

National University Corporation Osaka University

Designated National University Corporation Conceptual Framework for the Fourth Medium-Term Goal Period

Osaka University's Future Vision:

A university that creates a society where each member leads a meaningful and fulfilling life

I. Basic Approach

Ever since its founding, Osaka University has inherited the civic spirit of Kaitokudo and Tekijuku, deeply rooted in the Osaka region, while valuing its relationship with the free and unfettered civic society of Osaka and nurturing the spirit of a “university in society, university for society.”

During the third medium-term goal period, we aimed to become “a world-leading innovative university contributing to social transformation” by 2031, when we celebrate our 100th anniversary. We have laid the foundations for achieving “co-creation with society” beginning with the establishment of the OU (Osaka University) Ecosystem that creates a virtuous cycle of knowledge, talent, and funds, whereby the outcomes of education and research generated through intellectual curiosity, which is a hallmark of the university, are employed and applied in society. New issues identified through this process are in turn fed back to the university to advance research and education further.



Figure: The OU Ecosystem

Meanwhile, society's expectations of universities in terms of cultivating talent and fostering innovation are growing ever higher in the context of a major reorientation of social systems to tackle challenges such as the COVID-19 pandemic and the pursuit of the SDGs and carbon

neutrality.

In order to respond to these momentous changes in society, Osaka University has resolved to take a step beyond simply making “social contribution,” and to pursue “social creation”: specifically, **to create “a society where each member leads a meaningful and fulfilling life.”** Based on this goal, the **OU Master Plan 2027** sets forth strategies for the university to pursue in the fourth medium-term goal period.

A “society where each member leads a meaningful and fulfilling life” is one **where the active lifespan of individuals (social longevity) is extended, people of all ages utilize their diverse attributes, and each and every member of society enjoys a happy and rewarding life.** Put another way, we believe that initiatives such as extending social lifespan and enabling people to contribute to society will lead to the creation of a society where each member leads a meaningful and fulfilling life.

It is imperative to resolve the significant challenges that stand in the way of humanity achieving such a society. For example, we must overcome threats to human existence such as novel infectious diseases and food supply problems and build a more resilient society; create new industries from cutting-edge research and empower diverse people to participate in society; and raise people’s capacity to adapt to rapidly changing social conditions.

The challenges facing humanity change from moment to moment in line with the prevailing social conditions, so we need not only to tackle the challenges of the present day, but also to prepare to address any new challenges that may emerge in the future.

By putting into action the initiatives laid out in the OU Master Plan 2027, we will seek to achieve these goals and help to create a society where each member leads a meaningful and fulfilling life.

II. Achievements to Date

The following are Osaka University’s major achievements during the third medium-term goal period, since being selected as a Designated National University Corporation in 2019.

II-1. Strengthening Research Capacity

Informed by data from analysis of research capacity, we have vigorously promoted research through priority support for three key areas of research strength at Osaka University: Integrated Frontier Research for Medical Science, Symbiotic Intelligent Systems, and Quantum Information and Quantum Biology. Notably, in the area of quantum research within the International Advanced Research Institute, we established the Center for Quantum Information and Quantum Biology as our second world-class research center after the Immunology Frontier Research Center. The Center for Quantum Information and Quantum Biology is already achieving success, including **the Center being selected as a Quantum Software Research Hub which is the priority field (quantum technology) under the policy of the program on Open Innovation Platform for Industry-Academia Co-creation.**

Moreover, evidence-based research support delivered through a combination of institutional

research (IR) activities and university research administrators (URA) in the Office of Management and Planning has yielded an **increase in the number of research papers published** (from 6,117 in 2016 to 7,169 in 2021), which is expected to bring benefits including a higher placing in university rankings in the future.

II-2. Attracting and Cultivating Talent

Throughout both the undergraduate programs and graduate schools, Osaka University consistently cultivates individuals for leadership roles in knowledge based society, equipped with advanced expertise, profound academic insights, broad general knowledge, international mindset, and design prowess. Notably, with a view to fostering multifaceted and comprehensive perspectives among our graduate students, we introduced the Graduate Minor Program and Graduate Program for Advanced Interdisciplinary Studies, which provide students with broad-ranging knowledge beyond their individual fields of specialization. Building on these programs, we have also established **Double-Wing Academic Architecture (DWAA) to nurture doctoral professionals capable of generating social innovations across a wide range of fields not limited to academia.**

We are committed to attracting and cultivating diverse talent. **We have already achieved our target percentage of international researchers and are on track to achieve our target percentage of female researchers as well.**

II-3. Co-Creation with Society

Osaka University was an early adopter of the keyword “co-creation,” and we have been active in pursuing the creation of new values in collaboration with society. The Co-Creation Bureau, established in 2018 and modeled on the industry-university collaboration offices at one of our international benchmark universities (EPFL, the Swiss Federal Institute of Technology in Lausanne), has achieved remarkable success as the command center of our co-creation activities. Promotion of the OU Ecosystem, which aims to produce a virtuous cycle of knowledge, talent, and funds, has led to a **twofold increase in joint research revenue since 2016. Our percentage of international co-authored papers is currently the highest among all ten Designated National University Corporations,** and we have also achieved **the second place in Japan in terms of both number and amount of joint research projects.**

II-4. International Collaboration

Our number of Global Knowledge Partners – leading universities overseas with which we pursue strategic partnerships – has now grown to six, and we are **promoting joint research tackling global-scale problems** and **cultivating highly skilled talent.**

Osaka University ASEAN Campuses have been established in cooperation with institutions such as Mahidol University, Institut Teknologi Bandung, Vietnam Academy of Science and Technology, and Universiti Brunei Darussalam, and are **promoting the cultivation of highly skilled talent to tackle regional problems emerging in ASEAN countries.**

II-5. Governance Reform and Reinforcement of the Financial Base

Modeled on the college system in one of our international benchmark universities (The University of Edinburgh), we have established two Senior Executive Vice President (Osaka University Provost) positions and three Strategic Meetings as large groupings of departments by disciplinary area. This has produced a **system for swift implementation of optimal decision-making**, while enabling two-way communication from both the top down and bottom up.

In terms of strengthening the financial base, the abovementioned OU Ecosystem has powered our efforts to expand large-scale joint research revenue and enlarge the Osaka University Foundation for the Future, leading to **steady growth in the university's overall revenue and the cumulative value of the Foundation**.

In preparation for the April 2022 issuance of university bonds as a new source of revenue (to the value of 30 billion yen), we obtained credit ratings (R&I: AA+, JCR: AAA) and were awarded the overall evaluation of SU 1 (F) in the Sustainability Bond Framework.

