



Tohoku University's Plan for "Universities for International Research Excellence"

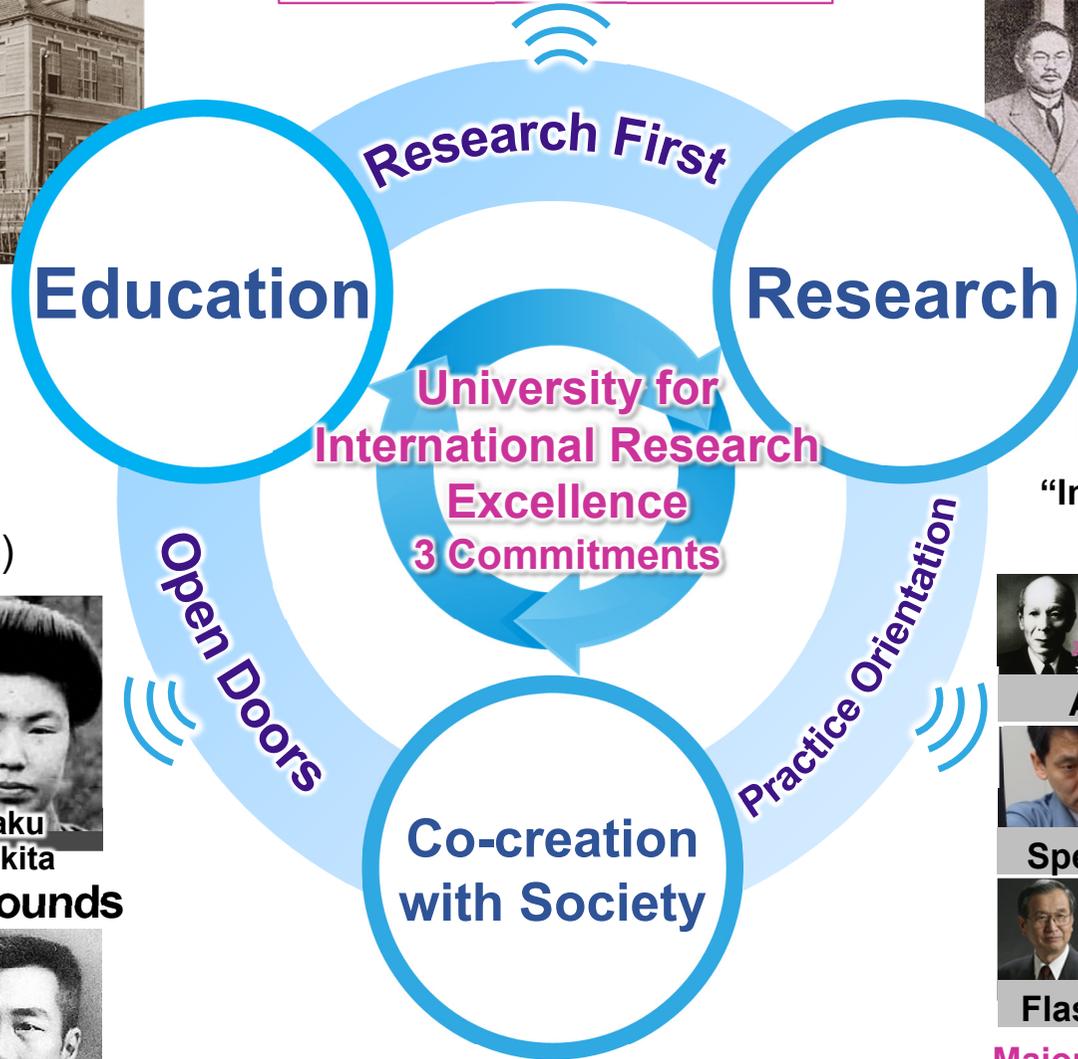
The Tradition of "Research First", "Open Doors" and "Practice Orientation"

1907: Foundation of Tohoku University as third national university



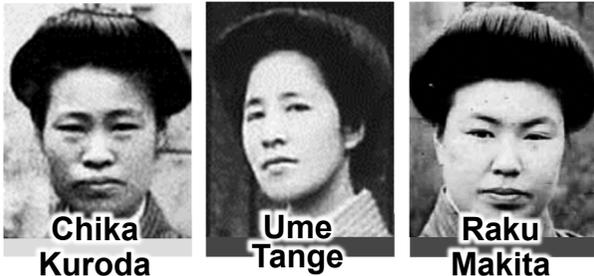
Synergy of Research and Education

"Sendai is a city most suited for research" - A. Einstein, 1922



Diversity

Japan's first female university students, 1913 (110 years ago)



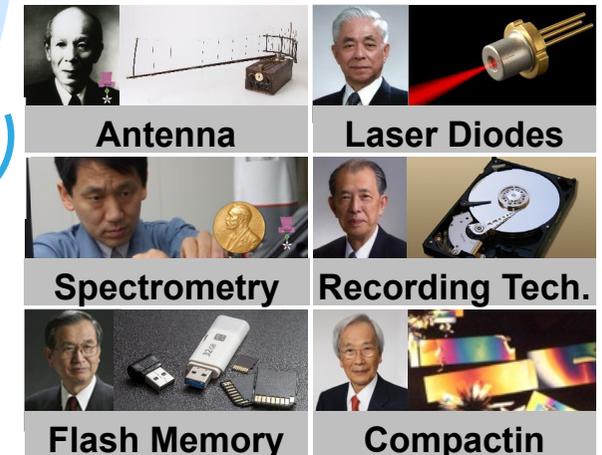
Open to diverse backgrounds



Tohoku University was founded with considerable donations from third parties

Creating Social Value

"Industry is Academia's Dojo" (Kotaro Honda, 6th President)



Major contributions by members to disaster recovery after the 2011 Great East Japan Earthquake

