Science Tokyo
Designated National University Scheme
Realizing a better and brighter life, society, and planet with the power of science

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National University Corporation Institute of Science Tokyo

Institute of SCIENCE TOKYO

Basic Agreement for Integration

signed on Oct. 14, 2022

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Two universities pioneering the history of science unite to create yet unseen academic fields

Tokyo Tech

Becoming a world-leading science and technology university

1881 Tokyo Vocational School established to foster outstanding engineers

Founding thoughts

"Establish a technical school nurturing graduates who can create new industries"

1926 "Father of television" Kenjiro Takayanagi invents first cathode ray tube television

1929 Former Tokyo Tech becomes degree-conferring university

2000 Hideki Shirakawa receives Nobel Prize in Chemistry for defying conventional concept of plastics not conducting electricity

2003 Hideo Hosono develops IGZO thin-film transistor, now used in smartphones and other devices

2016 Yoshinori Ohsumi receives Nobel Prize in Physiology or Medicine for elucidating the mechanism of autophagy

2017 Supercomputer TSUBAME3.0 developed, combining unparalleled processing speed with world-leading energy-saving performance

2018 Tokyo Tech becomes Designated National University

2020 Saroa, the world's first minimally invasive surgical assist robot that reproduces sense of force, is applied clinically.

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Born in October 2024

国立大学法人 東京医科歯科大学 TOKYO MEDICAL AND DENTAL UNIVERSITY

Cultivating professionals with knowledge and humanity, thereby contributing to people's well-being

1928 Founded as Tokyo National School of Dentistry, Japan's first national dental training institution

Founding thoughts

"To achieve a complete education in dentistry, it is necessary to combine medicine with science and engineering"

1946 Establishment of former Tokyo Medical and Dental University (TMDU)

1955 Successful development of prototype instrument for electric measuring of root canal length which is now the standard worldwide

1960 First ever successful operation by Akio Suzuki on severe valvular disease patient using Suzuki's handmade prosthetic cardiac valve

1962 Yasuji Katsuki's research on central nervous mechanisms of hearing helps modernize neurophysiology in Japan

1970s Development and application of dental adhesive resin made of various materials helps change filling color from silver to white

2020 TMDU becomes Designated National University

2021 Takanori Yokota invents nucleic acid medicine, leading to groundbreaking drug discoveries

Science Tokyo's mission

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Advancing science and human wellbeing to create value for and with society

Science Tokyo vision 2024

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A university dedicated to fostering a better and brighter life, society, and planet

An open community of vitality and goodwill

A hub where students, faculty, staff, and other members work hand in hand with society to envision a better, brighter future

A team that rises to the challenge of pioneering new academic fields and industries, and addresses urgent societal issues such as infectious diseases and carbon neutrality

Creating a dynamic team through dialogue

Value 1

Explore and freely integrate knowledge and technology, without constraint of preconceptions.

Value 2

Celebrate individuality to foster a rich culture of creation.

Value 3

Continuously challenge existing assumptions and approaches to enable bold reinvention.

Creating a new university

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The bigger picture

Step 0
2024-2027

Fostering harmony and a shared culture on our campuses

Governance through dialogue

Step 1
2025-2033

Strengthening research capabilities beyond conventional standards in Japan

Accumulation of Science Tokyo Fund, nurturing of next-generation talent

Step 2
2034-2049

Developing into a world-leading, self-sustaining science university: "World-class university"

Common feature at Science Tokyo's predecessors: Practical learning firmly rooted in science

TMDU

Cultivating professionals with knowledge and humanity, thereby contributing to people's well-being

Tokyo Tech

Our unfearing minds resist the stereotype, refute the pre-established, and embrace the unconventional, for we see an alternate future

