# NAGOYA INSTITUTE of TECHNOLOGY

## Facts and Figures 2022-2023

# Charter of Nagoya Institute of Technology

## Fundamental Mission

Nagoya Institute of Technology (NITech) was founded as the first national institution of higher education in central Japan in order to develop the region as Japan's center of industry. Maintaining a respect for this historic mission and acting as one of the leading engineering institutes in Japan, NITech shall therefore make its fundamental mission as follows: developing revolutionary science and technologies, fostering rich human resources, and contributing to peace and social welfare of the future by acting as a source to consistently produce and develop new industries and culture.

## Monozukuri (Innovation)

NITech shall respect practical and creative research activities based on the independent ideas of its members, encourage global academic cooperation, and endeavor to create new values while believing in the unlimited possibilities of engineering beyond the constraints of conventional frameworks of engineering.

## Hitozukuri (Education)

NITech shall devote itself to foster leading human resources whose unique qualities and international minds possess the ability to develop a new science and technologies based on engineering and change the world by exploring, creating, challenging, and taking action.

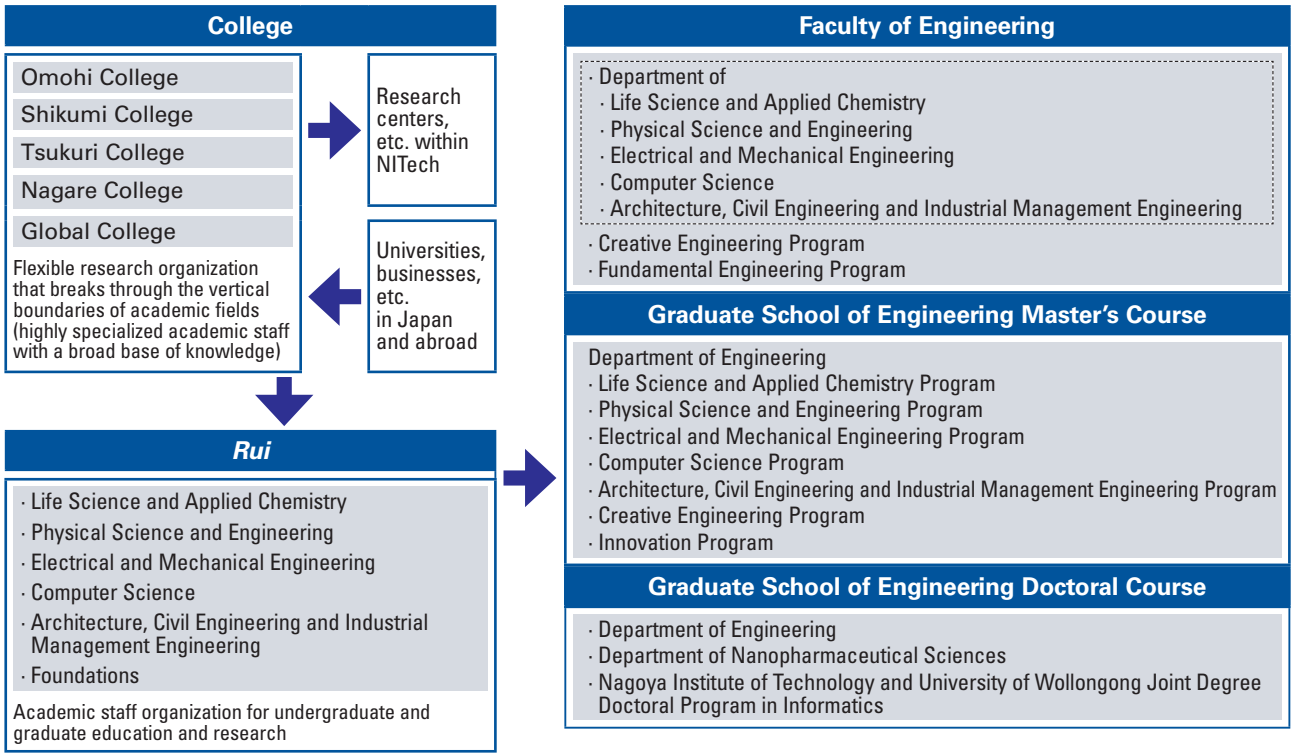
## Miraizukuri (Contribution)

NITech, as an open institute with a public mandate, shall emphasize harmony and cooperation with local and international societies, and strive to make continuous efforts to realize a peaceful and prosperous society for the future.

Enacted on the 1st of January 2012

# Academic Staff Organization

The Colleges are established as lateral and interdisciplinary research organizations where academic staff members from different fields interact with each other, away from vertical organizations for education and research that are divided by academic fields. In addition to the four Colleges of Omohi, Shikumi, Tsukuri and Nagare, the Global College was newly established in FY 2016. At the Global College are assigned researchers from education and research units of leading overseas universities that NITech employs to further promote global education and research reform and functional enhancement, as well as academic staff members who are employed under the leadership of the President to strengthen the research capabilities of NITech.
Each academic staff member belongs to one of these Colleges, and it is expected that, by stimulating each other, they will initiate new interdisciplinary research projects.