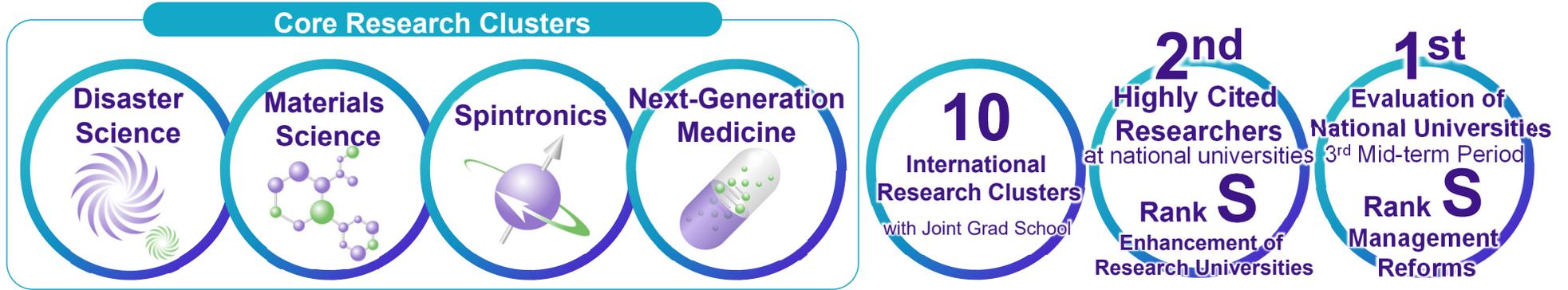


Commitments → Goals → Strategies

Mission	Commitments	Goals and Priority KPIs	Strategies
<p>Tohoku University contributes to world-wide communities through global excellence in research, education of next generation leaders and collaboration with diverse partners</p> <p>Founding Principles & Core Values</p> <p>Research First – Pursuit of Excellence Open Doors – Diversity and Openness Practice-Oriented Research and Education - Creating Societal Value</p>	<p>I Commitment for Impact</p> <p>Tohoku University is committed to creating social value through world-class research achievements and taking proactive measures for social innovation based on our experience in contributing to the recovery from the 2011 Great East Japan Earthquake.</p>	<p>A Research Excellence</p> <p>Scientific output, Top 10% publication output & percentile, Top 10% publication output & percentile by early career researchers</p> <p>B Impactful Research & Innovation</p> <p>Funds from private companies, number of industry co-creation centers, university start-ups, IP revenue, joint publications with industry partners</p>	<p>I-A-1: Excellence through solid research strategy I-A-2: Tohoku University's unique Research Elevation Strategy I-A-3: A dynamic new research system</p> <p>I-B-1: Creating an open knowledge action platform I-B-2: A science & technology hub to attract investments I-B-3: Improved functionality for co-creation</p>
<p>Vision</p> <p>Based on the three principles, Tohoku University strives to be a creative, open platform that creates new knowledge, fosters talent and establishes new social value for the realization of a sustainable future.</p> <p>◆ Impact</p> <p>We will drive excellence in research to create societal value, advance solutions to global challenges and enable resilient societies.</p> <p>◆ Talent</p> <p>We strive to be an even more diverse, international gateway for global talent, creating new opportunities for the future through collaboration.</p> <p>◆ Change</p> <p>We will drive change, innovate our governance structure and thrive sustainably together with our members, partners and society.</p>	<p>II Commitment for Talent</p> <p>Tohoku University is committed to working with international communities to nurture and educate the next generation of brilliant researchers. Diversity on campus is essential to the individual growth and well-being of each and every member of our university.</p> <p>III Commitment for Change</p> <p>Tohoku University is committed to becoming a new knowledge enterprise that pursues both excellence and growth. We will establish effective university governance that enables the realization of all the goals described and promised here.</p>	<p>A Campus for Aspiring Minds</p> <p>Ratio of foreign researchers and female researchers, number of PI research units, ratio of PI and staff members, ratio of staff with international expertise</p> <p>B Gateway to New Ventures</p> <p>Ratio of international students, international experience of Ph.D. students, financial support for Ph.D. students, number of Ph.D. students, number of Ph.Ds.</p> <p>A Global Readiness</p> <p>Ratio of foreign researchers, staff with international expertise, international students, international experience of Ph.D. students, international executives</p> <p>B Responsive and Responsible Governance</p> <p>Ratio of independent funding, business scale, own funds, corporate strategic financing, international executives</p>	<p>II-A-1: Creating an attractive environment for researchers II-A-2: Specialization and enhanced roles of administrative staff II-A-3: A diverse campus supporting world-class challenges</p> <p>II-B-1: Career management starting at graduate schools II-B-2: Graduate school reforms for internationality and openness II-B-3: Dynamic faculty reforms</p> <p>III-A-1: Promoting internationalization III-A-2: International brain-circulation III-A-3: Creating an international hub for global co-creation</p> <p>III-B-1: Management focused on growth and new challenges III-B-2: Advanced governance structure III-B-3: Management for actions and growth III-B-4: Supporting diverse talent</p>