The spread of the COVID-19 infection from 2020 led inevitably to restrictions on many types of activity, but we responded swiftly and flexibly in accordance with infection levels and specific forms of activity, establishing Osaka University's Activity Levels, which became a model for other universities to follow. In July 2020, we formulated the Initiatives at Osaka University in the New Era of COVID-19 with a view to life both with and after COVID-19. Through these and other initiatives, we are pursuing education, research, co-creation, and international activities attuned to the ongoing changes in society.

As noted earlier, we have achieved notable successes in systems created using our international benchmark universities as a reference point, including the Co-Creation Bureau, the Osaka University Provost system, and system of Strategic Meetings in disciplinary groupings.

In order to perform quantitative analysis of our activities, we conducted a survey of research paper output at Osaka University and our international benchmark universities (University of California, Berkeley; The University of Edinburgh; EPFL), comparing the four years from 2013 to 2017 with the four years from 2017 to 2021. This survey revealed that Osaka University and the three benchmark universities all recorded a rise in both the number of papers published and the proportion of international co-authored papers. At Osaka University, the **number of research papers published, which had been on a downward trend, began to recover in 2016, and has achieved especially remarkable growth in the most recent two years. The percentage of international co-authored papers is also rising steadily year to year**, and the gap between Osaka University and the international benchmark universities is expected to narrow further in the coming years. In terms of field-weighted citation impact (FWCI), however, only the University of Edinburgh recorded an increase, with all other institutions declining. This downturn in FWCI is an issue at Osaka University as well, and we will seek to boost our performance by proactively pursuing the research capacity strengthening strategies introduced later in this document. **Osaka University's percentage of collaborative articles co-authored in partnership with industry is notably higher than all three international benchmark universities and is maintaining a stable upward trajectory**. Co-creation with industry, already a significant strength of our university, will

be advanced even further in the future, centered on the work of the Co-Creation Bureau.

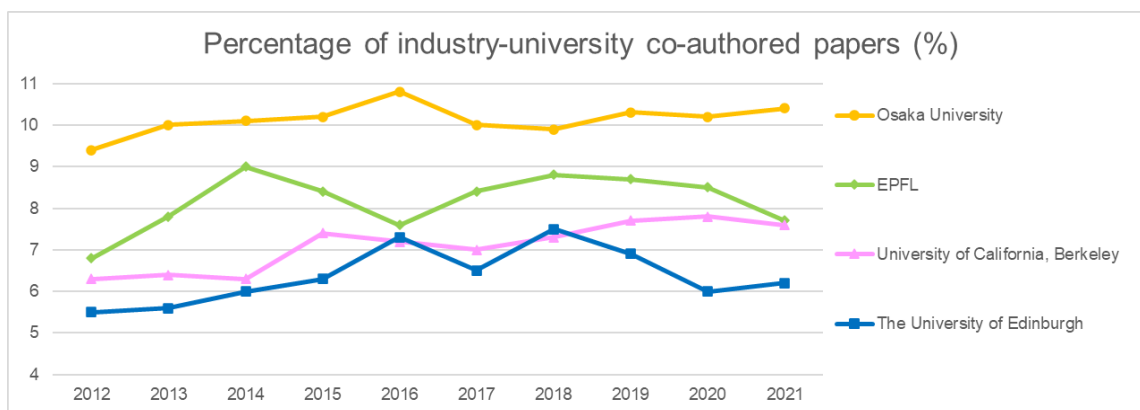


Figure: Percentage of Industry-University Co-Authored Papers
(Comparison with International Benchmark Universities)

III. Specific Initiatives

This section explains the specific initiatives Osaka University will pursue as part of the Designated National University Corporation concept in the fourth medium-term goal period.

III-1. Strengthening Research Capacity

We aim to provide an environment that enables all Osaka University researchers to apply themselves to research founded on intellectual curiosity, unfettered by short-term outcomes, and promote the pursuit of various fundamental research that is the keystone of an academic institution. This will serve as a foundation for strengthening the planning and support for research promotion, and through priority funding, we will (1) ensure our university's diverse and outstanding research will be recognized at a global level, and (2) attract talented researchers from Japan and overseas, and thus (3) form world-class research centers in their respective fields, both in name and reality, and promote transdisciplinary research that generates innovations to solve societal issues.

Initiative 1-1. Form World-Class Research Centers Leveraging the University's Strengths and Pioneering New Fields of Research

o Forming world-class research centers

- We will promote the formation of world-class centers focused on the International Advanced Research Institute. In priority areas expected to develop into global research initiatives (which currently includes Integrated Frontier Research for Medical Science, Symbiotic Intelligent Systems, and Quantum Information and Quantum Biology), we will inject resources intensively, allocate faculty positions on a priority basis, and pursue other measures to create research environments attractive to outstanding researchers from Japan and overseas. This will **further accelerate the strengthening of research capacity and lead to the procurement of large-scale research funds, as well as boost our profile internationally.**

○Advancing infectious disease research

- At the Center for Infectious Disease Education and Research established in April 2021, we will advance fundamental research for the swift development and rollout of multidisciplinary approaches to prevention, diagnosis, and treatment, and also work on disseminating information to the public, formulating policy recommendations, and training future leaders in infectious disease response.
- We will promote open innovation bringing together knowledge and talent from Japan and overseas through the construction of a new research building (tentative completion date of February 2025) which will play an important role in the advancement of research related to infectious diseases.
- Through these initiatives, we will **build a world-class infectious disease education and research platform, and generate outcomes in infrastructure and system development and fundamental research to contribute to a sustainable society.**

○Developing and expanding new research fields

- Centered on the Institute for Open and Transdisciplinary Research Initiatives, we will pursue the formation of hubs for novel interdisciplinary research that **contribute to the generation of innovation with a view to solving societal issues.**
- We will build a team of URAs in the university headquarters that works organically with university-wide IR activities to identify the university's strengths and to investigate and support the formation of new centers and identification of priority research areas.
- To tackle complex societal issues, we will accelerate and expand transdisciplinary co-creative research which provides a basis for the creation of new fields of academic endeavor. Particularly, establishing research infrastructure that incorporates next-generation AI—one of the university's strengths—into data-driven transdisciplinary research.
- We will strategically assign URAs to areas earmarked for strengthening, proactively uncover and propose fields and seeds of new research, and enhance research support systems connected with the procurement of external funding.