# 1 History

## Bring a Fresh Breeze to the Tradition Established in 1905

**Nagoya Higher Technical School**
Founded 28 March 1905

**Aichi Prefectural College of Technology**
Founded 16 February 1943

**Nagoya College of Technology**
Renamed 1 April 1944

**Aichi Prefectural College of Technology**
Renamed 1 June 1944

**Nagoya Institute of Technology**
Founded 31 May 1949

**National University Corporation Nagoya Institute of Technology**
Founded 1 April 2004

- Nagoya Institute of Technology (NITech) was established in 1949 as a university under the new education system through the merger of Nagoya Higher Technical School (founded in 1905) and Aichi Prefectural College of Technology (founded in 1943).
- In 2004, it was newly established as National University Corporation Nagoya Institute of Technology.

# 2 Outline of Departments

## Faculty of Engineering

**Advanced Engineering Education program**

Department of
- Life Science and Applied Chemistry
- Physical Science and Engineering
- Electrical and Mechanical Engineering
- Computer Science
- Architecture, Civil Engineering and Industrial Management Engineering

**Creative Engineering Program** (six-year integrated)

**Fundamental Engineering Program**

## Graduate School of Engineering

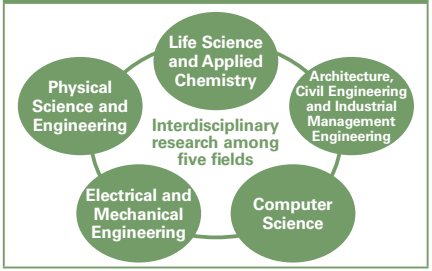
### Master's Course

**Department of Engineering**

- Life Science and Applied Chemistry Program
- Physical Science and Engineering Program
- Electrical and Mechanical Engineering Program
- Computer Science Program
- Architecture, Civil Engineering and Industrial Management Engineering Program
- Innovation Program

### Doctoral Course

**Department of Engineering**



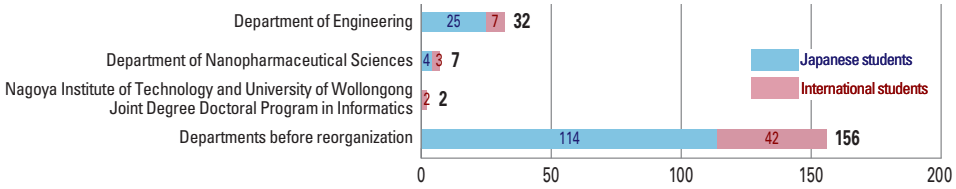

Department of Nanopharmaceutical Sciences

Nagoya Institute of Technology and University of Wollongong Joint Degree Doctoral Program in Informatics

# 3 Number of Students

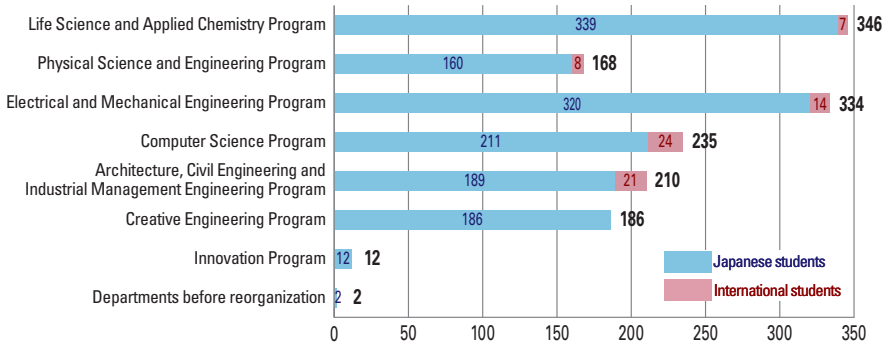
## Graduate School of Engineering (Doctoral Course)

**Total 197 students**



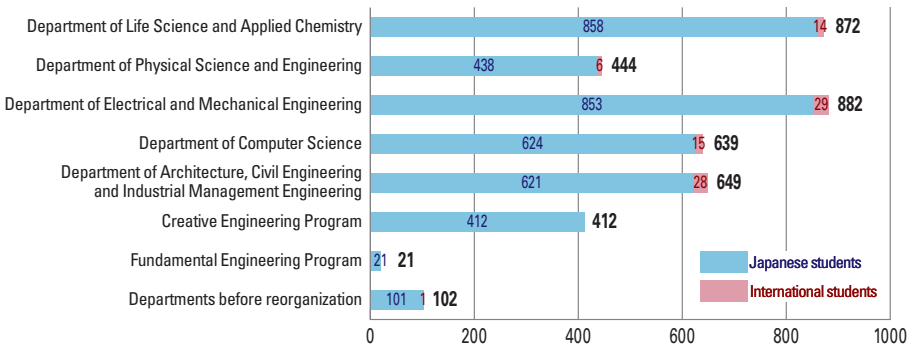

## Graduate School of Engineering (Master's Course)

**Total 1,493 students**




## Faculty of Engineering (Bachelor's Course)

**Total 4,021 students**



# 4 International Students and Academic Exchange

## 242 International Students Enrolled
## International Academic Exchange Agreements Concluded with 102 Partners in 36 Countries/Regions

■ There are 242 international students from 29 countries/regions around the world studying at NITech. Of these, 220 students (90.9%) are from Asia. The largest number of students are from China, amounting to 100.