Tohoku University's Achievements

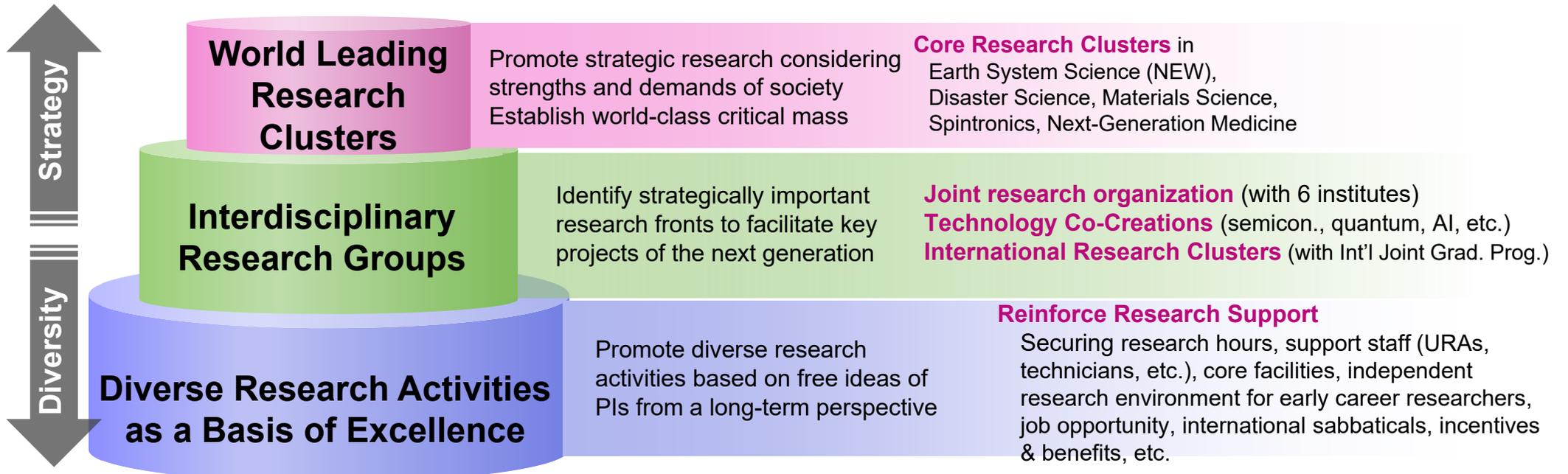


Fostering research excellence through diverse ideas and strategic collaboration

“Three-layered Research Enhancement Package”

Research Strategy Board (RSB)

Review of research activities from an international perspective





Actions & Policies

ECR: Early-Career Researcher, EMCR: Early- & Mid-Career Researcher

- Reduce administrative and teaching duties etc. for faculty members (securing research hours)
- Opportunities for early- and mid-career researchers (EMCRs) to engage in challenging research

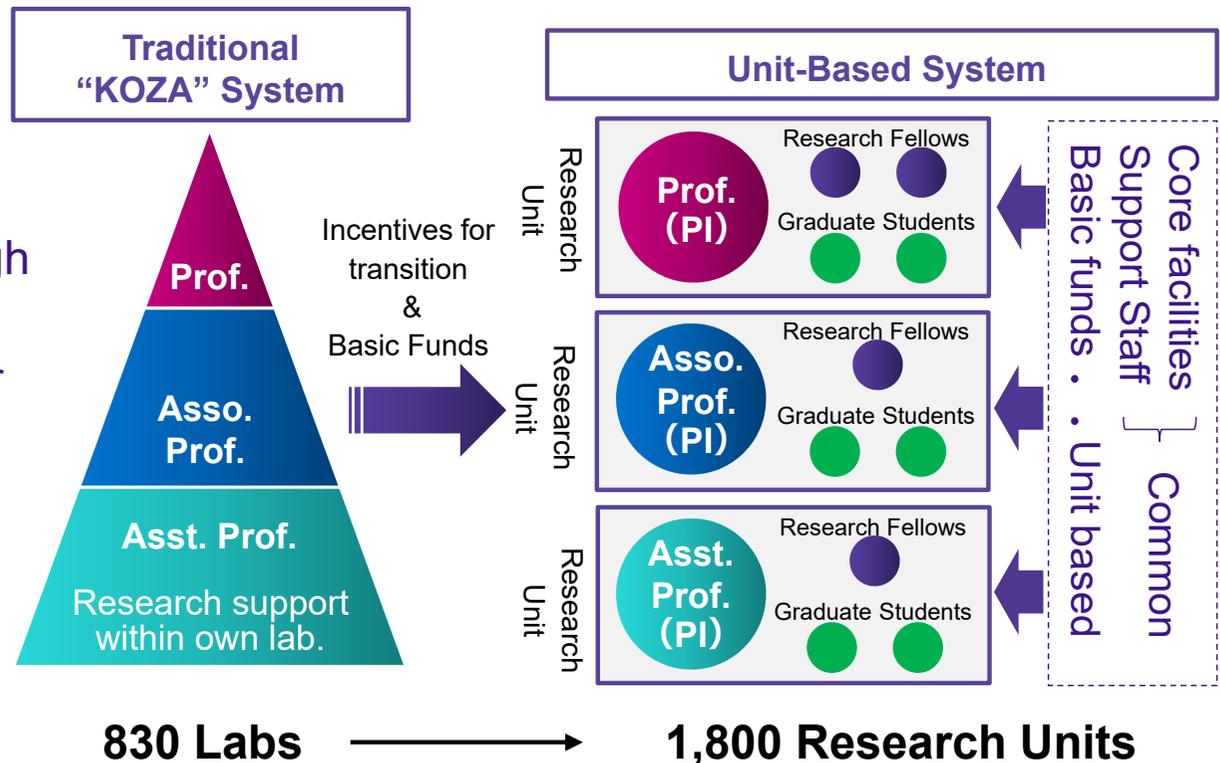
Current Initiatives

50 Early career researchers engage in top-level research at the Frontier Research Institute for Interdisciplinary Sciences (FRIS)



Strategic Transition of Research System

- Provide equal leadership opportunities for all 1,800 researchers as independent PIs
- Promote independence of early career researchers (ECRs) through tenure-track system
- Provide basic funding to empower ECRs as independent PIs
- Enable the formation of subject-based research groups
- Expand professional staff (1,100 members for URAs, technical staff, and IP managers, etc.)





Actions & Policies

EMCR: Early- & Mid-Career Researcher

- Foster career opportunities for EMCRs
- Expand opportunities for early independence & success

Current Initiatives

- “Tohoku University ECR Promotion Initiative” with 3 billion JPY per year
- “Faculty HR Strategy Council” for university-wide monitoring