Toward world-class status

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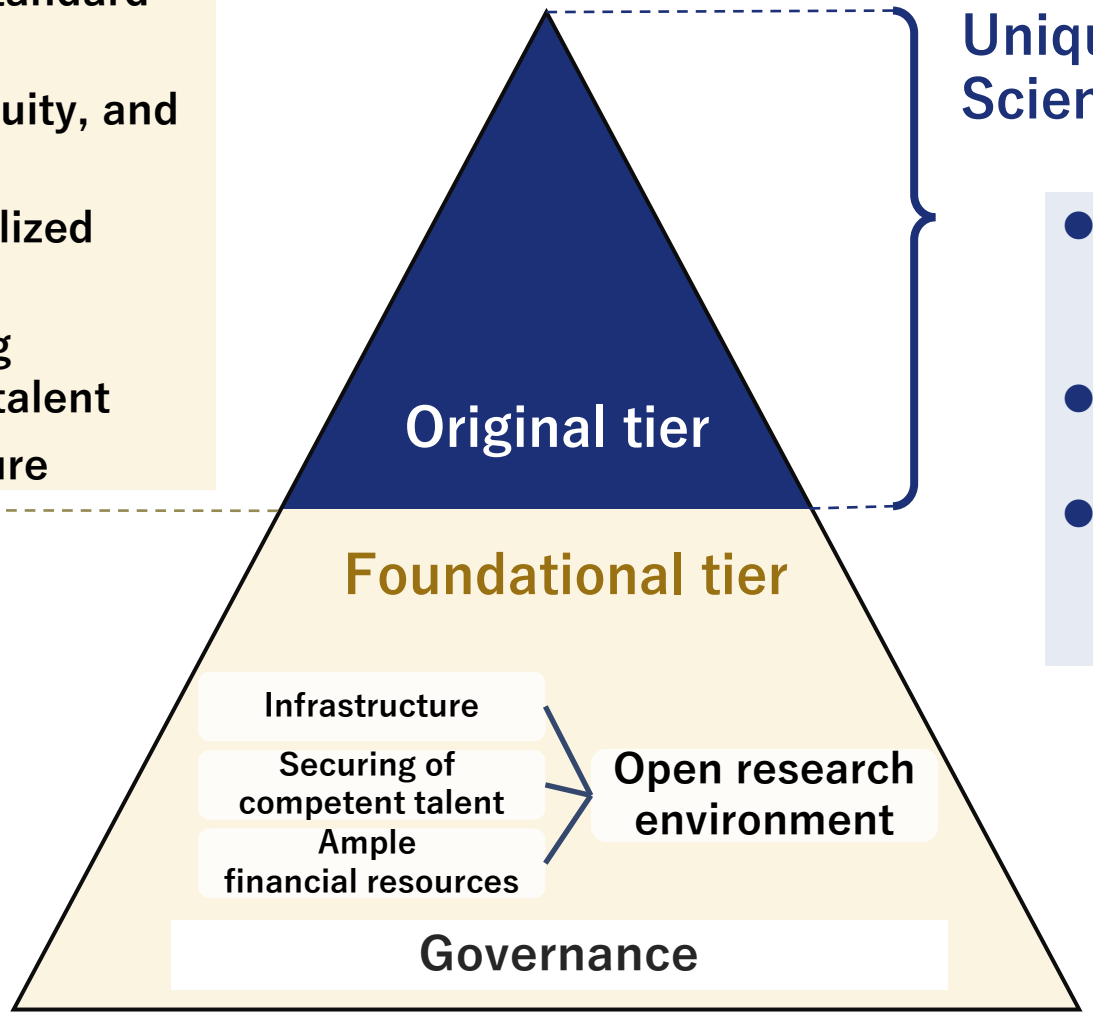
Goals to be achieved in foundational tier

- Establishing a global-standard governance system
- Advancing diversity, equity, and inclusion
- Utilizing various specialized personnel
- Attracting and retaining international research talent
- Developing infrastructure

