Creating Sustainable Social Value from Research and Innovation at Tokyo Tech

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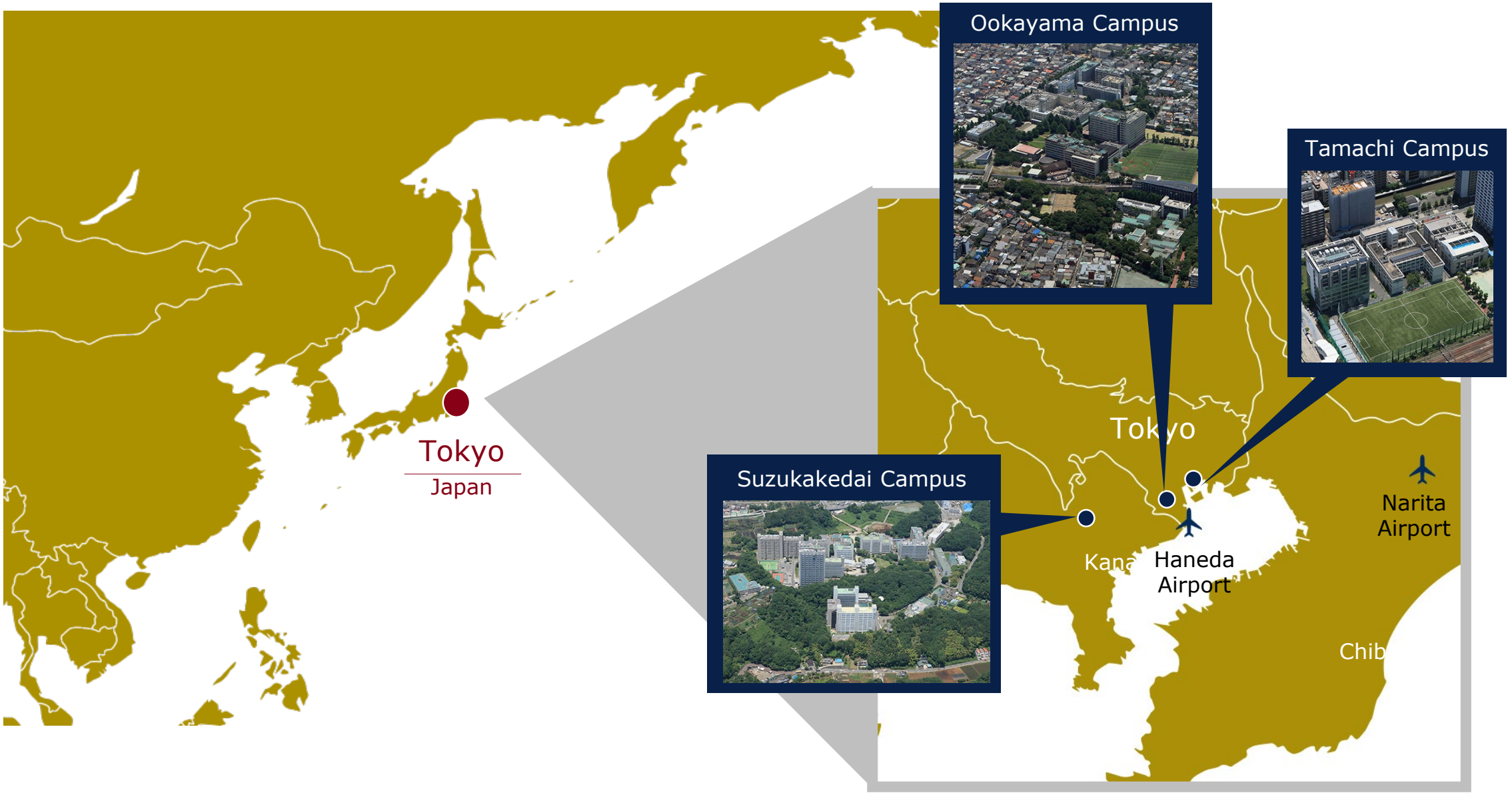
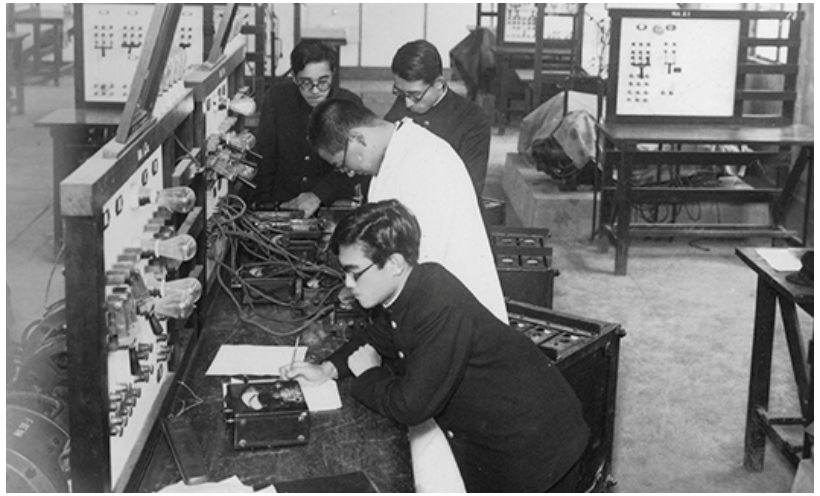
Tokyo Tech Overview