Initiative 1-2. Establish a Research Strategy that Leverages the Potential of the Humanities and Social Sciences

- We will **invigorate digital humanities research and create new fields of research in the humanities** centered on the Digital Academia structure launched in 2022, in the new Disciplinary Network in the Humanities within the Graduate School of Humanities, as well as a new department to be established within the Global Japanese Studies Education and Research Incubator for the purpose of strengthening collaborations with science and engineering departments.
- In the Social Solution Initiative and the Research Center on Ethical, Legal and Social Issues, we will implement research projects led by the humanities and social sciences or based on collaboration between the humanities and social sciences and other disciplinary areas such as medical, dental, pharmaceutical and life sciences or science, engineering, and information science,

enabling a convergence of knowledge that further advances multidisciplinary research.

Connections with Osaka University's Future Vision: A society where each member leads a meaningful and fulfilling life

• From world-class research leveraging Osaka University's strengths through to an extensive range of fundamental research, our diverse research outputs will generate value for society in a variety of forms including technological innovation, mental and physical health, and sustainable communities. These diverse values will lead to the resolution of key human challenges including overcoming existential threats to humanity, creating new industries, and improving people's adaptability to dramatic changes in society. This will extend people's active lifespan in society (social longevity) and enable the realization of Osaka University's ideal of a society where each member leads a meaningful and fulfilling life.

Anticipated Outcomes [Initiatives 1-1 and 1-2]

- We anticipate that unearthing world-leading research fields and attracting outstanding researchers from Japan and overseas will advance our activities toward the establishment of world-class research centers and formation of hubs for groundbreaking innovation, and contribute to the resolution of global challenges.
- The Center for Infectious Disease Education and Research's collaborations with industry partners and institutions in Japan and overseas are expected to make significant contributions to the suppression of infectious disease, a common challenge for all humanity. Moreover, by providing a platform for discussion among experts from different fields, the Center will enable the pursuit of infectious disease research that integrates medicine with the social sciences (behavioral economics, psychology, etc.), the sharing of evidence-based scientific information with society, and the provision of policy recommendations.
- Mobilizing the diverse resources of a research-intensive comprehensive university to pursue holistic research that transcends disciplinary boundaries is expected to contribute to the resolution of a diverse range of societal issues.

III-2. Attracting and Cultivating Talent

To resolve increasingly complex societal issues such as those identified in the SDGs, it is essential to develop a high level of versatility and consider problems from multiple angles, rather than applying a unidirectional approach. Moreover, in order to realize a society where each member leads a meaningful and fulfilling life, it is essential for people to be able to realize their potential and be active in their own way, regardless of the changes that may occur. By continuing to produce vibrant individuals capable of tackling a variety of future challenges in society, Osaka University will respond to its social mandate as an institution of educational excellence.

[Student-Focused Initiatives]

Initiative 2-1. Cultivate Advanced Specialists with Multifaceted and Comprehensive Perspectives

○Enhancement of education from undergraduate level through to graduate school

- Under the three pillars, in which students not only deepen their knowledge in an Academic Major, but also Liberal Arts and Global Literacy, we will **implement an integrated curriculum from the first year of undergraduate studies through to the completion of graduate school** to develop students' capacity to apply diverse types of knowledge, and **cultivate vibrant individuals who boldly seek solutions to a variety of societal issues in accordance with the needs of society.**
- With the aim of fostering doctoral talent to contribute to innovation in society, not only academia, we will advance Double-Wing Academic Architecture for interdisciplinary and social collaboration in addition to expert knowledge. **By offering interdisciplinary courses and subjects attuned to societal issues, we will nurture talent to help create the society of the future.**
- We will enhance and institutionalize education in mathematical science, data science, and information science across the university, cultivating in both the arts and sciences individuals equipped with the literacy needed to contribute to an advanced information society.
- We will promote the use of blended learning methods that effectively combine face-to-face and online modes of teaching and learning.

○Career support through industry-university co-creation

- Using the Joint Research Chairs (Divisions) and Research Alliance Laboratories established within the university as part of our industry-university co-creation system, we will roll out university-wide initiatives such as an Internship on Campus program enabling students to undertake long-term internships within the university.
- We will build a recurrent education system that enables corporate researchers and others engaged in cutting-edge research to earn doctoral degrees while pursuing advanced research projects under the supervision of Osaka University researchers. The distinguishing feature of recurrent education at Osaka University is that it follows a “mutual benefit for companies and the university” model, in which corporate researchers seek to further their expertise and expand their personal networks in their chosen fields, while the university works to identify new societal issues and needs.

Initiative 2-2. Develop Systems for the Formulation and Implementation of Student Support Programs

- We will **enhance financial support programs for doctoral students** by utilizing various funds and expanding tuition fee exemption schemes, in order to recruit numerous outstanding doctoral students and raise their research capabilities.
- In order to provide ongoing support to individual students at each stage of their careers from prior to entering university through to post-graduation/post-completion, we will build a data-driven Student Life-Cycle Support system and develop the structures required for its operation. **This will enable the provision of support tailored to each individual student. Moreover, we will render the outcomes of teaching and learning visible and strengthen our evidence-based internal**

quality assurance system, as well as clarifying the impact that investment in university education has on society at large.

Connections with Osaka University’s Future Vision: A society where each member leads a meaningful and fulfilling life) [Initiatives 2-1 and 2-2]

- Lifelong learning helps to raise people’s capacity to adapt to dramatic changes in society, directly contributing to the realization of a society where each member leads a meaningful and fulfilling life. Producing individuals to tackle the major challenges confronting humanity is also essential for the realization of such a society.

