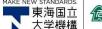
# Aiming to Become a World-Class Research University

Contributing to Human Well-being through Top-class Knowledge

Hearing on the development of designated national university corporation

2022.1.19







## **Agenda**





## 1. Designated National University Initiatives of Nagoya University (Summary)

## 2. Autonomous Management Reform

- 1) Establishing shared governance to support reform
- 2) Establishment of a new multi-campus system
- 3) Strengthening our financial base through a virtuous cycle of management resources

## 3. Efforts to Enhance International Reputation and Presence

- 1) Rise in World University Rankings indicator
- 2) Development of global activities
- 3) Establishment of premier international research centers

## 4. Future Plans and Prospects for the Fourth Term

- 1) Development of world-class research
- 2) Further development and deepening of the Tokai National Higher Education and Research System (THERS)
- 3) Strengthening Governance
- 4) Strengthening our financial management base

Implement the strategic and open faculty selection

account for 30% of the total)

Design Workshops

Promote gender equality (aim for female faculty members to

Develop university management personnel through University





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3

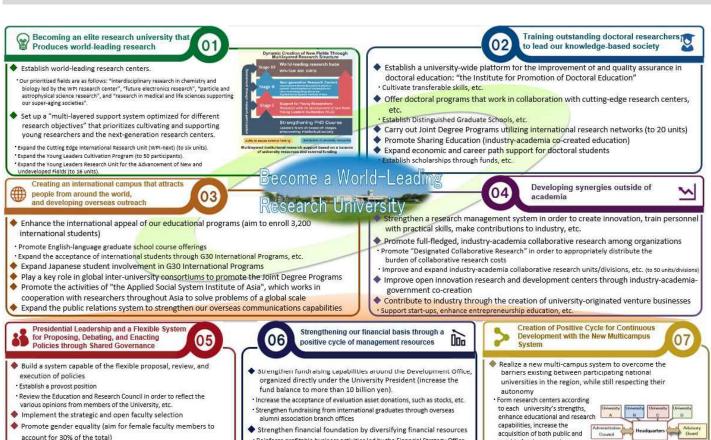
### Nagoya University as a Designated National University (Summary)



outside funds, strengthen

international competitiveness, etc.





· Strengthen fundraising from international graduates through overseas

Strengthen financial foundation by diversifying financial resources

Reinforce profitable business activities led by the Financial Strategy Office

(utilize real estate owned by the University, establish an extension program

alumni association branch offices





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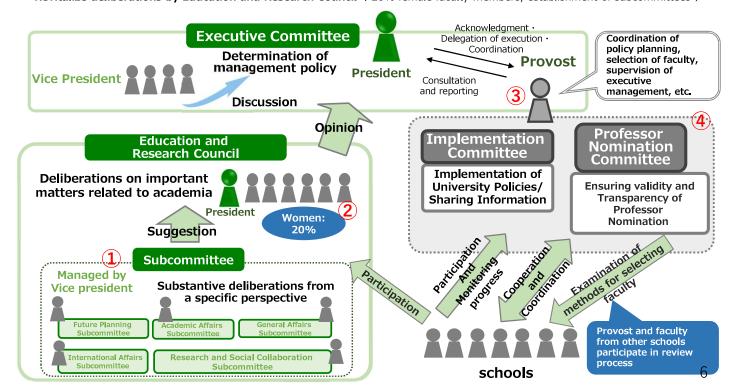
## Establishing shared governance to support reform





## Members are involved in governance from multiple perspectives ⇒ Checks and balances through shared governance

- ✓ To incorporate various opinions, members are participating in governance from multiple perspectives
- ✓ Appointment of a provost to coordinate policy planning and oversee implementation, and establishment of Implementation Committee
- ✓ Revitalize deliberations by Education and Research Council ( 20% female faculty members, establishment of subcommittees )



### Establishing shared governance to support reform





O Dialogue between Executive Committee and The Group in charge of specific area, and between Executive Committee and Schools



To take full advantage of our integration as the Tokai National Higher Education and Research System, and to promote cooperation and integration within Nagoya University and with Gifu University, comprehensive dialog was conducted in two layers: within the Executive Committee and between Executive Committee and each department