### Academic Exchange Partners

Please refer to the website for details (https://www.nitech.ac.jp/eng/int/concluded.html)

**Europe: 38 partners**
Friedrich-Alexander University Erlangen-Nuremberg (FAU) (Germany); Université de Limoges ENSIL-ENSCI, Efrei Paris (France); University of Padua, University of Salerno (Italy); Universidad Politècnica de València (Spain); TU Wien (Austria); Imperial College London (UK); etc.

**Africa: 1 partner**
British University in Egypt (Egypt)

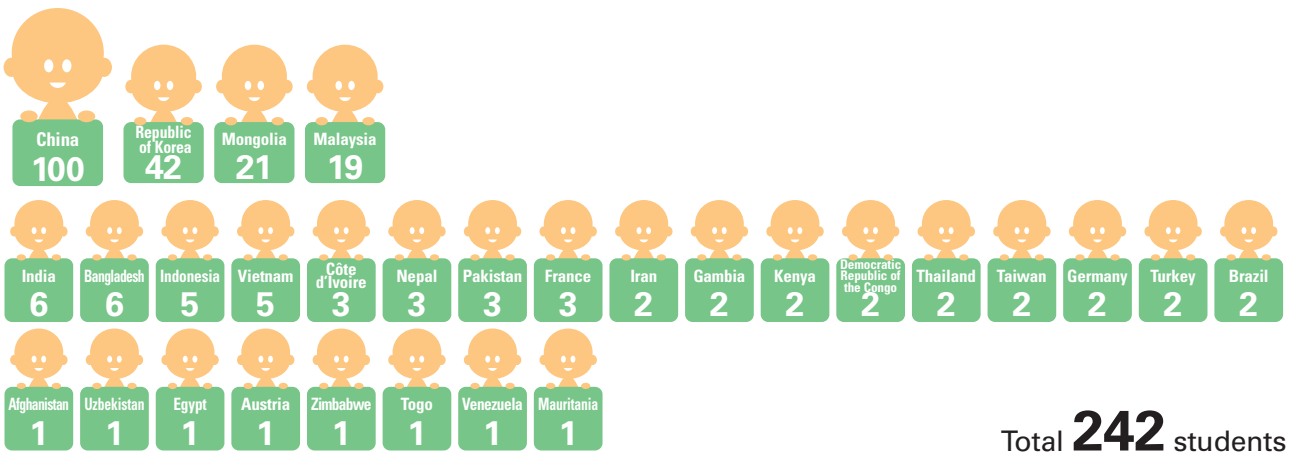
**Asia: 54 partners**
Tsinghua University, Tongji University, Beijing University of Chemical Technology (China); Seoul National University (Republic of Korea); Anna University (India); Universiti Teknologi MARA, Universiti Teknologi Malaysia (Malaysia); Chulalongkorn University (Thailand); Hanoi University of Science and Technology (Vietnam); etc.

**Oceania: 3 partners**
University of Wollongong, University of Queensland (Australia), etc.

**North America: 4 partners**
Clemson University, University of Florida (U.S.), etc.

**South America: 2 partners**
University of Brasilia (Brazil), etc.

### Number of International Students (By Country/Region)




Total **242** students

# International Programs

## Funded Program

### International Graduate Program for Global Engineers

NITech has launched a master's course program for manufacturing technology. The program is designed for overseas students who want to develop a career in the Japanese manufacturing industry. Several manufacturing companies in the region cooperate with the program, some of whom offer students internship opportunities. Graduates of this program are recommended to seek employment at these companies.

- Types of scholarships: MEXT scholarships

### Aichi Scholarship Program

Aichi Prefectural Government is offering this scholarship to students from Asian countries who wish to work for manufacturing companies in Aichi Prefecture after completing their master's courses. This program comprises six months as a Research Student and two years on a master's course. Students of this program come to NITech every October and start attending intensive Japanese classes as a Research Student. After the six-month Research Student period, the students enroll in a master's course in April and begin studying in their major field.

- Types of scholarships: Aichi Prefectural Government
- Career plan: Work for manufacturing companies in Aichi Prefecture

### Double Degree Program linked to Doctoral Program

This program enables students from partner universities in China to obtain the full degree from our Institute in addition to the degree from the home university under the supervision of a research advisor linked to both institutions. The student can then go on to obtain a doctorate degree from one of the two universities.

### The Japanese–German Graduate Externship (JGGE)

In collaboration with Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) in Germany, the Nagoya Institute of Technology (NITech) introduced Cotutelle, a joint doctoral program between Japan and Germany, in October 2019. Our Cotutelle program, which is standardized according to the European doctoral degree system, will offer high-value-added "Mono-zukuri" (manufacturing) and "Koto-zukuri" (creating) for not only researching each element of technology but also systematizing them through a compound-eye coursework.