Location of Tokyo Tech



142 Years of Technical Ingenuity

1881	Founded as **Tokyo Vocational School** by the Japanese government • To produce engineers with a high level of expertise • To revitalize Japan through the promotion of technology
1929	Elevated to a degree-conferring university as **Tokyo Institute of Technology**
2004	Reestablished as an independent administrative institution under the name **National University Corporation Tokyo Institute of Technology**
2018	Selected as a **Designated National University Corporation** by MEXT



Department of Electric Engineering (1941)

TSUBAME Supercomputer (2010–)

Organization and Stats

Organization

- School of Science
- School of Engineering
- School of Materials and Chemical Technology
- School of Computing
- School of Life Science and Technology
- School of Environment and Society

- Institute for Liberal Arts

- Institute of Innovative Research

- Strategic Research Hubs
  - Earth - Life Science Institute
  - Material Research Center for Element Strategy
  - Research Institute for the Earth Inclusive Sensing

Stats

Graduate Students	5,726
International	1,499
Undergraduate	4,803
International	249
Faculty	1,088
International	66
Administrative Staff	610

(May, 2022)

Integration of Tokyo Tech and TMDU*

Tokyo Medical and Dental University

Integration of Tokyo Tech and TMDU

Tokyo Institute of Technology and Tokyo Medical and Dental University sign a basic agreement for integration

The merger is targeted for completion in fiscal year 2024, with the aim of achieving integration as soon as possible. By combining the knowledge and numerous achievements related to science, engineering, medicine, and dentistry that they have accumulated to date, the two institutions can evolve into a new university that will help solve global issues such as environmental problems, emerging and re-emerging infectious diseases, and the declining birthrate and aging society.

The new university's goals

1. Further promote cutting-edge research at both institutions
2. Develop “convergence science” through cooperation and collaboration across departmental and other borders
3. Produce highly specialized professionals who will pioneer the future based on comprehensive knowledge
4. Nurture a culture of diversity, inclusion, and equity to foster innovation

New University Name

New university name

"Institute of Science Tokyo"

(tentative) to be submitted to ministry council

The name was chosen to express the aim and direction of the new university. The goal of the merger of the two universities is to create a new type of university, drawing on the tradition and innovation of both universities while at the same time creating a university that no other has been able to achieve to date. In particular, the basic agreement states that the new university will aim to:

- further promote cutting-edge research at both institutions
- develop "convergence science"* through cooperation and collaboration across departmental and other borders
- produce highly specialized professionals who will pioneer the future based on comprehensive knowledge
- nurture a culture of diversity, inclusion, and equity to foster innovation