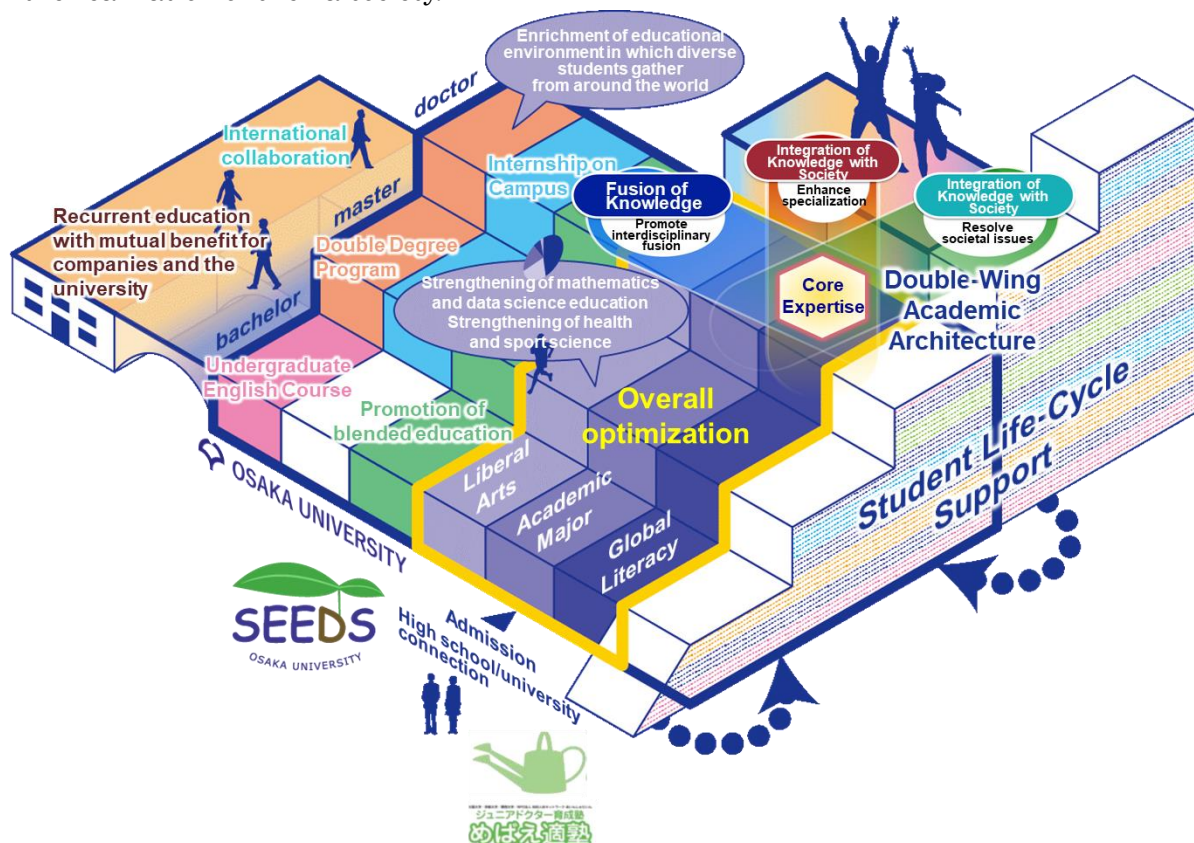


Figure: Self-realization through Student Life-Cycle Support (concept)

Anticipated Outcomes [Initiatives 2-1 and 2-2]

- By advancing schemes such as DWAA and the Internship on Campus program, and deploying mathematical science, data science, and information science education university-wide, we will provide society with individuals equipped with deep expert knowledge and comprehensive perspectives, who can tackle complex and increasingly diverse societal issues.
- By providing an environment that enables students to focus on their research, we expect to be able to attract outstanding talent and boost research capacity.
- The provision of specifically optimized learning and career support through the Student Life-Cycle Support system is anticipated to foster individuals with high intelligence and the capacity to solve societal issues through co-creative innovation. Moreover, we will utilize the data accumulated to render the outcomes of university education more visible, which will contribute to the establishment of the system for quality assurance.

[Initiatives for Young Researchers]

Initiative 2-3. Employ and Cultivate Young Researchers for the Future

○Cultivation of internationally outstanding young researchers

- At the Institute for Advanced Co-Creation Studies, which is an organization designed to employ and nurture internationally outstanding young researchers, we will diversify the sources of funds available for new appointments by utilizing donations from companies and other organizations, and thereby continue to cultivate young researchers. We will also use the Institute for Advanced Co-Creation Studies as a model for advancing the employment and cultivation of outstanding young researchers utilizing diverse funding sources across the university.
- We will further invigorate the SAKIGAKE Club as a forum for outstanding young researchers to interact and learn collaboratively, and promote the development of new fields of research.
- By developing environments enabling young researchers to undertake medium- and long-term stays at leading universities and other institutions outside Japan, we will **foster global young researchers who are capable of advancing their research activities internationally** by building human networks with overseas researchers.

○Implementing STEAM education and expanding the base of female researchers

- **In order to strategically increase researchers in fields with a low proportion of women**, we will work to overcome unconscious bias from the undergraduate level, provide support for elementary, junior high, and high school students to select academic pathways in STEAM, and eliminate financial uncertainties to support the advancement to doctoral programs, thereby building opportunities for more diverse and creative education and research.

Anticipated Outcomes [Initiative 2-3]

- Enhancing our support for young researchers will enable us to present students with stable career paths into academia, which is expected to **boost the number of students seeking to advance to doctoral programs and become researchers**, leading to **future strengthening of research capacity**.
- Making the employment environment more secure will enable young researchers to concentrate on ambitious research inspired by their own genuine pursuits, which we anticipate will lead to the **development of new academic fields and generate exceptional research outcomes**.

III-3. Co-creation with Society

A key prerequisite for overcoming the major challenges facing humankind is for the outstanding research outcomes generated by universities to be applied in society. We will promote social application of research outcomes from Osaka University and realize a virtuous cycle of knowledge, talent, and funds. To this end, we will promote the further deepening of industry-university co-creation, which is one of our university's strengths, as well as secure a sustainable supply of funds for university management, and build systems enabling investment in infrastructure that contributes to social transformation.

Initiative 3-1. Generate a Virtuous Cycle with Society Led by the Co-Creation Bureau

○Solving societal issues and creating social value through the OU Ecosystem

- Building on the achievements of the Co-Creation Bureau thus far, we will combine our knowledge and expertise with diverse stakeholders in society to tackle issues together, with the aim of **further advancing the OU Ecosystem, solving societal issues, and creating social value.**
- We will expand industry-university co-creation by developing proposals for large-scale joint research projects, including those with international dimensions, as well as expanding Joint Research Chairs (Divisions), Research Alliance Laboratories, comprehensive collaboration agreements to advance more multifaceted and comprehensive organization-to-organization collaborations including talent development and joint research projects beginning from the fundamental research stage.
- In particular, we will pursue **deeper industry-university co-creation and expansion of open innovation** through initiatives including the Consortium for a Co-Creative Future, which is a new mechanism to generate proposals for industry-university co-creative projects starting from the stage of exploring societal issues, and work to identify and solve future issues through industry-university co-creation with multiple companies from different industries and fields.
- To apply research outcomes in society, the Research Center on Ethical, Legal and Social Issues will continue to serve as a hub to promote dialogue with diverse stakeholders and seek to solve issues through co-creation with society.
- We will strengthen our intellectual property strategies, which are essential for the protection and retention of outstanding research generated in the university and their application across society. With the aim of expanding strong patents, we will **promote patent applications based on the university's sole inventions and thereby facilitating the adoption of large-scale research projects, joint research, and technology transfer to companies.**

○Generating and nurturing university-initiated startups

- We will provide ongoing support for the generation, nurturing, and commercialization of university-initiated startups. We will also provide systematic entrepreneurship education led by the Innovators' Club and in collaboration with organizations within and outside the university.
- We will **promote the commercialization of research outcomes and create new value for society** by generating and nurturing university-initiated startups through pre-incubation activities with support organizations including Osaka University Venture Capital Co., Ltd., fully financed by the university.