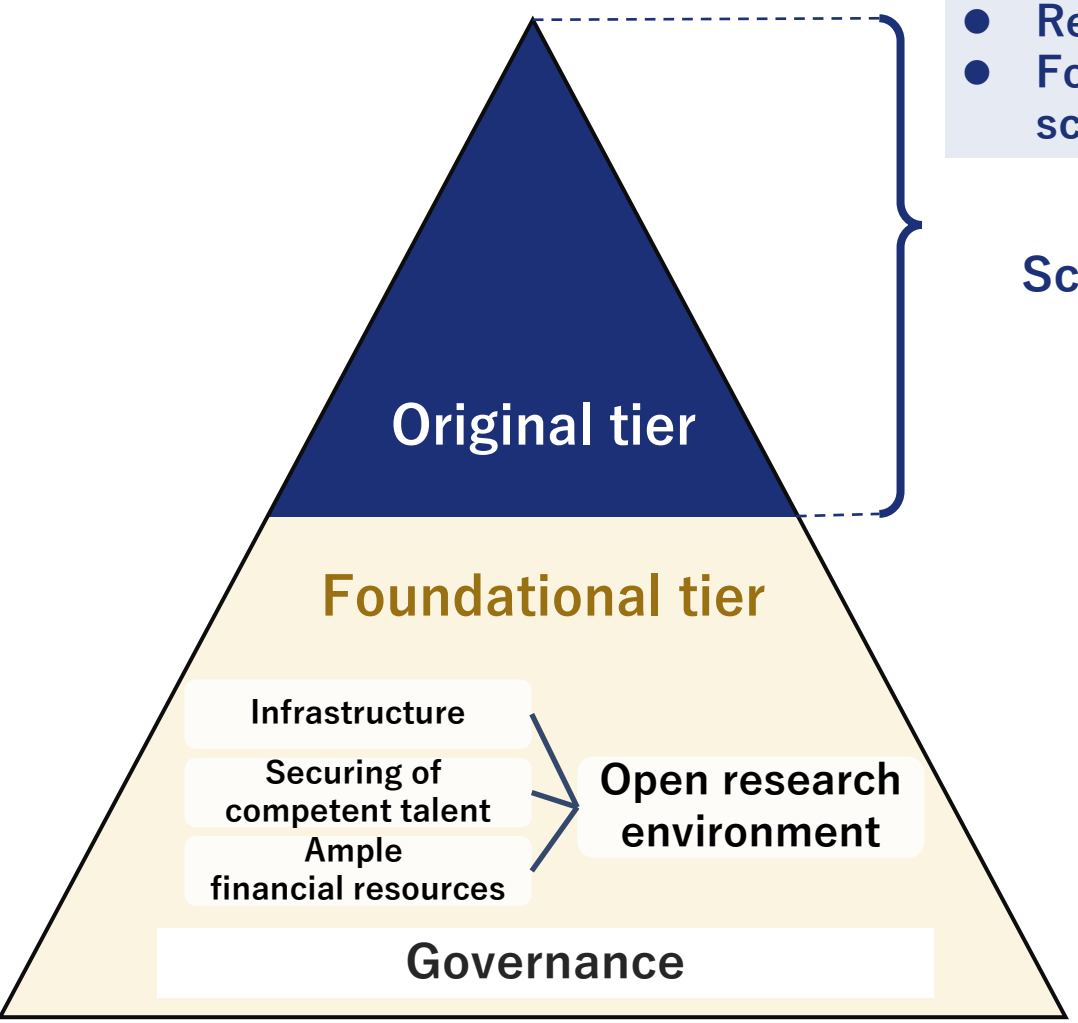
Requirements for world-class universities



Unique goals to boost status of Science Tokyo

- Developing sustainably as a world-leading science and technology university
- Returning the power of science back to society
- Fostering professional talent who lead the advancement of science and society

Toward world-class status



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Science Tokyo's initiatives as a designated national university

1. Set "visions" for solving problems as required by society and the future we want to realize, and promote education and research that aim to realize these visions through cross-disciplinary integrated research organizations.
2. Steadily invest revenue and funds obtained from the return of findings from research, and develop a financial base to reinvest gains from investments in research and development and talent development.
3. Establish an organization to identify and analyze research areas, especially in the deep tech field, that are required to solve societal issues or are deemed important for the future, propose areas to be tackled, and develop relevant talent.