## Non-Funded Program

### Non-degree Research Student Program

The purpose of this program is not to earn a degree but to study a specific topic under a supervisor of the faculty. It can be also a preparatory course for proceeding to graduate school. The program starts every April and October. Please note that Research Students are not eligible for scholarships or tuition exemption.

■ Among international students, 14 undergraduate students (15%) and 39 graduate students (30%) receive scholarship from private foundations, etc.

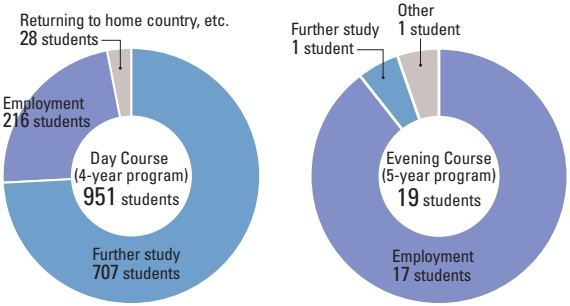
# 5 Career Paths after Graduation

## Status of Academic Advancement and Employment for FY 2021

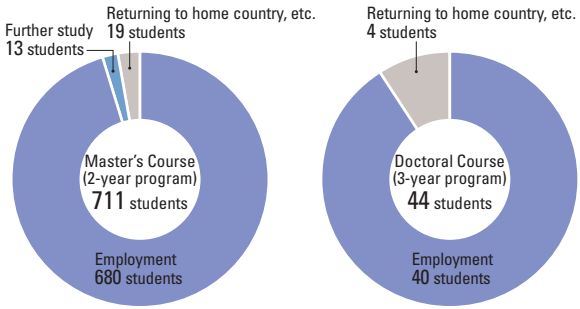
**Approx. 73% Undergraduates Advance to Higher Education**

**Job Placement Rates: 98.6% for Day Course Undergraduates, 100% for Evening Course Undergraduates, 99.6% for Master's Course Students, and 95.2% for Doctoral Course Students**

### Faculty of Engineering




### Graduate School of Engineering




## Main Places of Employment

| Undergraduate | Graduate | | |
|---|---|---|---|
| DENSO | ABeam Systems | LIXIL | SoftBank |
| IBIDEN | ADVICS | Makita | Sumitomo Wiring Systems |
| Mitsubishi Electric Engineering | Aisin | Murata Manufacturing | TAISEI |
| Nippon Sharyo | Brother Industries | NGK Insulators | TAKENAKA |
| NTT Data Tokai | Chubu Electric Power Grid | NGK SPARK PLUG | Toho Gas |
| OBIC | DENSO | NTT DOCOMO | Tokai Rika |
| Outsourcing Technology | FUJI | NTT West | Toyoda Gosei |
| Sumitomo Wiring Systems | Honda Motor | Okuma | TOYOTA AUTO BODY |
| Tamano Consultants | IBIDEN | Panasonic Ecology Systems | Toyota Boshoku |
| Toyota Motor Corporation | Kioxia | Rinnai | Toyota Industries Corporation |
| Yamazaki Mazak | KYOCERA | SCSK | Toyota Motor Corporation |

Note: Alphabetical order

## Main Places of Employment for International Students

| | |
|---|---|
| Accenture | Micron Memory Japan |
| Air Water | Mitachi |
| Aoyama Seisakusho | Musashi Seimitsu Industry |
| Baidu | Nagoya Kagaku Kogyosho |
| Brother Industries | Nagoya University |
| Changan Automobile | Nikken Sekkei |
| Dabo Medical Treatment | NTN |
| Fujitsu | NTT West |
| Gemdale Properties & Investment | Okuma |
| Gotion Japan | Prime Planet Energy & Solutions |
| Guangxianyun | Rakuten Mobile |
| Hikvision | Sanko Electric |
| Honda Motor (China) Technology | Shenzhen University |
| HOUSEI | SIG |
| Huaneng Clean Energy Research Institute | SoftBank |
| HUNANPROVINCIAL COMMUNICATIONS PLANNING SURVEY & DESIGN INSTITUTE | Sony Global Manufacturing & Operations |
| International Islamic University Chittagong | South Valley University |
| Japan Advanced Institute of Science and Technology | Southeast University |
| Jinan Energy Investment | Sumitomo Wiring Systems |
| Kanefusa | The University of Tokyo |
| Koei Tecmo Holdings | Toyota Boshoku |
| Kyoto University | Toyota Motor Corporation |
| Makita | Yasin Pty |