Initiative 3-2. Pursue Co-Creation with Society Utilizing the Minoh Campus

- The university is responsible for administration and management of the library (combining the functions of a university library and a municipal library) and Lifelong Learning Center established by the City of Minoh adjacent to the Minoh Campus, which was opened in April 2021 following relocation. We will use these facilities to continue a variety of co-creative activities in partnership with local government. Also on the Minoh Campus, the School of Foreign Studies and the Center for Japanese Language and Culture, which boasts large numbers of international

students and faculty, will take the lead in hosting seminars, public lectures and other events that utilize the 25 language majors in the School of Foreign Studies and involve international students. We will thus advance a diverse range of activities inspired by linguistic and cultural diversity that connect local communities and the world.

- A new railway station, Minoh Semba Handai-mae, with direct access to the new campus is scheduled to open in FY2023. We will collaborate with local government and community organizations in the development of the station precinct and surrounding areas, engaging **urban planning in unison with the community**.

Initiative 3-3. Develop Foundations for Achievement of the SDGs in Partnership with Stakeholders in Society

- We will bolster our organizational structures for feeding insights gained from social application of research outcomes in society back into fundamental research—a process that we pioneered in Japan—and **pursue the discovery and resolution of societal issues through co-creation with companies, the public sector, and other partners**.
- We will build a database to render the university's distinctive SDG-related initiatives visible, strengthen our information dissemination functions, and take other steps to further enhance our university-wide implementation structures. One example of these activities is the strengthening of the functions and fields of activity of the Social Solution Initiative, which will incorporate achievement of the SDGs more overtly into the university's management.

Connections with Osaka University's Future Vision: A society where each member leads a meaningful and fulfilling life [Initiatives 3-1 to 3-3]

- In order to realize a society where each member leads a meaningful and fulfilling life, we must overcome a variety of threats to the sustainability of human society. The OU Ecosystem involves pursuing co-creative activities with society to explore not only societal issues that already exist but also new ones, applying solutions to those issues in society, and feeding the new issues identified through this process back into our fundamental research. It is designed to embody the ideal of a society where each member leads a meaningful and fulfilling life, by solving major issues facing humanity and continually generating new values.

Anticipated Outcomes [Initiatives 3-1 to 3-3]

- **Further advancement of the OU Ecosystem**, which involves applying research outcomes not only to create new values in society but also to feed newly emerging issues back into fundamental research, will **ensure we continue producing knowledge and talent to strengthen our research capacity and raise our profile internationally**.
- The strengthening of intellectual property will not only protect researchers but also contribute to the stable procurement of intellectual property revenue.
- Promoting the acquisition of stock and stock warrants in exchange for the support provided to university-initiated startups will contribute to diversification of our financial resources and an increase in revenue.

- We will form an international hub for nurturing globally focused individuals in Osaka for the next 100 years in collaboration with the local community by utilizing our strength in offering 25 language majors, which fosters the accumulation of global knowledge.
- We will be accountable to society by proactively sharing information with stakeholders on the university's contributions to the SDGs and the outcomes of other activities with societal impact.

III-4. International Collaboration

Initiative 4-1. Form World-Class Research Hubs through Strategic Collaboration with Leading Overseas Universities: Global Knowledge Partners

- Leveraging the strategic partnerships developed with leading universities overseas during the third medium-term goal period, we will strengthen our initiatives to tackle societal challenges such as the SDGs and promote alliance-style international partnerships on a global scale. In 2021, we invited universities with close relations with Osaka University to attend the Osaka University Partner Summit, an international symposium that affirmed the necessity of further collaboration across different fields and sectors. We plan to showcase the outcomes of such collaboration at the upcoming Expo 2025 Osaka, Kansai, Japan.

Initiative 4-2. Deepen and Expand the ASEAN Campuses

- Using the Osaka University ASEAN Campuses established during the third medium-term goal period as a springboard, we will extend our networks of education, research, and industry-university co-creation in the ASEAN region.
- We will contribute to high-quality growth in the region by pursuing joint research that is aligned with local society and responsive to community needs.
- By developing our educational programs in collaboration with institutions of education and research, governmental organs, companies, and other partners in the ASEAN countries and increasing the number of exchange students from these countries, we will nurture individuals with advanced global capabilities to lead knowledge-intensive societies in the ASEAN region.



Figure: Global Knowledge Partners and Osaka University Overseas Centers

Initiative 4-3. Enhance Systems for Cultivating Global Talent

○Attracting talented international students

- In order to attract talented international students from the world, we will strengthen our international student recruitment systems, including online information sessions for prospective international students.
- We will improve our seamless support for international students from admission through to employment, including learning support and Japanese language education in preparation for career paths in Japan.
- We will attract talented international students from the world by enhancing our virtual (inbound) study abroad programs that enable students to take Osaka University classes online, graduate degree courses taught in English, and double degree programs.

○Actively promoting outbound study abroad opportunities by Japanese students

- In the area of outbound study abroad initiatives, we will work to raise the quality of learning outcomes by introducing online pre-departure and post-return learning modules for short-term study abroad programs of less than three months. We will also expand the number of host universities for such programs in negotiation with universities in English-speaking countries, which are in high demand among prospective outbound students.
- In the third medium-term goal period we launched virtual (outbound) study abroad programs, involving mutual provision of online classes with partner institutions outside Japan. We will expand these programs to give students opportunities to experience study abroad virtually while remaining in Japan and raise their motivation to pursue physical study abroad in the future, as well as cultivating an international mindset among those students unable to undertake physical study abroad opportunities for various reasons.
- We will develop networks of students with study abroad experience to invigorate alumni associations outside Japan and encourage alumni engagement and support.

Anticipated Outcomes [Initiatives 4-1 to 4-3]

- Strengthening our partnerships with leading universities overseas will contribute to the promotion of joint research and the raising of Osaka University's research capacity.
- These initiatives will help to cultivate an international mindset among Japanese students and make our university more diverse.
- Proactive recruitment of and support for international students is expected to nurture outstanding doctoral students and young researchers.