31.6%
ECR
Faculty

120
Additional benefits
for prominent
scholars

Research Professor,
Distinguished
Researcher

5
Attracting
outstanding
researchers

Distinguished Invited
Professors, University
Research Lead

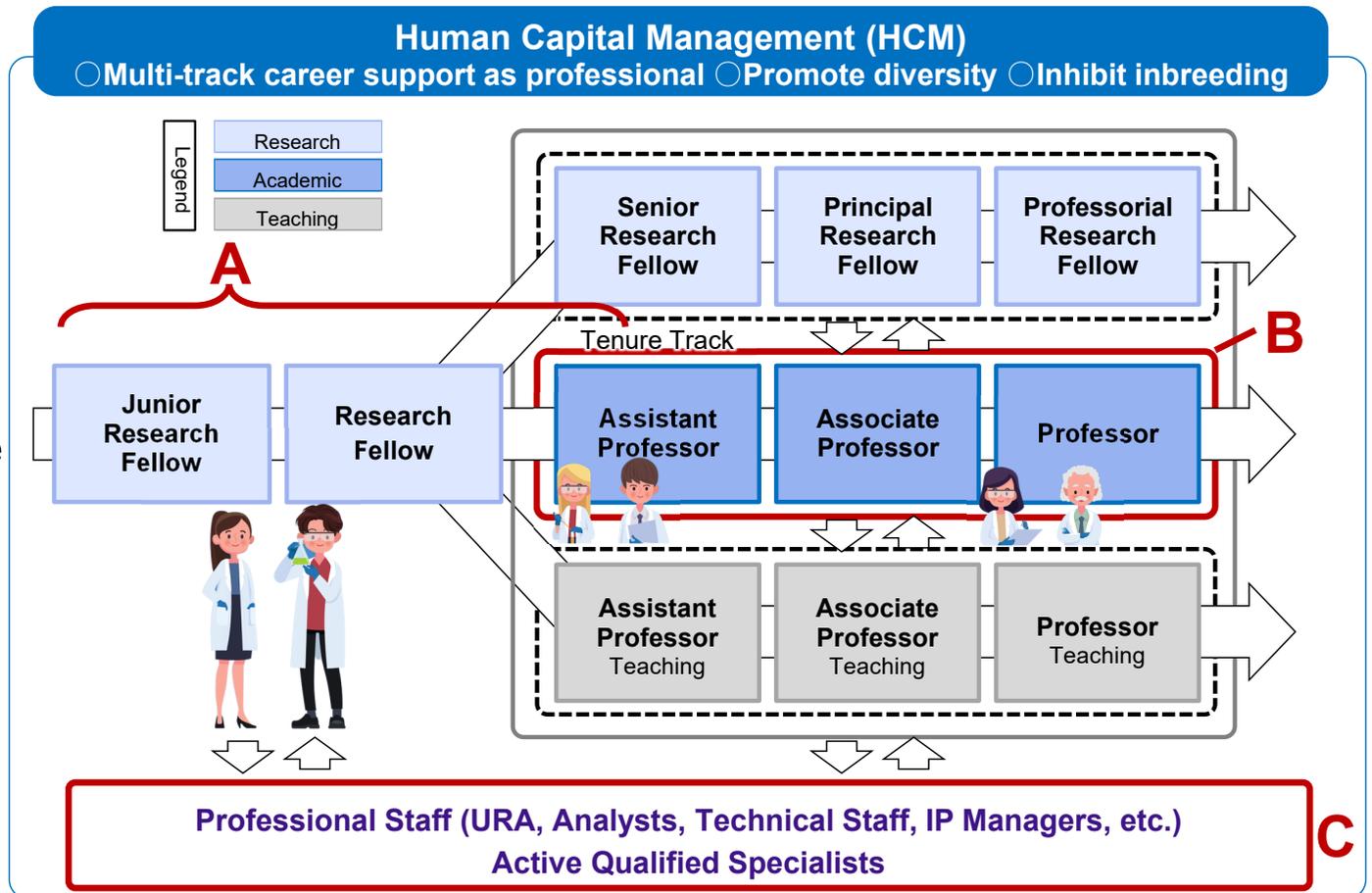
e.g. University of Gothenburg,
Bordeaux University

Three Key Policies

A :
Empowering EMCR careers:
Comprehensive support for
diverse researchers through
Human Capital Management
(HCM).

B :
Providing merit-based attractive
environment: Flexible research
units for vibrant research
ecosystem.

C :
Expanding support for PIs:
professional staff and core
facilities.

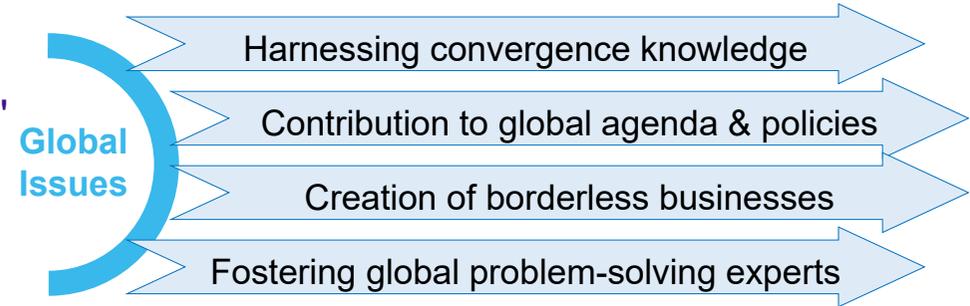




Open Knowledge Action Platforms

Contributing to global value creation through collaboration with diverse stakeholders

- Going beyond traditional linear research model: "Basic Res. ➔ IP ➔ Business Dev. ➔ Soc. Deployment"
- New research frontiers for global challenges leading to "Streamlined multi-actor global action"



Disaster Science

Globalizing the "BOSAI" concept through initiatives, such as post-Sendai Framework for Disaster Risk Reduction (DRR), World BOSAI Forum, DRR ISOs, DRR MBA, DRR startups and "Fukushima Campus" activities

Sustainability

Leveraging biodiversity researches, contributing to COP (on climate change and biodiversity), TCFD/TNFD, post-SDGs, etc.

Nihon-gaku

Enriching humanities and social sciences by juxtaposing Japanese values with global perspectives. Collaborating with 25 universities worldwide

Tohoku University's Contributions

- 2011.03 ● Great East Japan Earthquake
- 2011.04 ● Reconstruction Actions
- 2012.04 ● International Research Institute of Disaster Science (IRIDeS)
- 2015.03 ● 3rd UN World Conference on Disaster Risk Reduction in Sendai
- 2015.07 ● Research with Social Impact



Three Global Agendas (2015)