International Collaborations

Tokyo Tech ANNEXes

Bringing Tokyo Tech Innovation to the World

Aachen / 2019.3

Tokyo Tech ANNEX Aachen
Aachen, Germany (Located at RWTH Aachen)

Bangkok / 2018.3

Tokyo Tech ANNEX Bangkok
Pathum Thani District, Thailand (Located at NSTDA)

Berkeley / 2021.10

Tokyo Tech ANNEX Berkeley
Berkeley, USA (Located at JSPS Office)

ANNEX-E（Education）

- Recruit excellent students
- Build alliances with universities and research institutions

ANNEX-I（Information）

- Disseminate information from and about Tokyo Tech
- Conduct public relations

ANNEX-R（Research）

- Liaise with industry and promote research collaboration
- Recruit outstanding researchers

Research on Sustainability and Innovation at Tokyo Tech

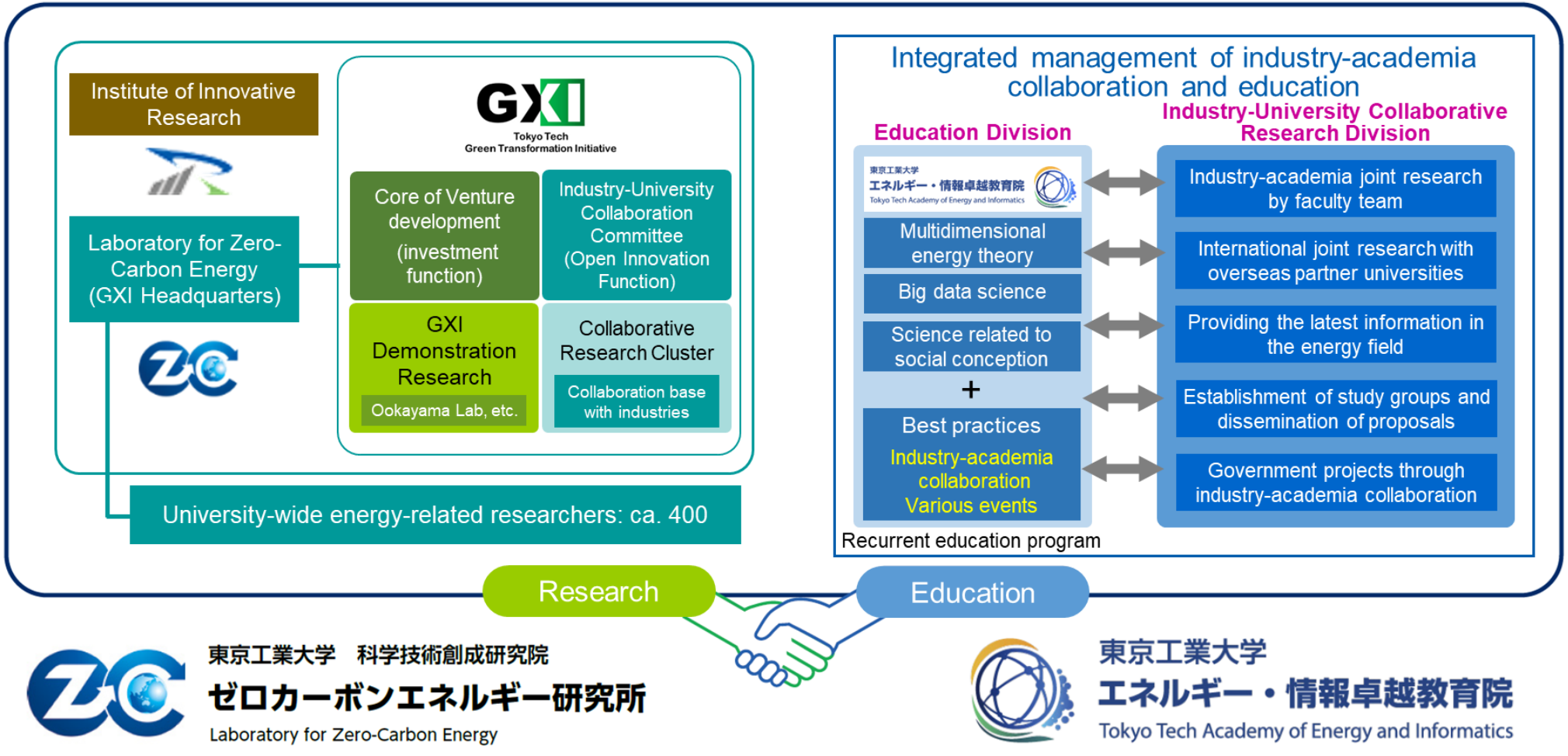
Research and Education for Future Progress