III-5. Governance Reform

Initiative 5-1. Strengthen Management Structures toward Autonomous Management for Sustainable Growth

- The entire university will work as one to vitalize our activities through further utilization of the structures established under the Designated National University Corporation conceptual framework for the third medium-term goal period: the Osaka University Provost system of two

Senior Executive Vice Presidents responsible for university management, and education and research respectively, and the three Strategic Meetings as large groupings of departments by disciplinary area (humanities and social sciences; science, engineering and information sciences; and medical, dental, pharmaceutical and life sciences). Under these structures, weekly coordination meetings led by the Senior Executive Vice Presidents will be used for swift planning and coordination to identify and resolve issues across multiple areas, while the Strategic Meetings will promote partnership and collaboration between departments and the university headquarters on key issues. In addition, we will continue to use the monthly gatherings for discussion between the Senior Executive Vice Presidents and each Strategic Meeting, which began in FY2020, to achieve closer collaboration between the university executives and each Strategic Meeting, and further promote activities spanning multiple areas. In the fourth medium-term goal period and thereafter, we will strategically assign faculty posts (President’s discretionary posts) in the Strategic Meetings to enhance mechanisms for advancing reforms that transcend organizational boundaries, promote research capacity strengthening through multidisciplinary partnerships directed to solving new issues and improvement of each discipline, and establish cross-graduate school programs, thereby advancing future academic reforms.

- We will pursue robust governance reforms designed to enable reliable advancement of improvements directed to the realization of the university’s future vision under the leadership of the President. This will include the establishment of an autonomous internal quality assurance system that is open to society and will form the managerial foundations for the university’s sustainable growth across all areas from education, research, co-creation with society, and globalization through to university administration and management.
- We will implement IR activities university-wide and promote self-directed use of data by individual departments to advance evidence-based university management that utilizes various data on education, research, financial affairs, and personnel as necessary for strategic decision-making.

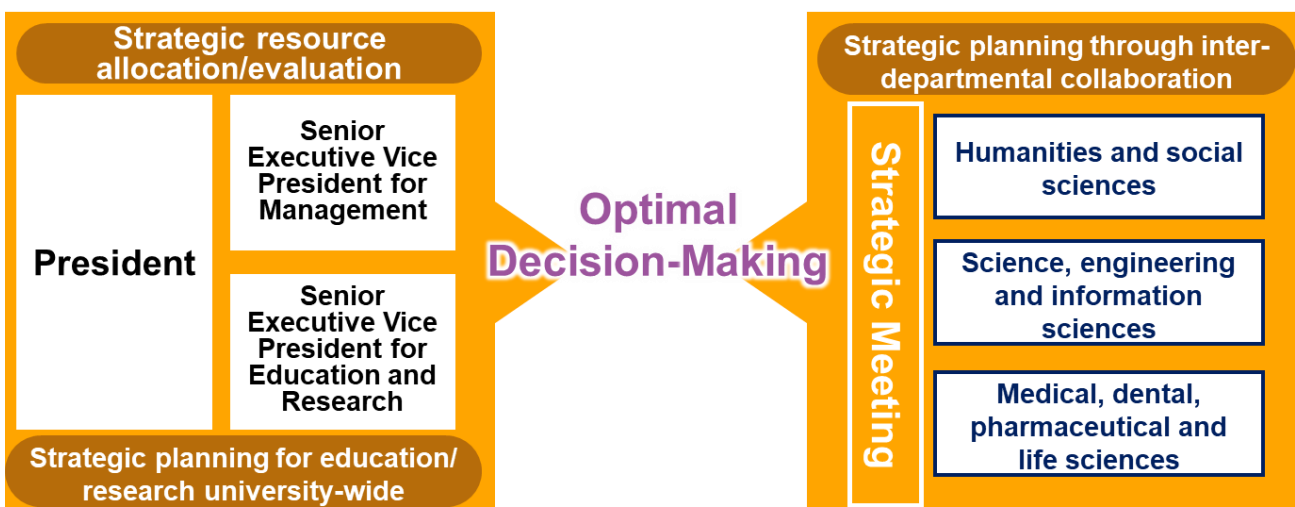


Figure: Osaka University Provosts and Strategic Meetings

Initiative 5-2. Advance Diversity and Inclusion to Open Up New Research Fields, Foster Female Researchers, and Involve International Researchers

- We will work to **raise the capacity for inclusive management of Osaka University members** and advance diversity and inclusion university-wide. On this basis, we will promote transdisciplinary research incorporating a diverse array of research topics and open up new fields of research, as well as **raise the proportion of women in senior positions and in Osaka University's workforce overall**. We will pursue initiatives that are especially crucial in order to achieve this goal, including proactively appointing female researchers, extending our engagement with elementary, junior high, and high school students, and building a diverse and inclusive environment to enable the long-term retention of female researchers.
- In order to expand the activity profile of our “International Joint Labs Program” in which international researchers pursuing cutting-edge research are invited to Osaka University to conduct joint research projects with Osaka University researchers, we will set objectives for each joint lab, evaluate them, and invigorate their activities. Moreover, we will promote the involvement of international researchers by supporting the hosting of joint conferences with institutions outside Japan and providing assistance for obtaining grants offered globally, thereby **advancing the internationalization of education and research environments as well as raising the diversity of researchers**.

Initiative 5-3. Develop Information Infrastructure for the Era Impacted by the Effects of COVID-19 (OUDX Initiative)

- OUDX is a collective term for all our activities that deploy information and communications technology to transform and accelerate the achievement of various objectives relating to Osaka University's education, research, and management. In accordance with the OUDX Basic Policy designed to promote these activities, we will **build the information infrastructure required to be an innovative university** that provides cross-sectoral support for education, research, and management and that students, faculty, and staff find conducive to learning and working.
- We will develop, design, and train personnel for the deployment of educational information infrastructure that enables the collection and utilization of learning data, thereby creating more upgraded learning environments (DX in Education). This initiative will contribute to the development of the Student Life-Cycle Support system, which is a data-driven system for specifically optimized learning and student support.
- We will develop research DX infrastructure centered on research data platforms and high-performance computing and data analysis infrastructure operated by supercomputers, realizing seamless access to academic data resources and computing resources. This will enable us to provide a research environment for the pursuit of international joint research and cutting-edge research projects without the constraints of location and time (DX in Research).
- We will develop an environment designed for university-wide deployment of IR activities in support of data-driven university management and strategic resource allocation (DX in Management).