World Conference on Disaster Risk Reduction
2015 Sendai Japan
Sendai Framework



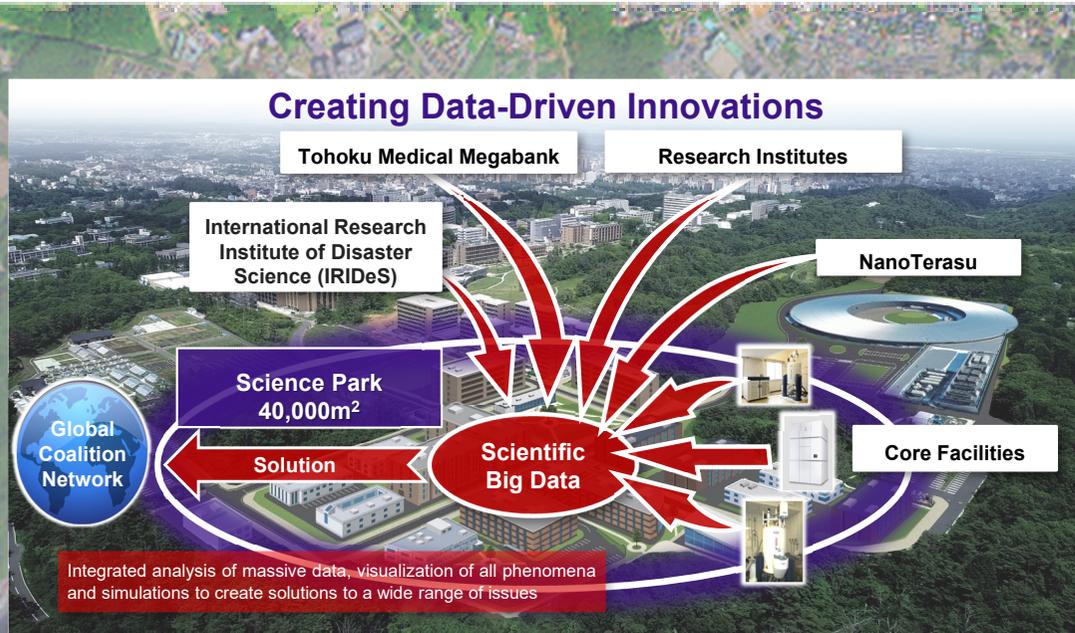
SUSTAINABLE DEVELOPMENT GOALS
SDGs



PARIS2015
ON CLIMATE CHANGE CONFERENCE
COP21-CMP11
COP21 Paris Agreement

- 2017.11 ● 1st World BOSAI Forum in Sendai
- 2019.11 ● 2nd World BOSAI Forum in Sendai
- 2021.04 ● Green Goals Initiative
- 2023.03 ● 3rd World BOSAI Forum in Sendai
- 2023.05 ● Mid-term evaluation of the Sendai Framework for Disaster Risk Reduction, UN meeting in NY
- 2023.05 ● G7 Science and Technology Ministers' Meeting



Tohoku University Hospital

Clinical data (800,000 patients)

Tohoku Medical Megabank Organization

Japan's largest population-based biobank (150,000 participants)

Expenses for the construction of the new campus & maintenance covered by own funds & the sale of property (26B JPY)

90min from Tokyo

Operational since 2015 in collaboration with Sendai City

Subway **Sendai**

Semiconductor Technology Co-Creation

Japan's Largest Academic Semiconductor R&D Platform

Science Park 40,000m²

Next-gen. synchrotron radiation facility NanoTerasu

Unique coalition-type facility maintenance

Research Institute Organization

Joint research centers as international research platforms

500m



Actions & Policies

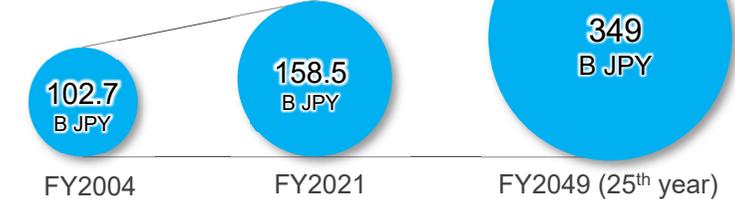
Driving sustainable growth for societal value creation through expanded revenue

Current Initiatives

- Rapid growth of private investments by 13% p.a.
 ※FY2022: over 10B JPY (2x compared to FY2017)

- Development of advanced facilities (incl. Next-generation Synchrotron Radiation Facility “NanoTerasu”)

Tohoku University Total Expenditure



Expanding STI Platform & Science Park to Attract Investments

※STI : Science, Technology and Innovation

● Leading Flagship Facilities (Leveraged by Private Investments)

- ✓ NanoTerasu, Tohoku Medical Megabank, Semiconductor Technology Co-Creation, etc.
- ✓ Super Facility Network through integration of advanced research facilities on campus

● Our unique Science Park Initiative

- ✓ Establishing key research hubs in critical national tech. domains (quantum, bio, etc.)
- ✓ Developing an innovation ecosystem for public-private co-creation

● On-campus R&D Centers

- ✓ Expanding Partnerships with industry through Co-Creation Research Centers

● New Business Strategies

- ✓ University bonds for the Science Park
- ✓ Japan’s first university joint venture subsidiary business ※TU Co-creation Initiative, Inc.