Research and development of Green Transformation (GX) through open innovation among industry, academia, and government

GXI Tokyo Tech Green Transformation Initiative

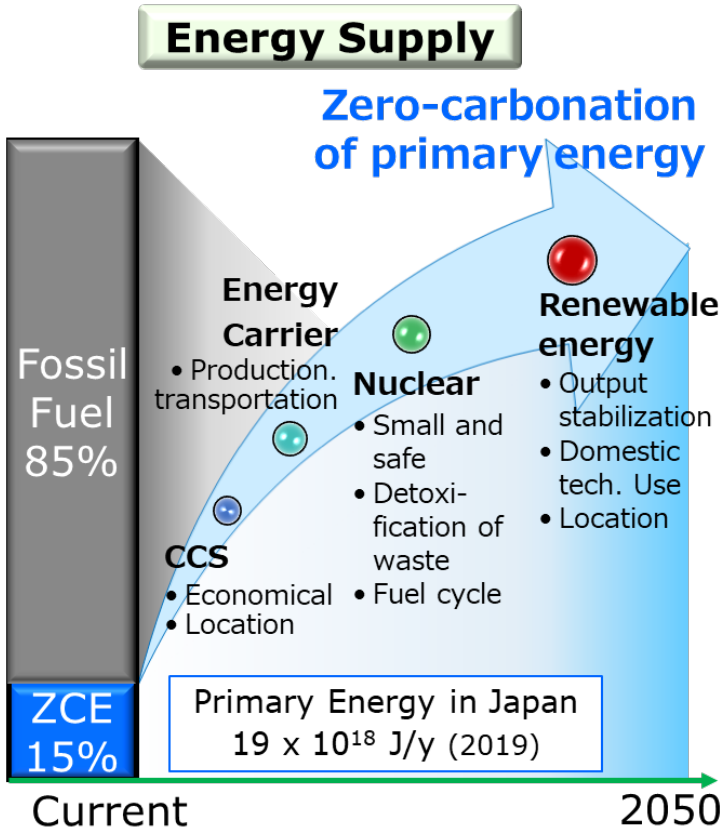