Anticipated Outcomes (Initiatives 5-1 to 5-3)

- Supporting reforms utilizing the disciplinary characteristics of each Strategic Meeting will promote the refinement of fields in which the university has distinctive strengths, helping to produce candidates for future world-class research centers and create new academic fields through transdisciplinary research.
- We anticipate that the above-mentioned initiatives will provide frameworks for sound university management based on evidentiary data and self-directed research planning and support at the departmental level, thereby leading to the establishment of autonomous management structures that will enable us to achieve sustainable growth.
- Building environments that bring together diverse individuals is expected to lead to an increase in the number of talented female researchers and international researchers, advance our joint research, and raise our research capacity, as well as contribute to the overall research capacity of Japan as a hub of talent mobility.
- These initiatives will enable all people to participate in our university's activities and make Osaka University an environment where everyone can study and work intensively anytime and anywhere, and a university that pursues digital transformation in collaboration with the world.

III-6. Reinforcement of the Financial Base

Initiative 6-1. Procure Diverse Resources for the Realization of University Strategies

- We will strategically procure financial resources through the monetization of the university's diverse wealth of knowledge by generating a virtuous cycle centered on co-creation with society, including further expansion of large-scale joint research projects through inter-organizational partnerships and growth in intellectual property revenue by acquiring stock and stock warrants through support for startup creation.
- We will strengthen research activities by enhancing facilities and infrastructure using revenue from university bonds that we have issued in FY 2022. This will enable us to further expand large-scale joint research projects and boost joint research revenue. We will also strengthen our intellectual property strategy, developing systems for the stable procurement of revenue from intellectual property.
- We will maintain stable procurement of financial resources, both by regularly reviewing the unit price of revenue for existing service and by generating new revenue through charging for some services for which fees have previously not been collected.
- We will disseminate information clearly to stakeholders within and outside the university on the relationships between the activities and outcomes of our education and research and the costs we incur, along with non-financial information. This will cultivate understanding and trust in the university and ensure that we are accountable to society.
- With a view to expanding the Osaka University Foundation for the Future, we will strengthen fundraising activities centered on the Co-Creation Bureau and in partnership with individual departments, focusing on alumni but also targeting companies and local communities. Moreover, we will foster diverse alumni communities and develop links between the university and alumni, as well as among alumni themselves. To this end, we will obtain information on various alumni

groups at the departmental (major, research lab) level and work to **maintain and extend alumni networks in Japan and beyond.**

Initiative 6-2. Strengthen Resource Allocation with Diverse Funding Sources

- Utilizing funds procured from a variety of stakeholders including the national government, local authorities, and companies, we will increase our resources for discretionary operations such as external funding for indirect expenses, and focus investments on the highest-priority initiatives under the OU Master Plan 2027.
- Education and research activities at the departmental level form the foundation of the university, and we can only advance the university if we extend the strengths and distinctive features of these activities. For this purpose, we will support the stable pursuit of education and research activities in each department and **build a new resource allocation framework to support innovative activities.**
- Human resources are the source of education and research. In order to be able to create employment positions to secure talented individuals, we will diversify our sources of funding for personnel, including PI (principal investigator) personnel costs and external funding for indirect expenses, and thereby pursue strategic allocation of human resources.

Anticipated Outcomes [Initiatives 6-1 and 6-2]

- Utilizing a wide range of financial resources will enable us to **advance diverse fundamental research, as well as focus investments on high-priority activities.** It will also strengthen the foundations for implementation of the various initiatives laid out in the OU Master Plan 2027, and contribute to the realization of our goal of creating a society where each member leads a meaningful and fulfilling life.

IV. Toward a Globally Competitive Research University

- This conceptual framework document outlines Osaka University's commitment, as an institution that creates a "society where each member leads a meaningful and fulfilling life," to pursuing co-creation with a diversity of stakeholders in society in order to realize a society where the active lifespan of individuals (social longevity) is extended, people of all ages utilize their diverse attributes, and each and every member of society enjoys a happy and rewarding life.
- By giving concrete shape to the initiatives set out in this conceptual framework and pursuing co-creation with society, we will achieve solutions to a variety of issues from the local community to global level, and thereby realize our vision as "a university that creates a society where each member leads a meaningful and fulfilling life" together with society.
- Moreover, in order to be a research university that is competitive on a global level, we must work to improve our activities in line with the changing times and continue to evolve as a university that creates a society where each member leads a meaningful and fulfilling life.
- Enhancing fundamental research is the most crucial foundation of our efforts to become a globally competitive research university, and extensive support programs will be essential for

this purpose. Moreover, we will vigorously develop our rich variety of fundamental research into research that capitalizes on the university's distinctive features and research of the highest global standards, investing in such research on a priority basis, and raising our profile internationally. This requires effective governance and financial management strategies, and we will also work to strengthen these areas.

National University Corporation Osaka University
Key Performance Indicators under the Designated National University Corporation
Conceptual Framework for the Fourth Medium-Term Goal Period

III-1. Strengthening Research Capacity

(1) Number of world-class research centers

Around 5 centers by the end of the fourth medium-term goal period^(*)

(2 at the end of the third medium-term goal period^(**))

(2) Number of research projects relating to creation of new transdisciplinary research fields

Around 60 projects in total across the fourth medium-term goal period

(Number of data-driven research projects in the third medium-term goal period: 51 in total)

*Transdisciplinary research projects are evolved from data-driven research projects

III-2. Attracting and Cultivating Talent

(1) Educational programs related to Double-Wing Academic Architecture (DWAA)

- **70 programs** at the master's level by the end of the fourth medium-term goal period (58 as of the FY2021)
- **60 programs** at the doctoral level by the end of the fourth medium-term goal period (51 as of the FY2021)

(2) Number of degree programs adopting initiatives such as the Internship on Campus program and recurrent education with mutual benefits for companies and the university; student satisfaction with such initiatives

- **20 programs** by the end of the fourth medium-term goal period
- **Satisfaction of 80% or higher** by the end of the fourth medium-term goal period

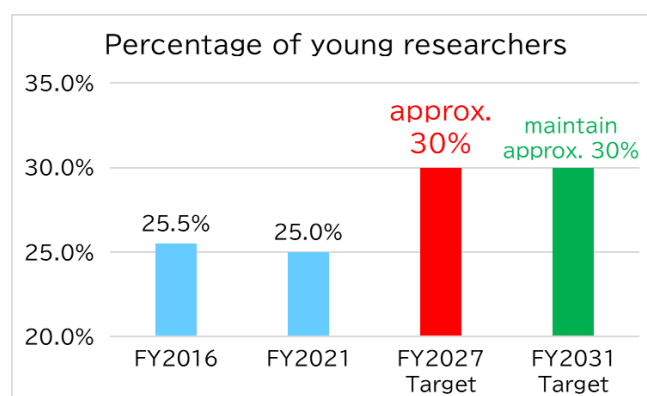
(3) Number of doctoral students receiving financial assistance equivalent to living expenses