## **Agenda**





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## **Raising our International Presence**



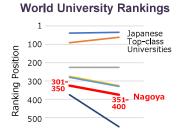


Rise in indexes of world university rankings

After becoming a designated national university, scores on most indicators increased, including "international outlook"

## Comparison of scores for each of the THE World University Rankings indicators (Nagoya University)

Indicator (Distribution, %)		Indicato	Difference	
		2016	2021	in indicator score
Teaching	Institutional income (2.25%)	55.4	70.7	15.3
	Doctorate-to-bachelor's ratio (2.25%)	54.9	<b>&gt;</b> 58.7	3.8
	Doctorates awarded-to-academic staff ratio (6%)	45.7	<b>→</b> 51.8	6.1
	Reputation survey (15%)	29.1		0.2
	Staff-to-student ratio (4.5%)	83.2	<b>99</b> 64.1	-19.1
	Research productivity (6%)	49	62.4	13.4
Research	Research income (6%)	67.6	<b>77</b> 88.9	21.3
	Reputation survey (18%)	30.9	⇒ 29.6	-1.3
Citations	Research influence (30%)	41.2	□ 41.4	0.2
Industry income	Knowledge transfer (2.5%)	83.6	<b>97.</b> 9	14.3
International outlook	International-to-domestic-staff ratio (2.5%)	24.3	<b>28.</b> 4	4.1
	International-to-domestic-student ratio (2.5%)	42.1	<b>→</b> 52.9	10.8
	International collaboration (2.5%)	18.3	<b>2</b> 5	6.7

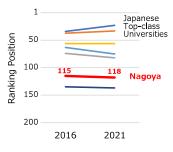




2021

2016

600





9

## **Joint Degrees with Overseas Universities**





Development of global standard for education

### Expansion of Joint Degree Programs (6 units in 2017 → 17 units in 2022)

- ➤ In October of 2015, we established the first international joint degree in Japan. We now account for approximately 27% of the national total of joint degree programs. (7 major subjects / 26 major subjects)
- (Tokai National Higher Education and Research System accounts for approximately 42% of all those in Japan: 11 major subjects / 26 major subjects)

  International quality assurance of doctoral degrees through strengthening collaboration with top universities in research, teaching, and joint degree examinations
- ➤ Joint education curriculum (employment of full-time faculty members) ⇒ Research for over one year at partner university (mutual assignment of main and secondary supervisors)
- > We expect growth in international joint research projects and co-authored papers



<Masato Yoshihara (Right) was awarded the first domestic doctoral degree through the Joint Degree Program (JDP)>



## **Developing Talented People to Lead the World**





### G30 Programs

### Development of internationally recognized teaching programs

### ☆ Overview and Status of G30 Programs

- > Fall enrollment for full-degree programs taught only in English
- 10 programs in 6 departments, 19 programs in 7 graduate schools ⇒550 undergraduate courses in English (the largest number in

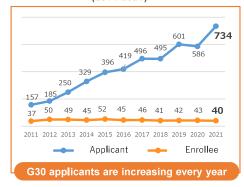
### Japan)

- > Increase in applicants through overseas recruiting
- ⇒ Information sessions and mock lectures overseas, particularly in Southeast Asia

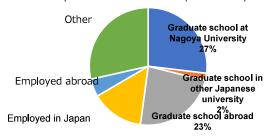
### ☆ Results of G30 Programs

- > 23% of graduates matriculate at graduate schools in Europe and **North America** 
  - (2 each for Oxford, MIT, ETH, Amsterdam, Toronto, 3 each for UC Berkeley, Michigan, 4 for Melbourne, Imperial College London, Chicago, Pennsylvania, etc.)
  - Success of graduates suggests high quality of Nagoya University's education
- Employed in Japan and abroad following graduation (Panasonic, Toyota Motor Corporation, Toho Gas, Softbank, etc.)