Science Tokyo's DNU Initiative 1

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In relation to four of the six MEXT-specified components — strengthening of research capabilities, acquisition and fostering of human resources, international cooperation, and collaboration with society

Institute of Future Science
Cradle for new integrated research organizations

Schools, Faculties, Graduate schools . . . (disciplines) | Institute of Integrated Research | Hospital

Vision-realizing integrated research organizations (Visionary Initiatives)

- Smart healthcare & health ecosystem
- AI-symbiotic society
- Resilient society of sustainable resources & energy creation
- ⋮

✓Create sufficient number of vision-realizing integrated research organizations and aim to have all researchers across Science Tokyo belong to one of these organizations

✓Enhance curriculum for graduate-level students based on knowledge from integrated research organizations

Vision-oriented approach also applied to education

Doctoral program
Implement industry-academia-government joint education through consortia (with gifts to consortia used to support doctoral students)
-> Fostering doctoral degree holders who can play an active role in all sectors of society, including industry

Master's program
- Interdisciplinary graduate major A
- Interdisciplinary graduate major B

Collaboration

Bachelor's program
Double major (in principle)

Society

Critical societal issues

Expectations from society

Top management

Selection & focus on strategies

Organization that identifies and analyzes research areas (I4 Collective)

Institute of New Industry Incubation
Connecting results of integrated research organizations to society

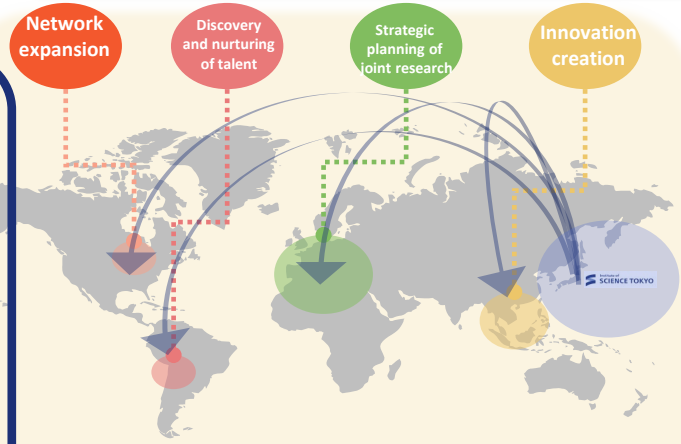
Institute for Medicine-Engineering Synergy (MedESyn)
Medicine-engineering research organization open to domestic and overseas partners

Each integrated research organization forms industry-academia-government consortium

Social implementation

Regional strategy: North America, South America, Europe, Africa, South East Asia

Network expansion | Discovery and nurturing of talent | Strategic planning of joint research | Innovation creation



Each integrated research organization collaborates with leading universities in the US and Europe, Asia and Pacific Rim to form global network that serves as a hub for research and education aimed at solving societal issues

For technical and medical universities in Japan, these integrated research organizations also function as one-stop platforms for vision-realizing integrated research

Science Tokyo's DNU Initiative 1

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Multipath dissemination of results across society

Social implementation through government and business collaboration

Institute of New Industry Incubation

Doctorate holders

Govt, businesses, startups

Incubation system

Institute for Medicine-Engineering Synergy (MedESyn)

Industry-government-academia consortia

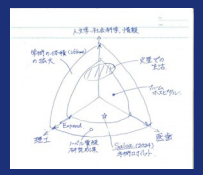
Mobility

Joint research

Visionary Initiative

Based on a research portfolio that includes basic research, PIs conduct large-scale management involving industry, university, and local government partners through appropriate resource allocation and stage gating, with the ultimate goal of realizing their respective visions

Basic research



Young researchers

Visiting students

Increased international competitiveness

Startup creation

Science & technology search specialists

Talent generation and consulting

Medicine-engineering collaboration, startup creation, ensuring research integrity, etc.