Note: Alphabetical order

# 6 Recurrent Education

## Number of Working Adults Enrolled

**7**: **Credited auditors, research students, auditing students**
(as of May 2022)

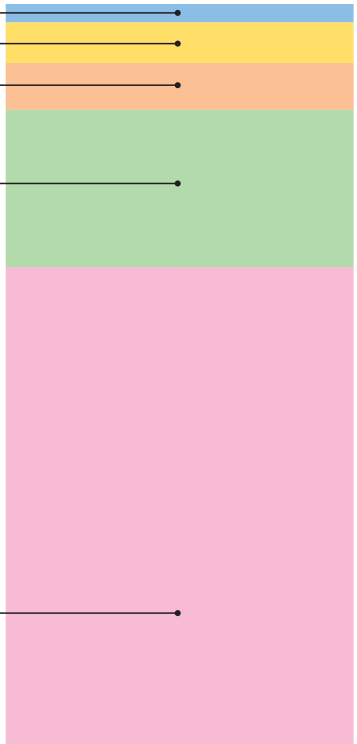
**17**: **3D CAD Design Engineer Training Seminar**
(offered in FY 2021)

**19**: **Female Engineering Leader Training Seminar**
(offered in FY 2021)

**65**: **Plant Manager Training Seminar**
(offered in FY 2021)

Core Human Resource Development Program in Manufacturing: 36
Core Human Resource Development Program in Management: 29

**197**: **Extension Courses**
(offered in FY 2021)

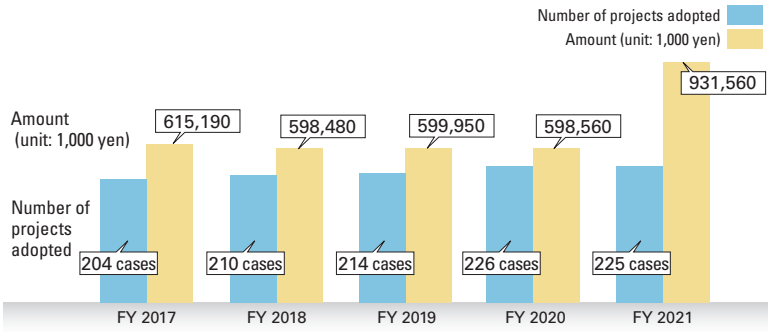


■ A total of 147 working adults are also enrolled in the Master's and Doctoral Courses.

# 7 Grants-in-Aid for Scientific Research

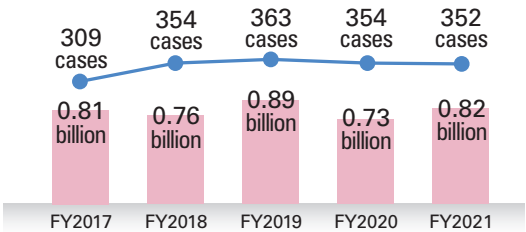
## 931,560,000 Yen Funded for 225 Projects

■ The Grants-in-Aid for Scientific Research (KAKENHI) are research funds aimed at significantly developing outstanding, original and pioneering research in all fields, from the humanities and social sciences to the natural sciences, in order to promote science in Japan. They are important funds for promoting academic research at universities and other institutions, and developing fundamental research in Japan.



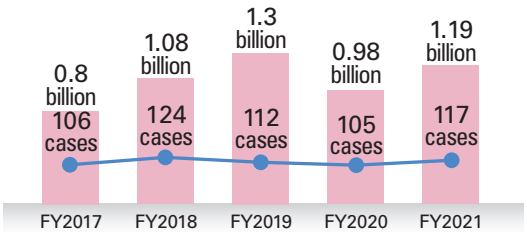

# 8 Collaborative Research and Funded Research

## Collaborative Research Projects




Research fellows and funds are accepted from companies, etc. to conduct joint research with academic staff members of NITech.

## Funded Research Projects




Funded Research is conducted by NITech under commission from external institutions, etc., and the cost is borne by the commissioning organization.

## Intellectual Property Revenue

Amount: 1,000 yen

| | FY2017 | FY2018 | FY2019 | FY2020 | FY2021 |
|---|---|---|---|---|---|
| Patents, etc. | 8,791 | 54,354 | 11,497 | 12,617 | 23,928 |
| Copyrights | 0 | 596 | 148 | 368 | 0 |
| Know-how | 5,338 | 6,246 | 5,738 | 36,765 | 73,502 |
| Materials | 3,313 | 14,760 | 5,152 | 2,034 | 3,870 |
| Total | 17,442 | 75,956 | 22,535 | 51,784 | 101,300 |

# 9 Project Laboratory

■ Project Laboratories are aimed at promoting interdisciplinary research projects as well as social contribution and collaboration. Their expenses have to be covered with external research funding of over 20 million yen in each fiscal year. The period of establishment is three to five years.
The names of the laboratories established as of May 2022 and their representatives are as follows:

| Name | Representative |
|---|---|
| Research Center for Bioelectromagnetic Engineering | Prof. Akimasa Hirata |
| Vehicle Network Laboratory (VeNeL) | Specially Appointed Prof. Manabu Kagami |
| Millimeter-wave and Terahertz-wave Wireless System Laboratory | Prof. Kunio Sakakibara |
| New Generation Seismic Engineering Laboratory | Prof. Tetsuya Nonaka |
| Via Mechanics Advanced Motion System Laboratory | Prof. Makoto Iwasaki |
| NGK Environment Innovation Laboratory | Prof. Tomokatsu Hayakawa |
| Co-Creation IoT System Platform Laboratory | Assoc. Prof. Takanobu Otsuka |
| Laboratory for Interface Control Engineering | Prof. Takashi Shirai |
| Project Laboratory for GaN Heteroepitaxy | Prof. Makoto Miyoshi |
| International Speech and Language Generation Laboratory | Prof. Keiichi Tokuda |
| Research Center for Data-Driven Materials Design | Prof. Takehiko Hihara |
| Manufacturing and Innovation DX Laboratory | Director-General, Organization for Co-Creation Research and Social Contributions |
| TICO Smart Industries Laboratory | Director-General, Organization for Co-Creation Research and Social Contributions |