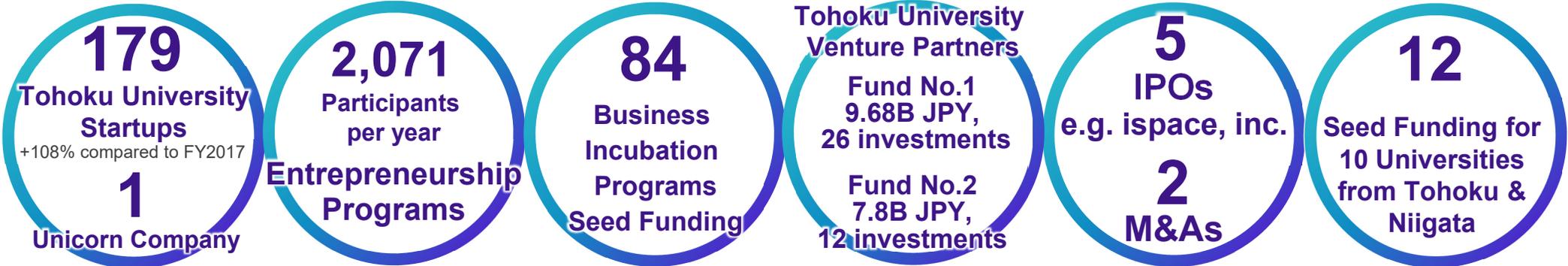


Tohoku University Science Park





Tohoku University's Achievements

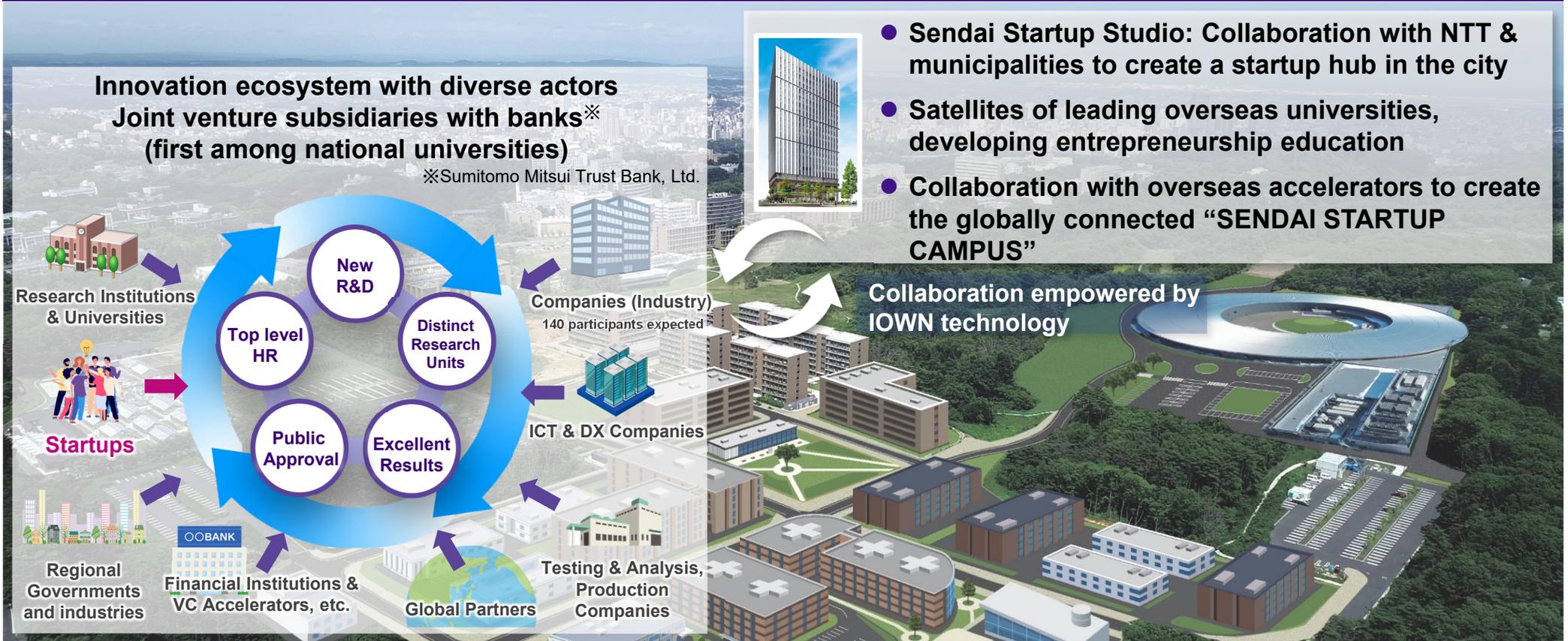


Survey on University-Developed Venture Businesses by METI

Participants in FY2022

※Investments centered around Deep Tech

University's Innovation Ecosystem × University Startups





Graduate and Undergraduate Reforms

II-B-1
II-B-2
II-B-3

Tohoku University's Achievements in Education



Graduate School Reforms for Global Openness

Students: Ph.D. (Int.)		Master (Int.)		Years 25
6,000	(40%) ↑	6,000	(40%) ↑	
2,700	(30%)	4,000	(17%)	

Increasing number of Ph.D. students to foster future leaders

- Expanding financial support (1.8 → 3.6 M JPY), treatment as researchers
- Integrated program with international perspective starting from master's course (12,000 students)

Advanced Graduate School for unique education governance

- Management of graduate school capacities, student placements and degrees
- Flexible, cross-sectoral degree programs for academic and societal needs (17 → 50 programs, participation of all students)
- Mandatory international experience in collaboration with overseas universities

Linked to 'Advanced Graduate School'

Undergraduate Reforms as Research University

Undergraduate Students (Int.)		Years 25
10,000	(20%) ↑	
	(2%)	

'Gateway College' with intensive international co-learning

- Reorganize capacities from existing undergraduate schools (8,000 students)
- Co-learning environment with 2,000 international and 6,000 domestic students
- Mandatory study abroad to top level overseas colleges (1st-2nd year)
- Late specialization with trans-disciplinary education
- Solid professional education with broad perspective } (3rd-4th year)

Globally Active, Excellent Researchers
Highly Specialized Personnel in Diverse Areas

Attracting Global Talent

Integrated Admission Organization

Overseeing all admissions

- Transitioning all admissions to comprehensive selection

Strategic Recruiting

- Attracting talented international students through collaboration with overseas graduates & agents