Tokyo Tech InfoSyEnergy 研究/教育コンソーシアム

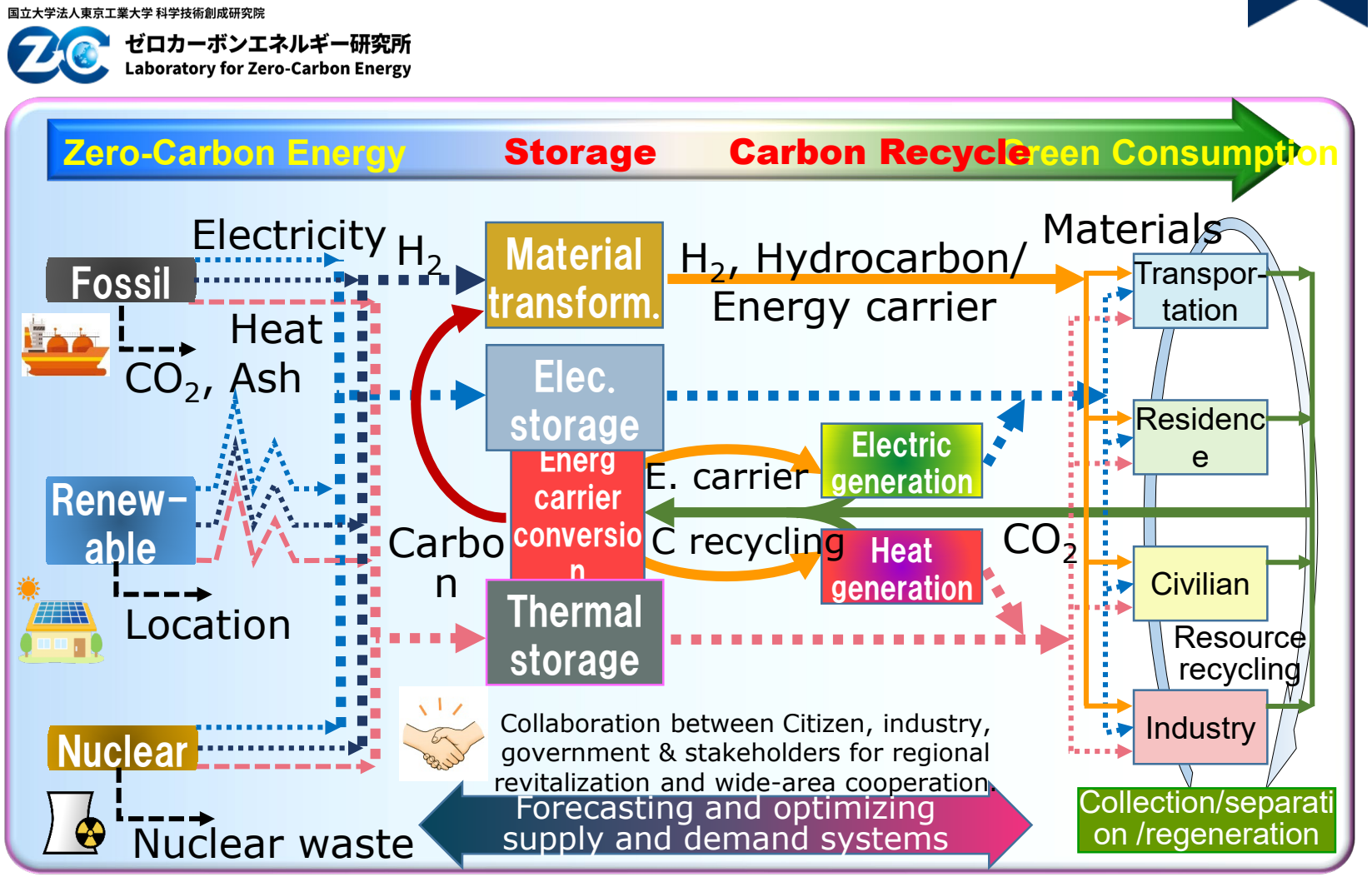
Research and education on energy elements/systems/scenarios utilizing "big data science" through industry-academia collaboration



