studies of Law and Policy (CISLP)

Addressing advanced legal and policy issues beyond the conventional frameworks of law and politics to broadly target social changes brought about by the development of new science and technology such as AI, and play a leading role in establishing international rules and standards with the aim of putting legal systems into practice.

(Established in April 2021)

Main activities

- Interdisciplinary education and research, including fusion of the humanities and sciences.
- International research collaboration and information dissemination.
- Collaborative research and education by researchers and practitioners.



- Practical coordination between top-down policy and bottom-up ideas to formulate strategic plans to address comprehensive issues, including the future vision of the university.
- Secure stable financial resources to fund the university's DNU initiatives.

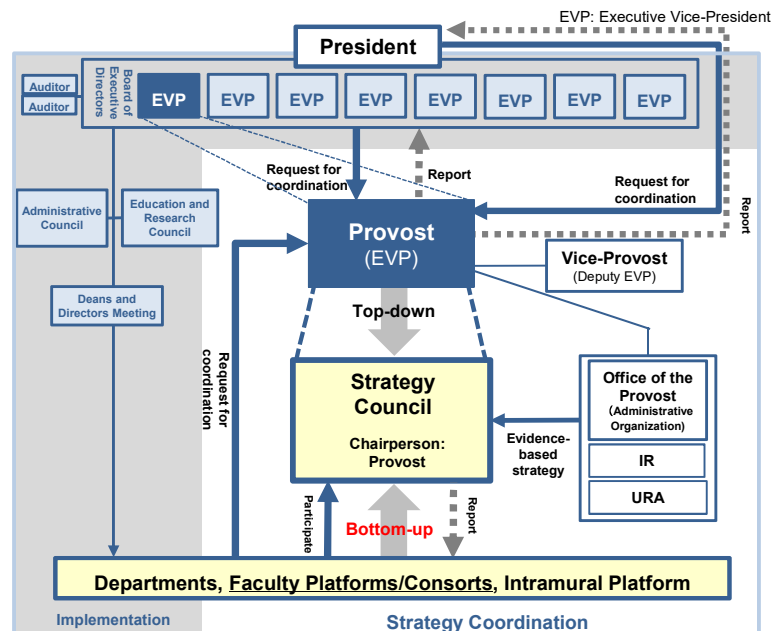
Appointment of the KU Provost to enhance the university governance system

Steady implementation of various initiatives through the enhancement of the university governance system.

As Kyoto University comprises 10 faculties, 18 graduate schools, 20 research institutes and centers, and a hospital, it is important to coordinate operations between the central administration and those departments.

➔ The Provost system enables the sharing of a future vision and close communication between the university's central administration and its various departments.

- ✓ Established the "Strategy Council" in which faculty members from different departments, who will be responsible for university management in the future, can discuss issues quickly to ensure the implementation of initiatives from a perspective beyond the interests of individual departments.
- ✓ Coordination of top-down policy from the central administration with bottom-up ideas from departments to ensure strong governance and the quick implementation of measures, while respecting the independence of diverse departments.



Main efforts of the Strategy Council

Formulation of strategies to address university-wide and cross-departmental issues, including organizational reforms and the university's mid- and long-term visions.

Swift implementation of initiatives

- Increasing the number of positions for young faculty members
- On-site Laboratories
- Establishment of the Institute for Research into the Future of Humanity and Society
- Exploring methods of international student recruitment, etc.

Implementation of new initiatives

- Measures to promote gender equality
- Measures to promote the recruitment of graduate students and early-career researchers
- Measures to reduce the administrative burden on faculty members
- Exploring approaches to faculty member performance evaluation and personnel matters
- Visualization of education and research information and reallocation of university resources with a view to strengthening the management framework

Initiatives under consideration for the 4th period

- Restructuring of the research support system
- Fundamental orientation of information infrastructure development
- Administrative reform and improvement of the personnel and salary systems for administrative staff

Evidence-based university management from an international perspective (IR/URA)

- Enhancement of IR functions to facilitate the formulation of evidence-based strategies.

Cooperation between the Office of the Provost and KURA to enhance the IR section to assist the executive board in making timely and appropriate decisions by identifying and analyzing university resources and international trends.