Applicants / Entrants for G30 Department Programs (2011-2021)







Graduates continue their studies at worldleading graduate schools

## **Developing Talented People to Lead the World**

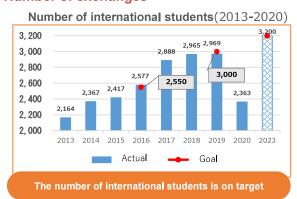




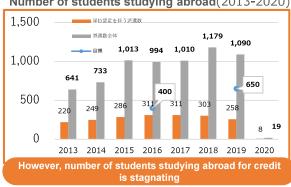
A campus with diverse students from around the globe and sending students to other countries

### Promoting enrollment of excellent international students and sending students overseas

### ☆ Number of exchanges



### Number of students studying abroad(2013-2020)



### ☆Investigating why it is difficult to increase students studying abroad and means to encourage them

### <<Current Challenges>>

- Insufficient sharing of information about programs their appeal, diversity, and various levels and destinations in which they are
- · Insufficient financial support

#### << Proposed Actions for Improvements>>

- 1) Promotion of co-learning between Japanese and international students, including stimulating students' interest in life overseas
- → Development and realization of a diverse hybrid style of study abroad (Global Multi-campus System)
- 3) Strengthening of management (promotion and development of programs) cooperating with the Doctoral Education Consortium and other relevant organizations
- Visualize experience of study abroad, develop incentives for students
- → Strengthening of financial support for study abroad through scholarships like JASSO, etc., and funding through a university-wide crossdisciplinary program

## Raising our Profile in Asia





### An Asian hub university

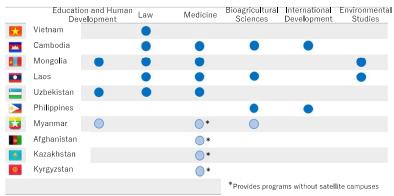
### **Expansion of Asian Satellite Campuses**

### ☆ Producing key personnel for other countries

- Established Asian Satellite Campuses in FY2014. Currently have six graduate schools participating in 10 countries.
- ◆ Five graduates appointed as key personnel at the national level, including ministers, vice minister, department head, etc.
- ◆ 91 students enrolled, with 27 awarded doctoral degrees

## ☆ From cultivation of talented people to the development of new research centers

◆ Establishment of the International Station for Tropical Agricultural Sciences in the Philippines in 2019



## The Transnational Doctoral Programs for Leading Professionals in Asian Countries (Doctoral, started in 2014)









Class at the satellite campu

13

## **Expansion of activities in Asia**





### An Asian hub university

### Development of an education and research network for learning with Asia

- Establishment of the Research and Education Center for Japanese Law in 7 countries, cultivating undergraduate students at partner law schools
- Cultivating human resources for medical administration leadership in Asian countries through the Young Leaders Program (YLP)
- Implementation of multi-layer collaborative research in Mongolia, like research into support for children with developmental disabilities and
  joint research on resilience
- Establishment of the Applied Social System Institute of Asia, analyzing issues faced by humanity alongside other researchers from Asia
- Nagoya University Alumni Association established 15 branches overseas (Asia)
- Many appointments for graduates to positions such as minister and heads of academic departments
- Implementation of reform project at Tashkent State Technical University coinciding with a visit by the Uzbek President Mirziyoyev, in December 2019



Hor Peng, President of National University of Management, Cambodia



Chet Chealy, President of Royal University of Phnom Penh, Cambodia



Le Thanh Long, Minister of Justice, Vietnam



Dang Hoang Oanh, Vice Minister of Justice, Vietnam



Ochirkhuyag Bayanjargal, President of National University, Mongolia



Altantuya Jigjidsuren, Former Administrative Vice - Minister of the Health Department, Mongolia



Ngin Chhay, Ministry of Agriculture, Forestry and Fisheries Commissioner of Agriculture,