500 per year on average over the fourth medium-term goal period

(192 per year on average over the third medium-term goal period)

(4) Percentage of young researchers

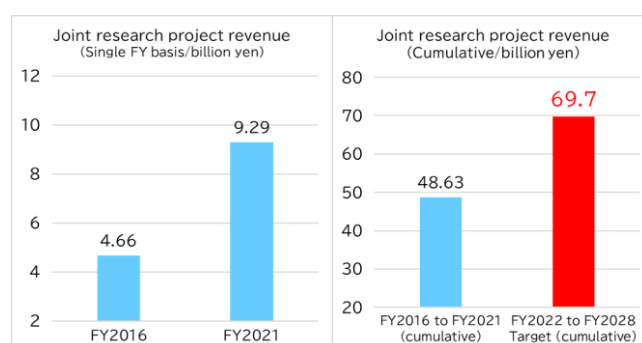
Around 30% by the end of the fourth medium-term goal period



III-3. Co-creation with Society

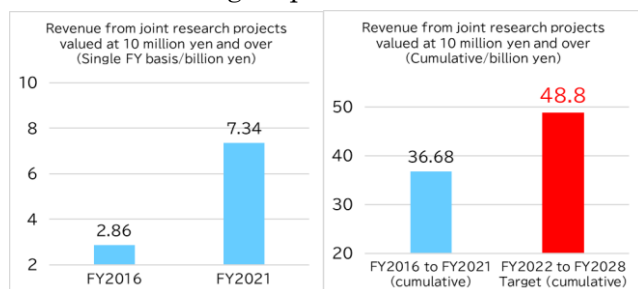
(1) Joint research project revenue

69.7 billion yen in total over the fourth medium-term goal period



(2) Revenue from joint research projects valued at 10 million yen and over

48.8 billion yen in total over the fourth medium-term goal period



III-4. International Collaboration

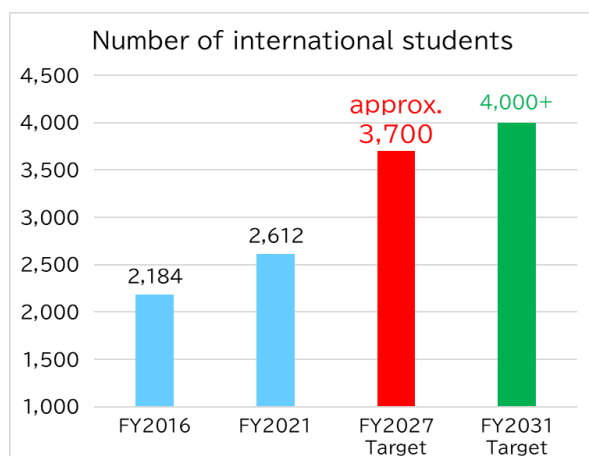
(1) Number of partner universities for strategic inter-organizational collaboration on priority research fields

Around 10 by the end of the fourth medium-term goal period

(6 comprehensive partner universities other than the partner universities in the priority research fields as of the end of the third medium-term goal period)

(2) Number of international students (including virtual [inbound] study abroad)

Around 3,700 by the end of the fourth medium-term goal period



(3) Number of ASEAN Campuses established

Around 8 campuses by the end of the fourth medium-term goal period

(6 as of the end of the third medium-term goal period)

(4) Number of ASEAN Campus collaborating organizations

Around 20 organizations by the end of the fourth medium-term goal period
(13 as of the end of the third medium-term goal period)

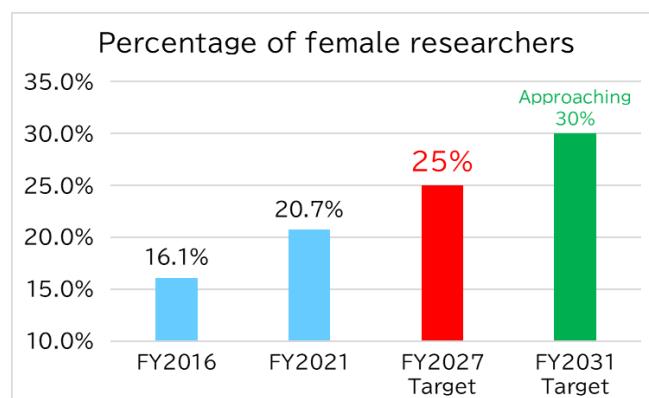
(5) Number of international joint research projects with strategic partners

Around 50 projects in total over the fourth medium-term goal period
(42 in total over the third medium-term goal period)

III-5. Governance Reform

(1) Percentage of female researchers in the workforce

25% (by the end of the fourth medium-term goal period)



(2) Optimal allocation of internal resources

Around 100 president's discretionary faculty positions for purposes such as strengthening research capacity, supporting young researchers, and promoting diversity and inclusion in total over the fourth medium-term goal period

III-6. Reinforcement of the Financial Base

(1) Diversification of revenue sources

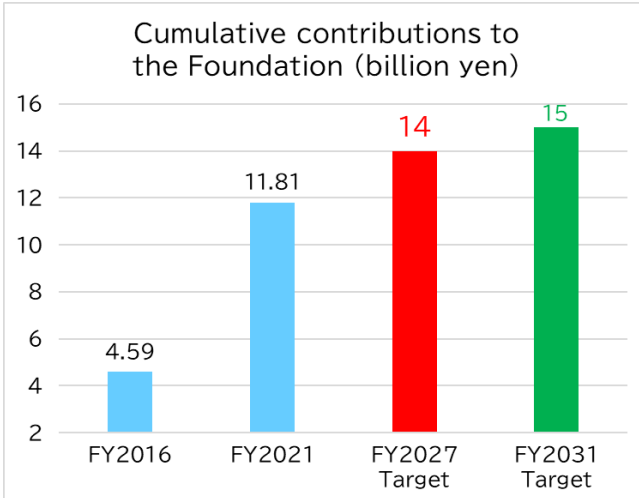
Discretionary management funds procured by utilizing diverse financial resources: **4.2 billion yen**

(2.5 billion yen in FY2016

→3.2 billion yen in FY2021)

(2) Contributions to the Osaka University**Foundation for the Future**

3 billion yen in total over the fourth medium-term goal period (**cumulative value of the Foundation since inception: 14 billion yen**)



Notes:

*Fourth medium-term goal period: April 1, 2022 to March 31, 2028

**Third medium-term goal period: April 1, 2016 to March 31, 2022