Note: Listed in the order of establishment

# 10 Library

## Houses Approx. 472,000 Books

### Collection

| | |
|---|---|
| Japanese books | 264,074 |
| Foreign books | 207,572 |
| Total | 471,646 |

Other items:

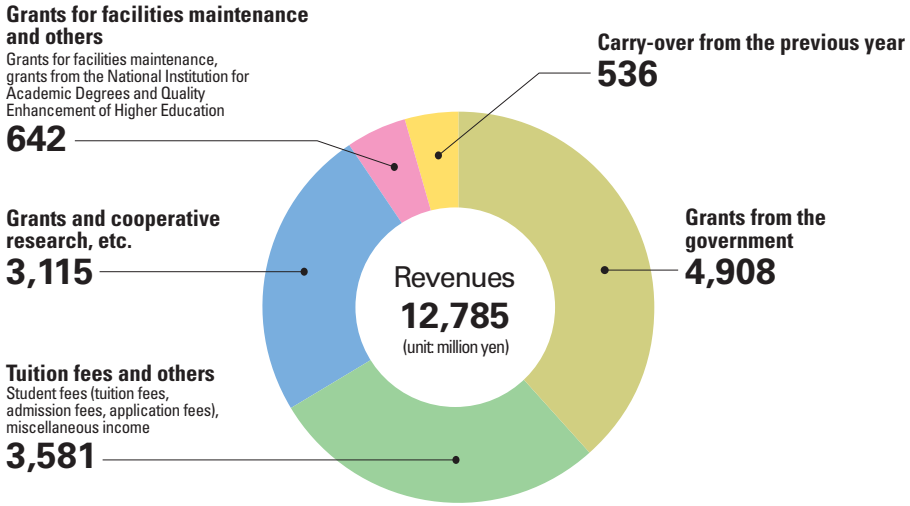
| | |
|---|---|
| Journals | 5,744 |
| E-Books | 21,367 |
| E-Journals | 9,893 |

■ The NITech Library has approximately 264,000 Japanese books and 208,000 foreign books, for a total of 472,000 books.
■ The Library also actively opens its doors to the public.
■ Doctoral dissertations and other scholarly literature produced at NITech can be accessed via the NITech Repository System.