San LwinC, Vice Minister of National Planning and Economic Development,



Bounfeng Phoummalaysith, Minister of Health, Laos



Chitmanonh,
Diet Legislative
Head, Laos



Edgar Tulin, University of Visayas President, Philippines

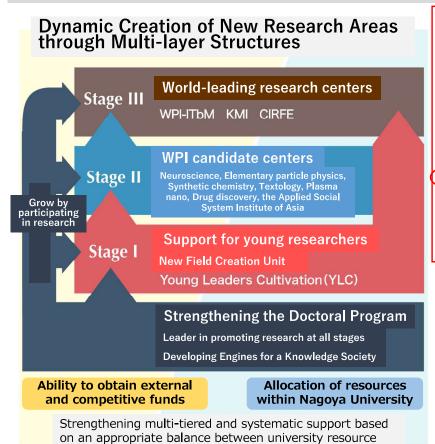


Rizal Affandi Lukman Economic Adjustment Minister, Vice Minister,

### Establishment of premier international research centers







allocation and external funding

**Succession of Nobel Prize** research · Building a group of cutting edge research centers

Institute of **ITbM** Transformative Bio-Molecules

Highest "S" rating in WPI interim assessment



Kobayashi-Maskawa Institute for the Origin of Particles and the Universe

CIRFE

Center for Integrated Research of Future **Electronics** 

### **Group of Joint Usage / Research** Center



Institute for Space-Earth Environmental Research



Institute for Glyco-core Research



Institute of Materials and Systems for Sustainability



Center for Low-temperature Plasma Sciences

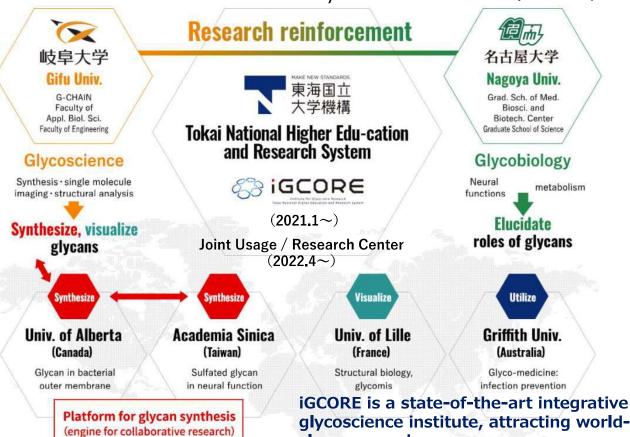
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## Establishment of premier international research centers





Establishment of institute for Glyco-core Research (2021.1)



class researchers.

### Fostering World-Class Researchers Through Support for Young Researchers





### OPlans for Supporting Young Researchers

◆ Comprehensive Support to Foster Principal Investigators from Doctoral Courses

faculty members/ Designated faculty members

### Fostering Principal Investigator

■ Support for researchers selected by Fusion Oriented Research for disruptive Science and Technology Program: FOREST (JST)

Number of Selected Proposal FY 2020: 13 Nagoya University, 1 Gifu University FY 2021: 25 Nagoya University, 2 Gifu University

**\*Nagoya University** 

**Personnel Expenses** 

### Strategic Professional Development Program for Young Researchers (MEXT)

### Mid 30s

Permanent Designated faculty members ■ Tokai Pathway to Global Excellence (FY 2021~)

Support to foster young researchers by conducting development programs which bridge postdoctoral education and world-class research.

·Aim to produce outstanding researchers and entrepreneurs who encourage world-class research and international industry-university collaborative projects.

•The number of assignments are 8 /year (Allocation: 4 for Nagoya University, 1 for Gifu University)

Related articles

## Young Leaders Cultivation(YLC) Program \*\*Tokai National Higher Education and Research System program

Early 30s Designated faculty members

**20s** 

Postdoctora**l** 

Researchers/

Graduate

Students

■ Nagoya University

· Since Established in FY 2009, young leaders have been selected by selection committee including president.

 The number of assignment is 8 /year; including 1 special quota for a female researcher and foreign researcher.

· Young leaders are hired as a five-year term designated assistant professor. After 3 years has passed, they transfer to tenure track system based on their achievement.