Relieving researchers from admissions tasks

- Elevating admissions through professional expertise

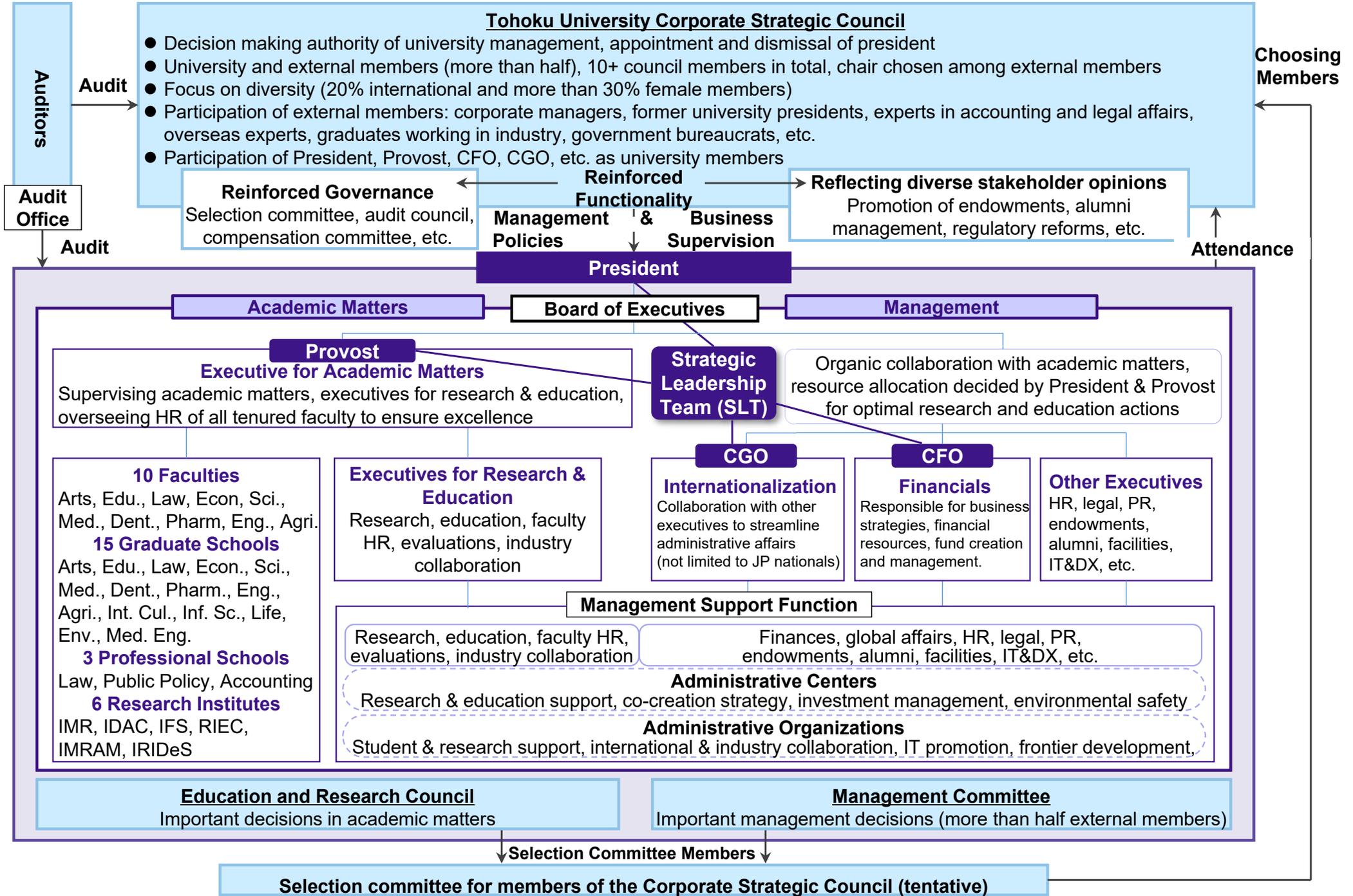
Outsourcing | Collaboration

Subsidiaries
Overseas Agents
Overseas Graduates, etc.



Driving “Change” via Responsive Governance

Based on “The role of globally competitive research universities (final summary)” (CSTI, Feb. 2022) and “Discussions for system reforms” (Meeting of the committee for system reforms to improve research universities, Dec. 2021). Governance structure will be designed considering amendments to the National University Corporation Act.





Executive officer for comprehensive internationalization (CGO)

Transformation to a globally oriented, internationally responsive organization

Expanding networks of International Joint Graduate Schools, alumni associations, overseas offices (3), liaison offices (19), international joint labs (2), AIMR satellites (2), strategic international partners (4), consortia (5), exchange agreements (246), early career exchange (39), etc.

International Members

- Students: 30% (GS: 40%, UG: 20%)
- Researchers: 30%
- Administrative staff: 20%
- Council: 20%, Executives: 30%

International Experience

- UG students: 100% (co-learning)
- Ph.D. students: 100%
- Tenured faculty: 100%
- (9x international co-authored papers)

Global Linkage & Network

Diversity

Mobility & Experience

Inbound readiness

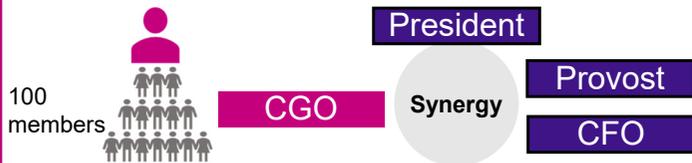
- JP & ENG as official languages : 100%
- Courses in English: GS 100%, UG 50%
- Reinforcing recruitment
- Staff with international expertise: 50%
- Cross-cultural dormitories: 2x, etc.

Outbound readiness

- English level at Gateway College TOEFL iBT® more than 79: 100%
- International co-learning seminars: 2x
- Travel expense support
- Overseas sabbaticals, etc.

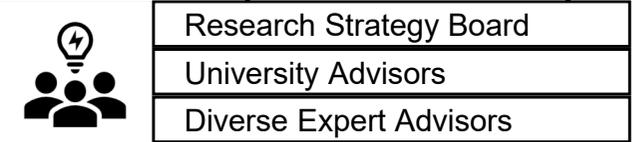
Global Readiness

Top management by Chief Global Officer (CGO)



Leadership & Structure

Advice from top level overseas experts



Subsidiaries and strategic outsourcing

Reduced load and increased productivity

Policies for comprehensive internationalization

3 commitments, 6 goals, 19 strategies
5 related priority KPIs

Policy

Toward a global campus based on fundamental policies and necessary regulatory reforms





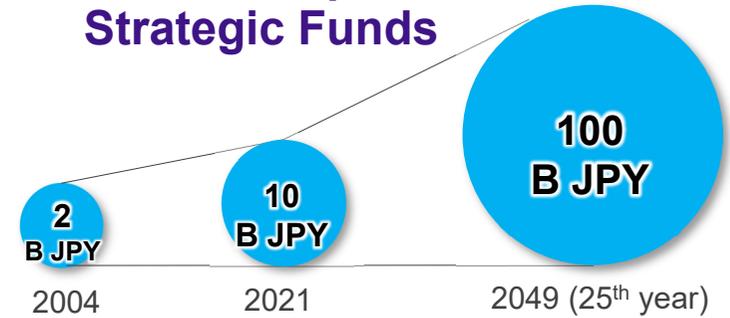
Strategic Resource Allocation

III-B-2
III-B-3

Tohoku University's Achievements

- One of Japan's largest corporate strategic funds as national university (ca. 10B JPY). The anticipated 100B JPY will be strategically managed under the leadership of the president.
- Driving organizational renewal, assessing viability through a stage-gate process for heightened vitality.