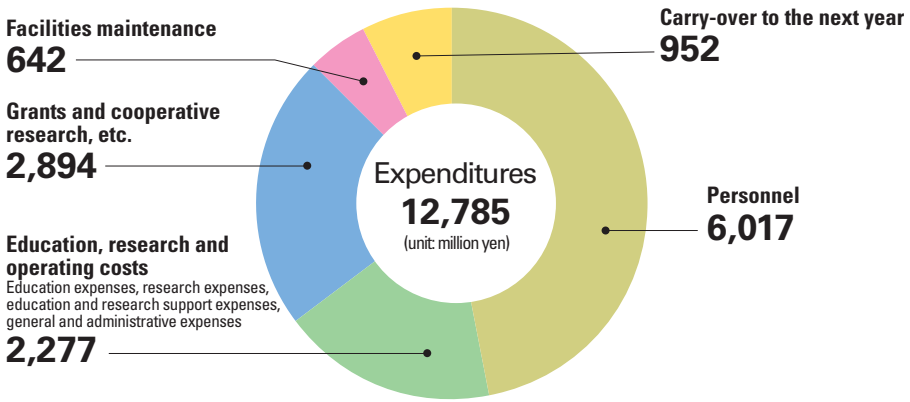
**https://www.lib.nitech.ac.jp**

# 11 Financial Summary

## Financial Summary for FY 2021 (amounts rounded to the nearest million yen)



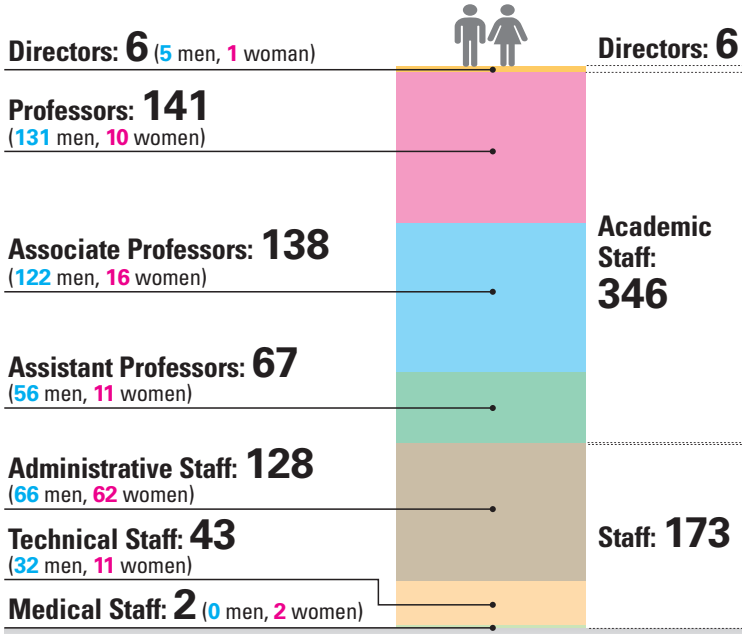

Note 1: Total amounts may not coincide due to rounding down to the nearest unit.
Note 2: For "Carry-over from the previous year," only FY 2021 expenditures are included.



# 12 Number of Staff Members

## 525 Staff Members Support NITech

- Due to its nature as an educational and research institution, NITech has a large number of staff, totaling 525. Of these, 66.2% of the full-time staff are academic staff.
- 37 (10.7%) of the academic staff and 75 (43.4%) of the non-academic staff are women, accounting for 21.6% of the total number of staff members.




Note: Full time staff exclude fixed-term or re-employment contract holders or counselors.

## Foreign Academic Staff

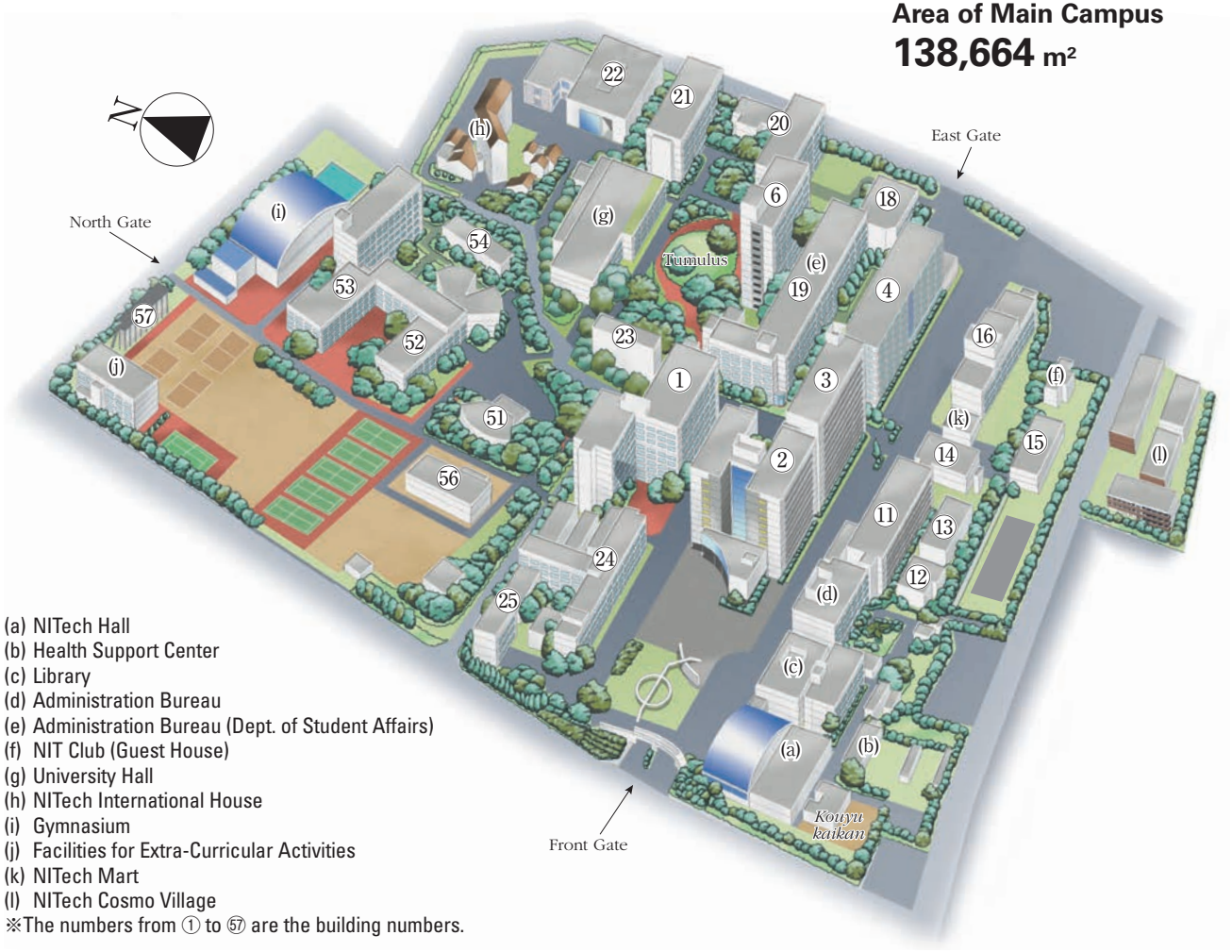
| Countries | Professors | Associate Professors | Assistant Professors | Total |
|---|---|---|---|---|
| Brazil | | | 1 | 1 |
| China | 2 | 1 | 3 | 6 |
| Costa Rica | | 1 | | 1 |
| Germany | | | 1 | 1 |
| Ireland | 1 | | | 1 |
| Nepal | 1 | | | 1 |
| Republic of Korea | 1 | 1 | 1 | 3 |
| Russia | | | 1 | 1 |
| United States | | 2 | | 2 |
| Total | 5 | 5 | 7 | 17 |