**■** Gifu University

· 1 candidate /year

programs granted by the government

is the highest number in All JAPAN

· From FY 2022 (G-YLC)

### Support for Ph.D. students

■ Doctoral Program for World-leading

Innovative & Smart Education(MEXT) \*\*Nagoya University <19 students in each year on average>

< Number of applicants in total: 82 /year >

■ The University Fellowship Program for Science and Technology Innovations (MEXT) \*Nagoya University

Nagoya University Interdisciplinary Frontier Fellowship (FY 2021~)

·The number of recipients

Creating the Future of Asia field: 26, Information/AI field: 26, Quantum Science Field: 12, Materials field: 13

### ■ Program for leading Graduate Schools(MEXT)

※Nagoya University

■ Support for Pioneering Research Initiated by the Next Generation(JST)

· THERS Interdisciplinary Frontier Next Generation

Researcher (FY 2021~)

The number of recipients

Bioscience field: 32, Interdisciplinary & Ground—breaking Sciences field: 25, Decarbonization & Environment field: 25, Glocal Research field: 16 17

## **Raising our International Presence**





Annual tables +

Home / News / Ten rising stars of the Nature Index Annual Tables 2021

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## Ten rising stars of the Nature Index **Annual Tables 2021**

China's dominance falls away, as this year's list of fast-risers features a more global spread of institutions.

20 May 2021

nature index

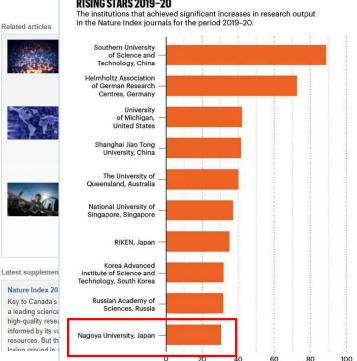
Bec Crew



Nagoya University, located in the city of Nagoya in central Japan, comes in at 10th place. It did not appear in the top 50 rising institutions of 2018-2019, but had a 26% increase in output in the Nature index journals in 2019-2020.

This growth in output could be an outcome of the university's selection as a Designated National University by the Japanese Ministry of Education, Culture, Sports, Science and Technology in 2018, an initiative that allocates additional funds and other incentives to a select few universities to boost their international standing.

Selected as RISING STAR 2019-20 in Nature Index 2021 RISING STARS 2019-20



Change in adjusted Share, 2019-20

https://www.natureindex.com/news-blog/ten-rising-stars-institutions-of-natureindex-annual-tables-twenty-twenty-one

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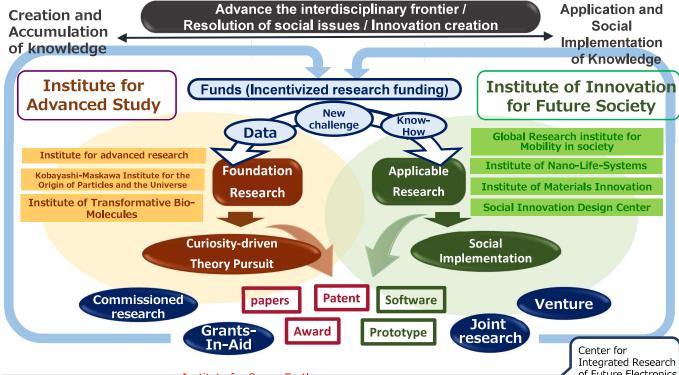
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Becoming a world-leading research university in basic research and applied/social implementation research





- Strengthening Research Capabilities
- Focus resources on the Institute for Advanced Study, which oversees basic research, the Institute of Innovation for Future Society, which oversees applied research, and the Group of Joint Usage / Research Center.



Group of Joint Usage / **Research Center** 

Institute for Space-Earth **Environmental Research** ·Institute for Glyco-core Research

Institute of Materials and Systems for Sustainability
Center for Low-temperature Plasma Sciences

of Future Electronics





Establishment of THERS by Corporate Integration of Nagoya U. and Gifu U. THERS: Tokai National Higher Education and Research System



Our new multi-campus system enable to strengthen "contribution to the revitalization of local communities" and "international competitiveness" simultaneously.



As the core of academia, we will contribute to the creation of a sustainable and resilient future society.