Source: Tokyo Institute of Technology Integrated Report 2022

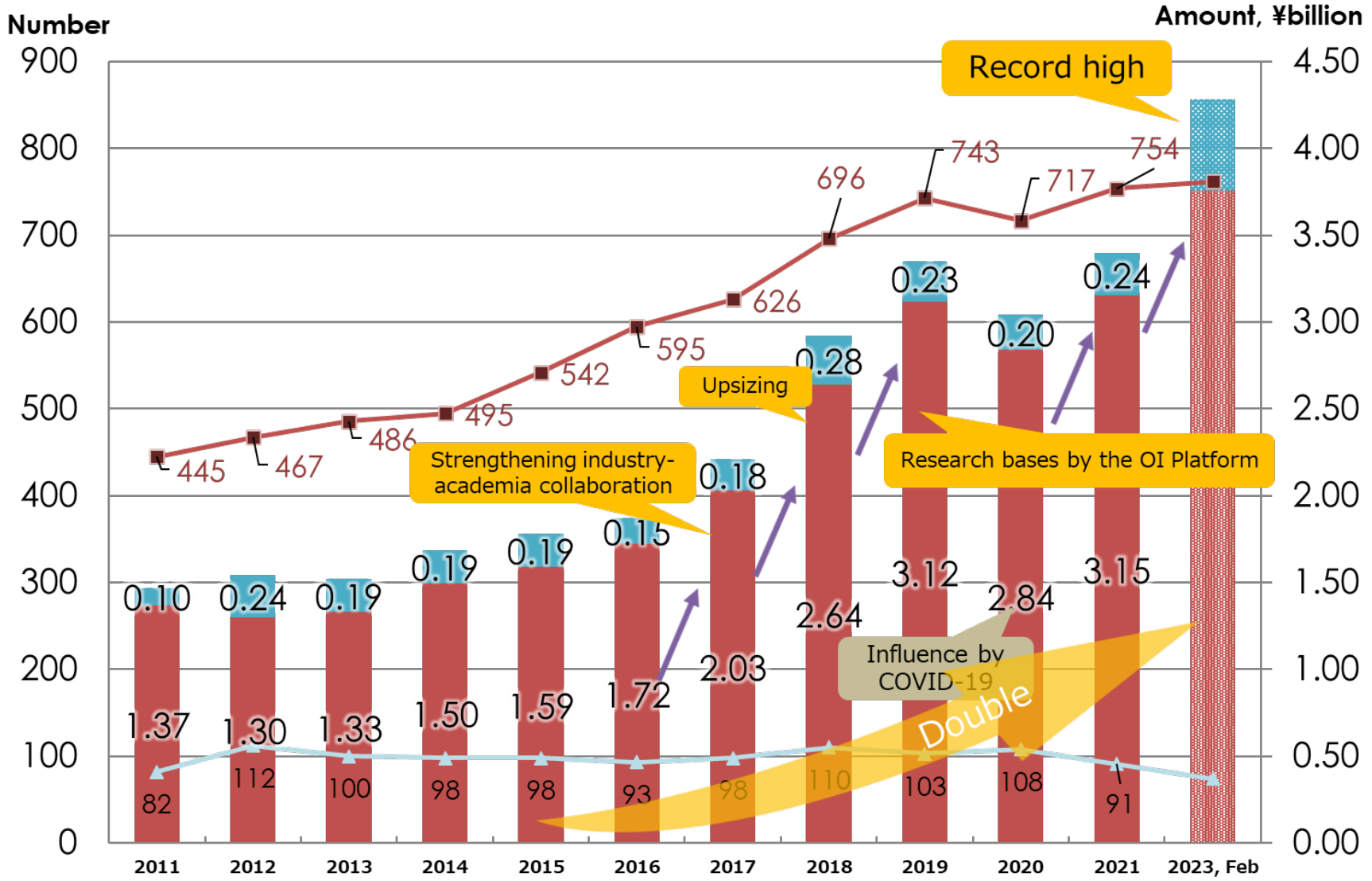
Goal of ZC





Source: Environmental Report 2022, Tokyo Institute of Technology
http://www.zc.iir.titech.ac.jp/jp/index.php

Trends in the number of industry-academia collaborations and amounts received



Source: Tokyo Institute of Technology Integrated Report 2022

From Research & Innovation to Social Value

Tokyo Tech Venture Company: Examples

- More than 140 Tokyo Tech ventures
- Three companies are examples of ventures that are expected to make great strides on a global scale

Tsubame BHB Co., Ltd.

- Established based on the electride catalyst technology developed by the Professor Emeritus Hosono, who leads the group of Tokyo Institute of Technology.
- Establish a technology that breaks the common sense of "large-scale centralized production" of ammonia.
- Contribute to society by promoting decentralized production with low environmental impact.