Regional universities

Science Tokyo's DNU Initiative 2

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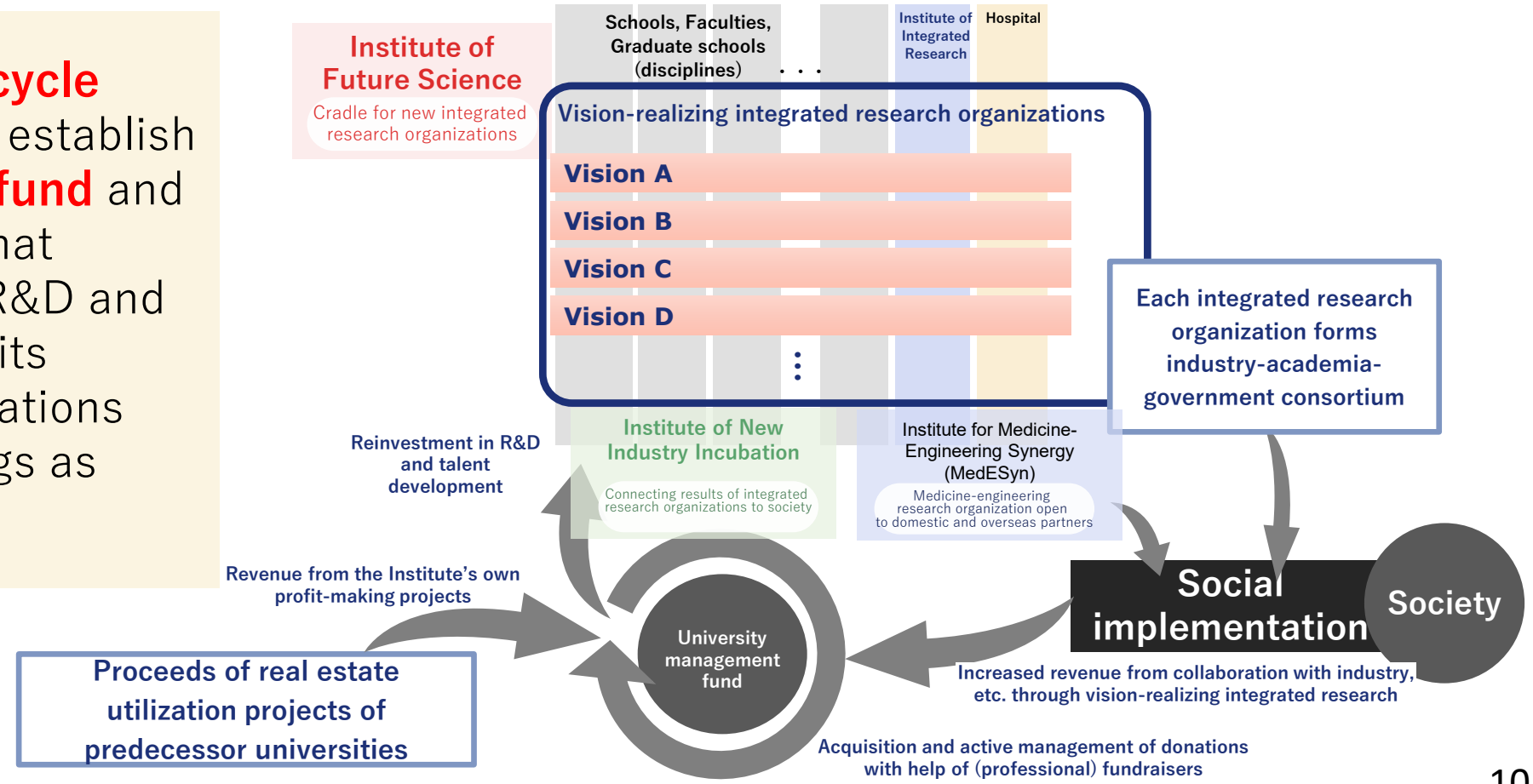
In relation to one MEXT-specified component — strengthening of financial base

- Science Tokyo's **virtuous cycle system** creates new value for society by utilizing—at the most appropriate time and place—outstanding Science Tokyo-grown talent and both tangible and intangible intellectual assets of the Institute. These assets are continuously strengthened by partially circulating obtained results from society back to the Institute.

To strengthen its **virtuous cycle system,** Science Tokyo will establish a **university management fund** and **develop a financial base** that enables reinvestment into R&D and talent development so that its integrated research organizations continue to generate findings as required by society.