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Further development and deepening of the Tokai National Higher Education and Research System (THERS)



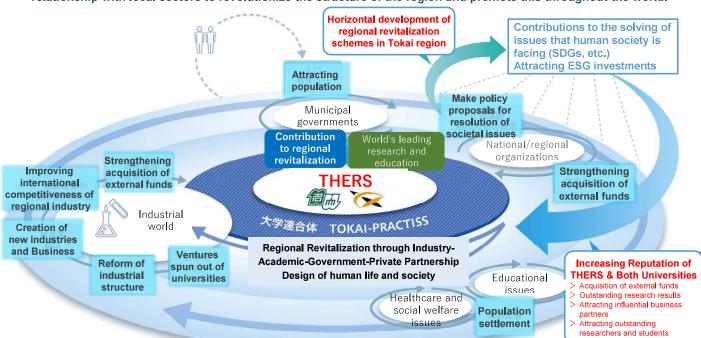


O Promotion of TOKAI-PRACTISS

Improvement model for universities, industries, and local communities in Tokai region

### New university model: Revaitalization of Tokai region while strengthening international competitiveness

√ Tokai National Higher Education and Research System and the Federation of Universities will become the central hub for regional revitalization in the Tokai region, will utilize world-class knowledge and a close cooperative support relationship with local sectors to revolutionize the structure of the region and promote this throughout the world.



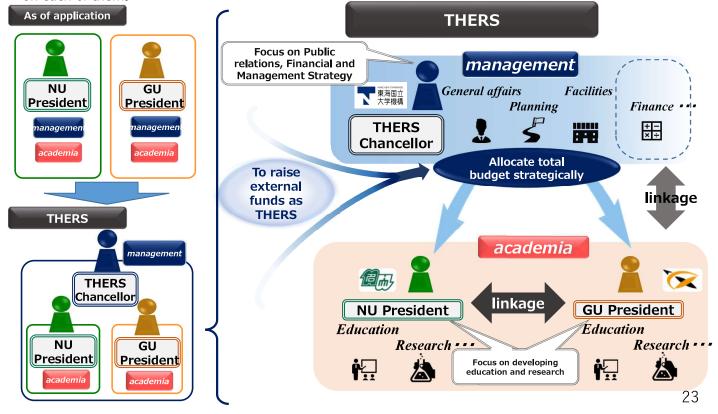
## **Strengthening Governance**





From the fourth term, a three-person system consisting of the chancellor (management) and the president of NU and president of GU (academia)

 $\Rightarrow$  By sharing management and academia, we are strengthening the system so that we can concentrate on each of them.



20,087

billion yen

## Strengthening our financial base through a virtuous cycle of management resources





## Enhanced Fundraising Capabilities

©The Development Office was established for the first time in Japan as an organization under the direct control of the President to further promote fund-raising activities. (2017)

Nagoya University Endowment set a target of ¥ 20,000,000,000 by the end of fiscal 2021 and achieved a cumulative total of ¥ 20,087,000,000 by

November 2021.

### Newly acquired credit ratings for the purpose of securing diverse financing

O New credit rating acquisition

©Enhance transparency of management to stakeholders by obtaining an objective assessment of management conditions.

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RATING AGENCY	RATING	RATING OUTLOOK
Rating and Investment Information, Inc.(R&I)	A A +	Stable
Japan Credit Rating Agency, Ltd. (JCR)	ААА	Stable

※ Rating Acquisition Date : 2021.12.1





We promise flexible management to demonstrate high research potential from the fourth term onward.

We are enhancing our international presence and strive to become a world-class research university.

25





(References)