Riverfield

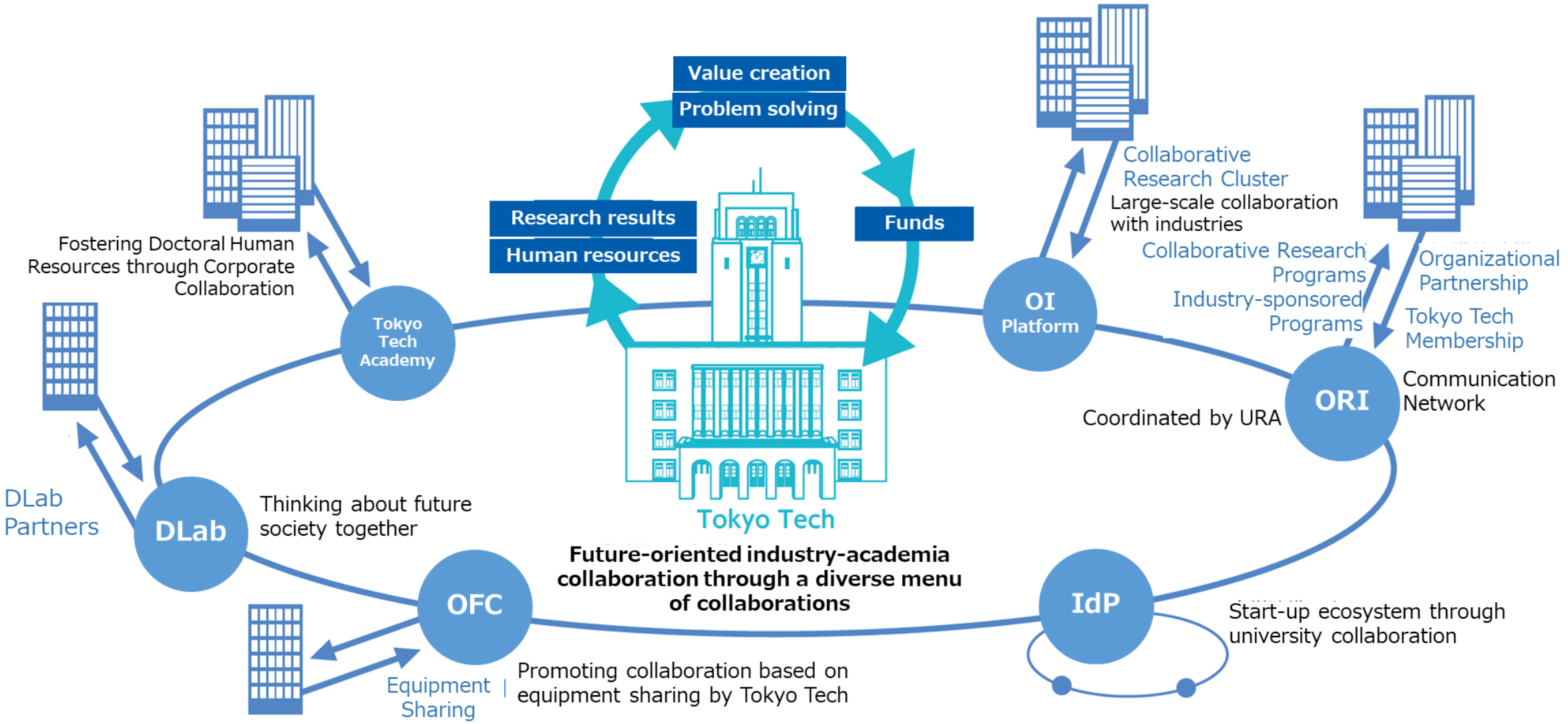
- Started the research on surgical assisting robots at the Tokyo Institute of Technology in 2003.
- Established the world's only technology using pneumatic pressure to drive robotic forceps through R&D led by the Tokyo Institute of Technology.
- Conducted various R&D on both the hardware design of precision robots and the software technology to precisely control them.
- Focused on researching peripheral technologies for safe operation and to deal with various risks.

WALK-MATE LAB

- Developing, manufacturing, and selling systems for social implementation of innovative robotics and cutting-edge sensing to support people's lives from the aspect of gait, utilizing advanced technologies.
- It combines AI and big data with IoT at the core, and abundant clinical experience.

Source: Company Web site

Future-oriented Industry-Academia Collaboration



Source: Tokyo Institute of Technology Integrated Report 2022

Tokyo Tech

Thank you!
Vielen Dank!

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