Scale of Corporate Strategic Funds



Strategic Resource Allocation

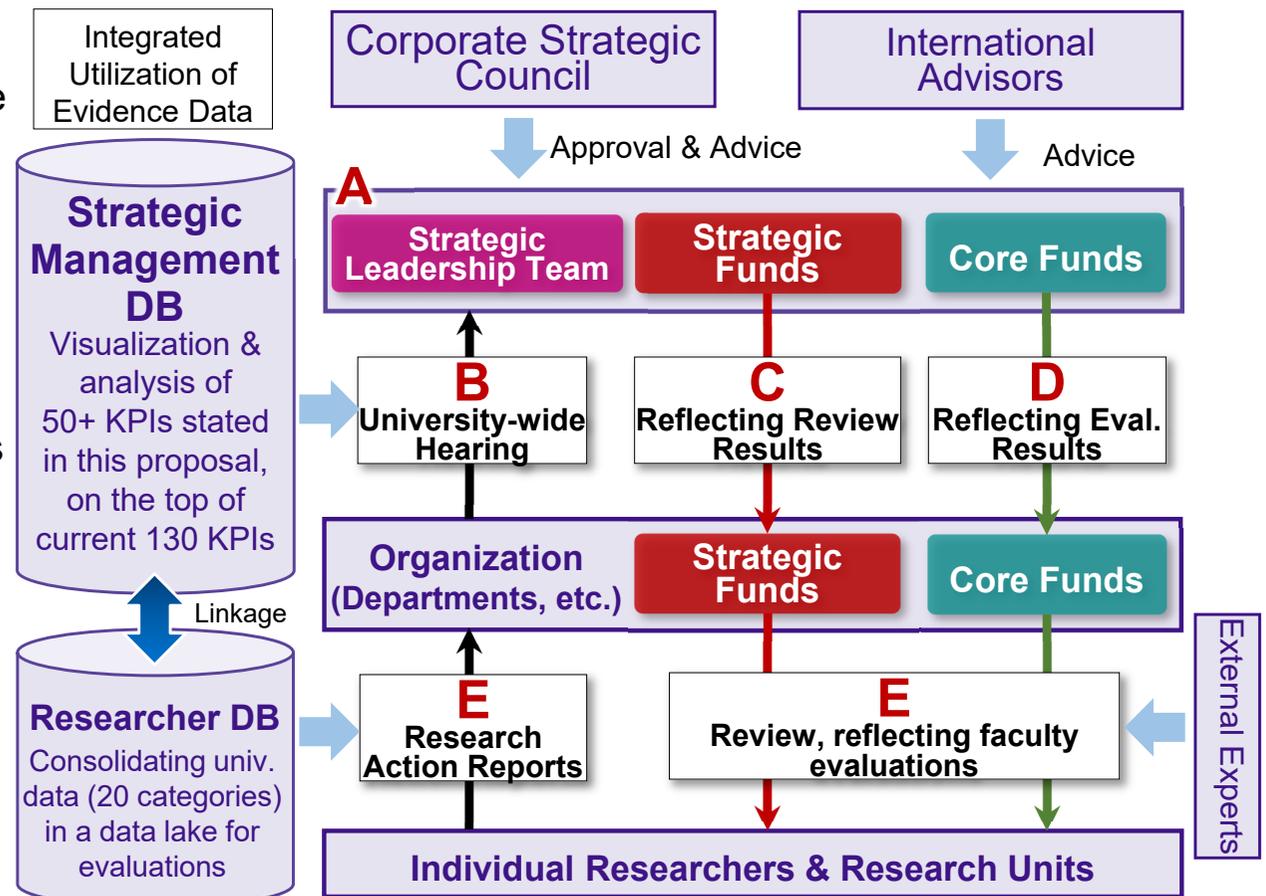
A Budgetary decisions by the Strategic Leadership Team (SLT) consisting of the President, Provost, CFO & CGO

B University-wide review of action proposals (incorporating insights from international advisors)

C SLT decides allocation of strategic funds

D Based on organizational evaluations using evidence data, including reorganizations, core funds is allocated.

E Funds are allocated in alignment with the division director's strategy through faculty evaluations based on evidence data and external expert peer reviews.





Goal I - A Research Excellence (Academic Impact)

Publication numbers (per year)



Top 10% publications (per year)



Top 10% publication percentile (per year)



Top 10% publications by starting researchers (per year)



Top 10% publication percentile by starting researchers (per year)



Goal I - B Impactful Research and Innovation (Social Impact)

Research funds from private companies (1B JPY)



Industry co-creation centers



University start-ups



IP revenue (1M JPY)



Industry joint publications



Goal II - A Campus for Aspiring Minds

International researchers



Female researchers



PI research units



Ratio of PIs and staff members



Staff with international expertise



Goal II - B Gateway to New Ventures

International students



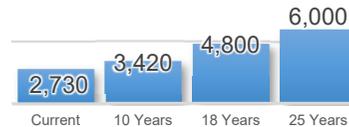
Ph.D. students with International experience



Financial support for Ph.D. students (1M JPY)



Ph.D. students



Ph.D.s conferred



Goal III-A Global Readiness (Coinciding KPIs with other Goals)

Goal III-B Responsive and Responsible Governance

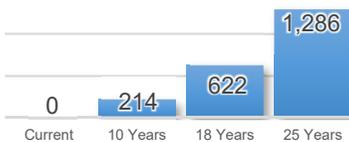
Independent Revenue



Business scale (excluding Hospital, 1B JPY)



Own fund (1B JPY)



Corporate strategic financing (1B JPY)



International executives