- ✓ Providing information that can be used for decision-making in university management through the utilization of BI tools, analysis reports, etc.
- ✓ Consolidating basic university data, and developing a system for the effective use of data.

- Efforts by KURA to strengthen research capability.

Aiming to become a university that can produce and circulate knowledge and human capital across academic boundaries by creating new academic fields, deepening international collaboration, developing and securing diverse human resources, accelerating industry-government-academia collaboration, and enhancing the research environment.

- ✓ Establishing a career path and personnel system for URAs, including personnel exchange with the university's subsidiary companies, ministries and agencies, and other organizations.
- ✓ Secure a financial base to expand the permanent employment of URAs.

Establishment of a donation system

- Expanding and enhancing the functions of the Kyoto University Fund Office by employing fund-raising specialists with sales experience at financial institutions, etc.
 - Seek donations to the Kyoto University Fund by proactively fund-raising among major companies, alumni entrepreneurs and corporate executives, and alumni associations in Japan and abroad.
 - Cumulative amount of donations received as of December 10, 2021: 56.3 billion yen
 - Using donations to support talented students and education and research activities, in addition to receiving donations for research into the novel coronavirus.
- ✓ Promoting fund-raising activities through centralized management of alumni information.
 - ✓ Accepting bequests, securities, and other valuable assets donated by individuals.

● Achievements of the enhanced donation system

Fund establishment

Foundation of the ONO Pharmaceutical and Dr. Honjo Honorary Research Fund (23 billion yen)

Purpose:

Enhance research capability by strengthening the research environment for young researchers in the natural sciences, particularly in life sciences.



Research Grants

Donation by President Tadashi Yanai to aid research activities
(President and CEO of Fast Retailing Co., Ltd.)

Research grant for PD-1 inhibitor cancer immunotherapy
5 billion yen in total

Research grant for iPS cell research
Research fund: 500 million yen



Student Support: Create the Future Project (CF Project)

A two billion yen fund to provide financial support for motivated students facing financial difficulties. Established using donations from companies and individuals, including architect Tadao Ando and Nitori Holdings Co.

KPI (Progress Status)

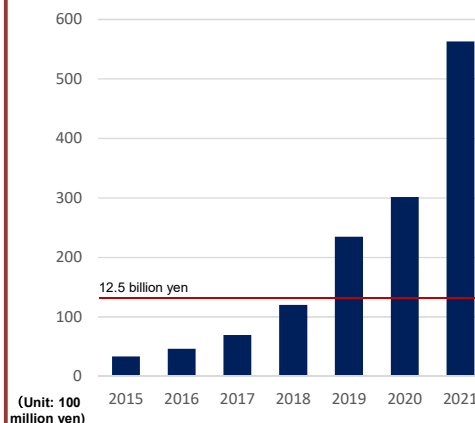
KPI ①: Cumulative amount of donations to the Kyoto University Fund (including special purpose funds)

End of AY 2027: 15.5 billion yen
(End of AY 2021: 12.5 billion yen)

AY 2018	AT 2019	AY 2020	AY 2021
12.1 billion	23.4 billion	30.1 billion	56.3 billion

*As of December 10, 2021

Cumulative amount of donations to the Kyoto University Fund (including special purpose funds)



Continuing the Evolution of Kyoto University

Further development as a world-class research university

- Decisive reform of the university's organizations and systems to restructure the education and research support system, secure diverse human capital, strengthen the financial base, and achieve radical transformation as a research university

Education and student support

- Enhance student welfare and support services to facilitate the enrollment and education of diverse students.
- Improve education contents and systems in accordance with the wishes of students and the needs of the current era.

Support for Research Activities by Faculty Members

- Secure diverse and outstanding researchers, including young and female scholars, from Japan and overseas.
- Create an environment in which faculty members can fully devote themselves to their education and research activities.

Improvement of Operational Management System

- Radically improve the university's administrative organizations and employment systems.
- Enhance the policy-making skills of administrative staff members.
- Comprehensively reduce inefficient expenditure.

Enhancing governance and strengthening the financial base

- Fully utilize the Provost system to provide specific recommendations on measures key to the achievement of future plans, etc., and to strengthen presidential leadership.
- Strengthen the financial base by increasing the amount of donations to the university, and allocate internal funds strategically.