## Progress of the Designated National University Corporation Initiative





		Duaguage (2021 12)				
		Matter	Due date	Target value	Progress (2021,12)	
1. Becoming an elite research university that produces world-leading research	World's most advanced research center			5 or more sites	3 sites	
	Next-Generation cutting-edge research centers (WPI-next)			6 units	7 units	
	Expansion of Creating Research Units for New Fields			about 16 units	10 units	
	Expansion of Young Leaders Cultivation Program (YLC)			Expanded to about 50 members	29 members	
	Support measures such as research expenses, mentor system, PI training			Trial	Full-scale implementation (2020)	
outstanding doctoral researchers to	Creating a Comprehensive Platform for Advanced Doctoral Education and Quality Assurance			Examination for establishment of all- academic education management	Ongoing review	
	Implementation of Doctoral Program for World-leading Innovative & Smart Education			Implementation of the program	4 program	
lead our knowledge-	Expansion of the Joint Degree program			about 20 units	14 units	
hased society	Scholarships using funds			Implementation of scholarship support	Implementation of the Hoshizaki Scholarship (2018) etc.	
3. Creating an international	English-taught Graduate School Classes			50%	Implementation and maintenance	
	Establishment of Student Dormitory			Development of mixed- residence housing	Completed (2018)	
people from around the world, and developing overseas	Improving Language Skills of Japanese Students			Reorganization of the English curriculum	Establishment of 3 subjects for the latter half of Undergraduate program (2021)	
	Promotion of overseas study and training			70% of students have studied or trained abroad.	2032 students (2018~ 2021)	
	Promoting the Applied Socia	l System Institute of Asia	2027	Promotion of academic exchange	Completed (2017)	
4. Developing synergies outside of academia	Increasing the number and permanent employment of URAs		2027	about 60 persons (including 30 permanent persons)	49 persons (including 16 permanent persons)	
	Full-Scale industry- academia joint research "organization" to "organization"	Increase in the number of industry- academia joint research courses and departments	2027	50 courses、Three times income at fiscal 2017 level	37 courses	
		Secure space	2021		1392 square meters increase(2019)	
	Establishment of R & D Centers through Industry-	Creation of Industry-Academic-Government Co-Creation Open Innovation Centers	2027 Creation of more than 10 fields		8 fields	
	Academia-Government Collaboration	Realization of industry-academia co-creation education	2021	Establishment of base at Nagoya Station	Completed (2017) 27	

# Progress of the Designated National University Corporation Initiative





TITILIQUIVE ATTEMPT A							
	Contents						
	Matter	Due date	Target value	Progress (2021.12)			
	Establishment of a Provost	2019	Establishment of a Provost	Completed (2019)			
Proposing, Debating, and Enacting Policies	Reform of all academic councils, including the Education and Research Council	2019	Reform of all academic councils	Completed (2019)			
	Review of the term of office and selection method of the deans of schools	2021	rules	Ensuring consistency in departmental management based on medium - to long-term vision (2019)			
	Review strategy formulation and resource allocation of departments, and systematization of dialogue process with Executive office and departments	2021	Formulation of departmental vision and implementation of dialogue	Completed (2019)			
	Review of faculty selection methods	2021	Selection of personnel from university-wide perspective	Establishment of University-wide Personnel Process Committee (2019)			
	Improving institutional research	2021	Establishment of analytical methods	Completed (2021)			
	Promoting Gender Equality and Promotion of Women	2027	Ratio of female faculty 30%	18.7% (2021.5.1)			
	Development of university management human resources through university design workshops	2021	Full-scale implementation	Completed (2020)			
	Enhanced Fundraising Capabilities	2021	Fund 20 billion yen	Achieved (2021)			
	Diversification of financial resources	2027	Implementation of profit-making business using real estate etc.	Completed (2020)			
6. Strengthening our financial basis	Introduction of an incentive system for income of schools	2021	Start of operation of system	Completed (2018)			
	Visualization of Effort Rate and Establishment of Compensation System Appropriate to Evaluation	2021	Introduction of faculty evaluation system	Completed (2020)			
management resources	Introduction of a point system and system to transfer part of teachers' salaries to external funds	2021	Start of operation of system	Completed (2019)			
	Enhancement of Service Functions at Technical Center	2021	Maintenance of regulations	Completed (18/23)			
	Space management based on university-wide strategy	2021	Priority allocation to areas that contribute to functional enhancement	Ongoing			
7. Creation of Positive Cycle for Continuous Development with the New Multicampus System	Establishment of the Tokai National Higher Education and Research System	2021	Establishment	Completed (2020)			
	Promotion of university cooperation to build the foundation of Tokai National Higher Education and Research System	2021	Sequential implementation	Four direct control bases、establishment of Academic Central (2020)			

## Strengthening our financial base through a virtuous cycle of management resources





## Growth in external funding

 $\langle$  Growth rate assuming fiscal 2010 as 100%  $\rangle$ 