Science Tokyo's DNU Initiative 3

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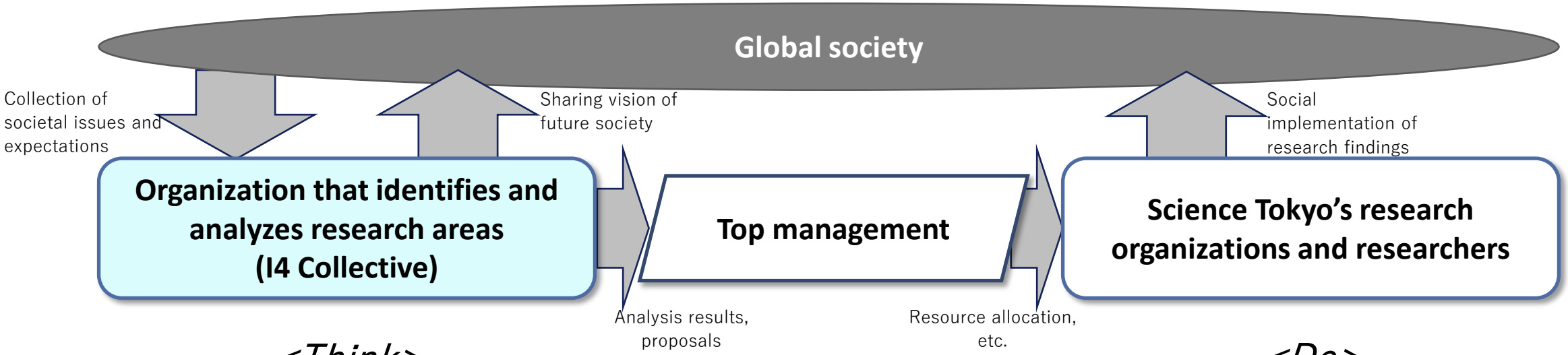
In relation to two of the six MEXT-specified components — strengthening of research capabilities and collaboration with society

- A preparatory committee has already been launched for the establishment of an organization to identify and analyze research areas required to solve societal issues.

"Investigation with Integrity, Innovation for Impact" Collective (I4 Collective or I4C)

- Responsible for **identifying and analyzing research areas**, particularly in the deep tech field. Findings shared widely with society.
-Analysis and identification is based on **active involvement of Science Tokyo researchers** with their own specialized fields and knowledge.
- Experts who assess societal impact and other professionals also participate to **analyze the future of relevant fields and risks**.
- The plan for I4C also includes a **function to train talent** for such analysis.



Governance system to advance all DNU initiatives

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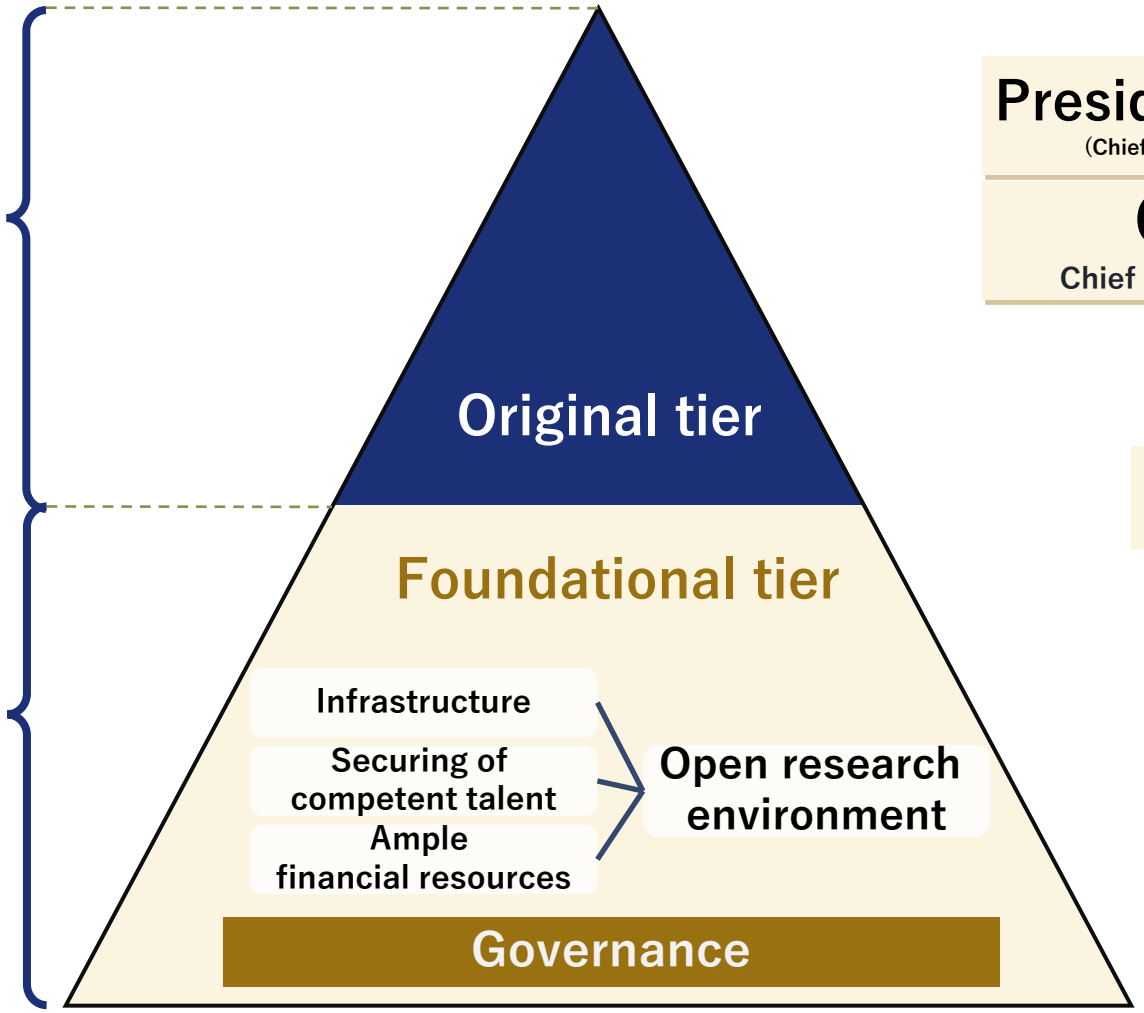
In relation to one MEXT-specified component — strengthening of governance