# 13 Campus Area

## Total Campus Area of Approx. 213,000 m²

- The total area of NITech is approximately 213,000 m². In addition, it rents 87 m² of land.
- The campuses are located in Gokiso (Showa-ku) and Chikusa (Chikusa-ku). Other facilities including Shonaigawa Boat-House (Nakagawa-ku) and Shidami Extracurricular-Activity Facilities (Moriyama-ku) are located in Nagoya City. The Advanced Ceramics Research Center is located in Tajimi City, Gifu Prefecture.

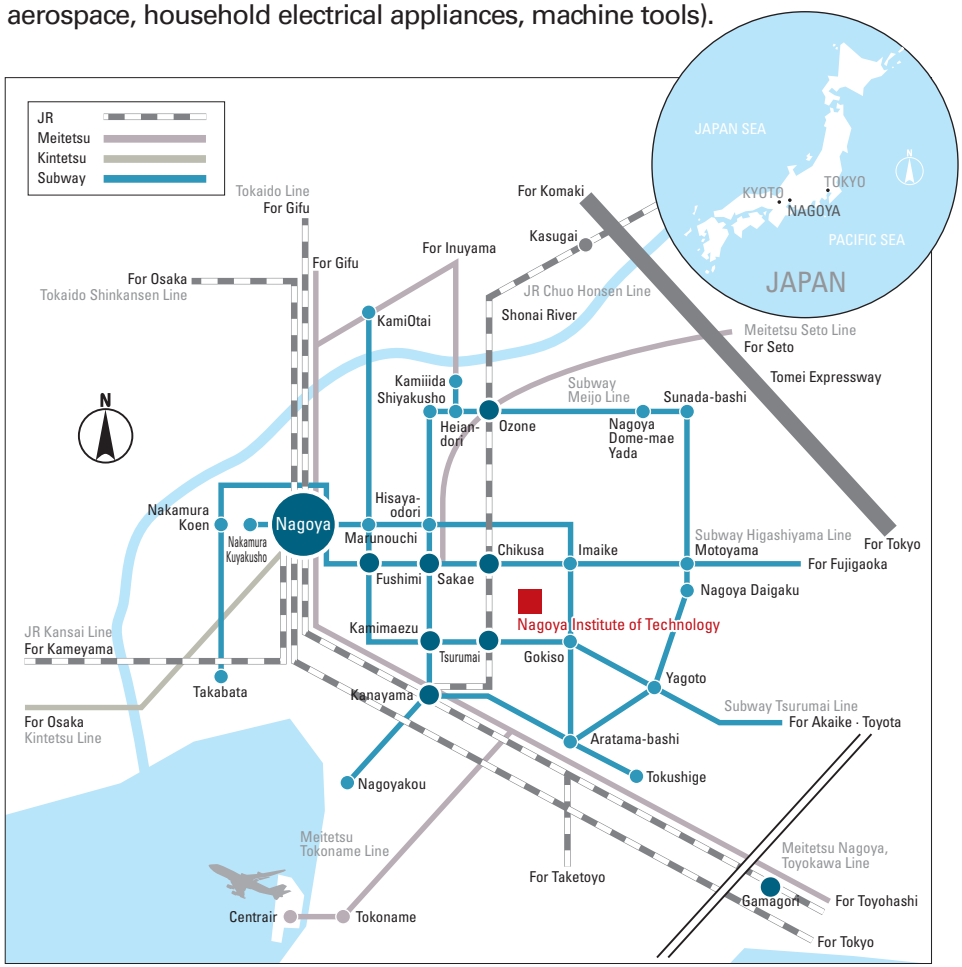
**Area of Main Campus**
**138,664 m²**




(a) NITech Hall
(b) Health Support Center
(c) Library
(d) Administration Bureau
(e) Administration Bureau (Dept. of Student Affairs)
(f) NIT Club (Guest House)
(g) University Hall
(h) NITech International House
(i) Gymnasium
(j) Facilities for Extra-Curricular Activities
(k) NITech Mart
(l) NITech Cosmo Village
※The numbers from ① to ㊼ are the building numbers.

# Location

NAGOYA, located in the central Japan, is the 3rd largest metropolitan area following Tokyo and Osaka. The main campus of NITech is located in the heart of Nagoya, center of manufacturing industries (automobiles, aerospace, household electrical appliances, machine tools).




Names and figures are as of 1 May 2022, unless otherwise specified.


Nagoya Institute of Technology
Facts and Figures
2022-2023

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