Unique goals to boost status of Science Tokyo

Goals to achieve improvements in foundational tier



Features of governance system

President & CEO (Chief Executive Officer)	**President & CAO** (Chief Academic Officer)
CMO Chief Medical Officer	**CFO** Chief Financial Officer
CItgO* Chief Integration Officer	

*Role established to promote unity across Science Tokyo after merger

"Strengthening of the virtuous cycle system"

- ✓ CEO focuses on the establishment and operation of the university management fund
- ✓ CAO focuses on establishing Science Tokyo's research organizations
- ✓ CFO is in charge of managing the fund
- ✓ CMO is responsible for the hospital's contributions to the virtuous cycle system

Relationship between Science Tokyo DNU Scheme and pre-merger schemes

● Science Tokyo DNU Scheme

- ➢ Science Tokyo, as a newly established institution, has set forth ambitious goals that take advantage of its unique characteristics.
- ➢ Many of these are based on goals set in the respective DNU schemes of Science Tokyo's predecessor universities.
- ➢ Naturally, Science Tokyo will continue to implement the pre-merger commitments of its predecessor universities.

✓ In addition to new initiatives to be undertaken under the Science Tokyo DNU Scheme,
- Incorporated content developed from the schemes of the two predecessor universities and
- field-specific components maintained by Science Tokyo in relation to the medical and dental science fields, and the science and engineering fields, respectively

have been summarized in Table 1 of Part I and in Parts II and III of the Science Tokyo DNU Scheme.

● Toward the 5th mid-term goals period

- ➢ Since the merger of Science Tokyo's predecessor universities fell in the middle of the 4th mid-term goals period, the effects of the two pre-merger schemes will inevitably resonate in this new Scheme. Science Tokyo hopes to verify the results and effects of this Scheme at the end of the 4th mid-term goals period, and based on the results, draw up a new scheme for the 5th mid-term goals period as a united Science Tokyo.

Conclusion

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● Science Tokyo’s resolve

- After determinedly achieving integration, Science Tokyo is dedicated to fostering a better and brighter life, society, and planet, and nurturing professional talent to achieve these goals.
- It is our role as Science Tokyo to take the lead and drive growth. As an open university, we can work with society to identify societal issues and take on the challenge together.
- We will create a university that resonates across the world, so when people hear the name “Science Tokyo,” they confidently say, “THAT is the place to do research.”
- Science Tokyo’s resolute spirit will drive the Institute to “develop education and research activities to the world‘s top-level with the aim of significantly improving education and research levels of Japanese universities and facilitating their creation of innovation,” as expected of designated national universities.

Advancing science and human wellbeing

Thank you very much for your kind attention.