

# Cultivating Ambitious Students in the Top Global University Project

**15** programs

Number of international collaborative education programs that NUT is promoting at both undergraduate and graduate levels



**33** countries

Number of countries in which international students studied in FY2017



**30%**

Ratio of international students graduated in FY2017 who were employed in Japan



"Top Global University Project (TGUP)" is a national policy supporting universities, which is leading the internationalization of Japanese society. For it, 37 universities (national, municipal, and private) were selected, with NUT also selected with Type B (global Traction Type).



**49** students

Number of international students (long-term and short-term) who had experience in Japanese companies

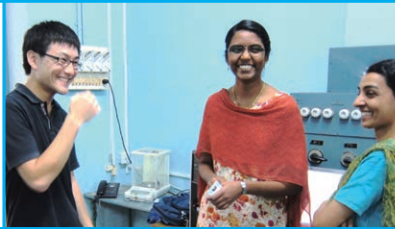


**518** students

Number of international students (long-term and short-term) who learned at NUT in FY2017. At left side is a logo mark of the international student group (NUTiSA)

**28%**

Ratio of graduated Master's course students in FY2017 who went abroad (internship, presentation at international conference, etc.)



**29** countries

Number of countries to which students went abroad (internship, international conference, etc.) during FY2017

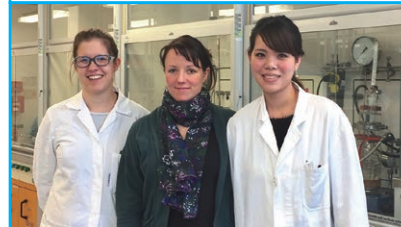


NUT was appointed to a United Nations Academic Impact (UNAI) Hub for SDG 9 (Industry, Innovation and Infrastructure) by the United Nations as an exemplar of an innovative approach to the Sustainable Development Goals (SDGs).



**45** businesses

Number of businesses that NUT provides support for globalization of SMEs in FY2017



**250** research presentations

Number of research presentations given in English by graduate students in FY2017



**14,624** days

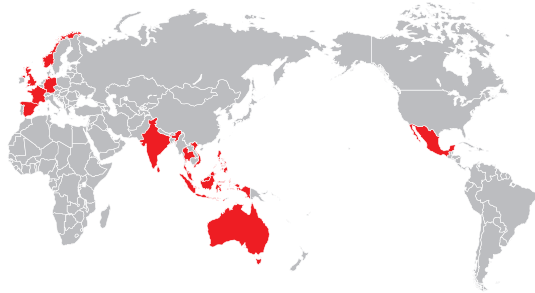
Total number of days that students visited overseas in FY2017



## 1 Multiple Stages of Global Innovation Experience

### Undergraduate: Five to six months overseas internship

All fourth-year students who will enroll in graduate school attended the necessary internship (Jitsumu-Kunren). 66 students in FY2017 (16% of internship students) had experience in factories and laboratories in 14 countries.



### Graduate: Research internship

Graduated students have a chance at overseas experience for several weeks to months, such as research internship and double degree program (DDP).

#### Example in FY2017

- United Kingdom University of Warwick / Coventry University
- France University of Limoges
- U.S.A. University of Dayton
- Switzerland Ecole Polytechnique Federale de Lausanne
- Viet Nam Hanoi University of Science and Technology (DDP)

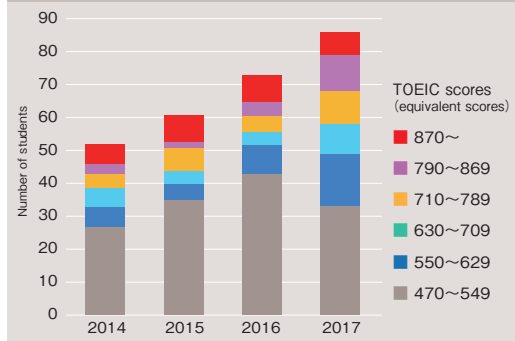
Furthermore, NUT is providing overseas experience program such as conference presentations (total 136 times in FY2017), exchange to partner universities, and foreign language training in Australia.

## 2 Communication Skills

	Grade	Implementation of TOEIC-IP	Menu of enhanced English skill
Under graduate	1st	May, November	Proficiency-dependent class, Supplemental study in Summer
	2nd	Optional	Foreign language training in Australia (5 weeks for applicant)
	3rd	May, November	Proficiency-dependent class
	4th	Optional	Pre-service training for the overseas internship
Graduate	May, September	—————	—————
All grades	—————	—————	Workshops for English communication through magazines, movies and music

- \* TOEIC-IP expense burden (2 times per year) by NUT were started since 2012
- \* Every Saturday of October : TOEIC intensive preparation course for all grades
- \* Number of students who earned credits of the English course using TOEIC results are increased

Number of certified students of English credit by foreign language proficiency test



## 3 Sustainable Development Goals

The Sustainable Development Goals (SDGs), adopted by all United Nations member states, are a set of goals for all communities in every country, with the aim of achieving them by 2030. New common sense for global engineers.

### United Nations Academic Impact hub for SDG 9



### UNESCO Chairs Programme



United Nations Educational, Scientific and Cultural Organization



- UNESCO Chair on Engineering Education for Sustainable Development,
- Nagaoka University of Technology, Japan

### GIGAKU SDG Institute

- \* NUT was appointed to a United Nations Academic Impact (UNAI) hub for SDG 9 (Industry, Innovation and Infrastructure).
- \* Only one university in the whole world is appointed as an exemplar of each 17 goals of SDGs. (NUT is the only appointment from East Asia including Japan.)
- \* The "GIGAKU SDG Institute" has been certified as UNESCO Chairs Programme as "UNESCO Chair on Engineering Education for Sustainable Development", which is the ninth certification and the first certification of School of Engineering in Japan.

## 4 Entrepreneurship Education

Department of Science of Technology Innovation students are eligible to obtain an MBA at the International University of Japan (IUJ, Minamiuonuma city, Niigata) while attending NUT.







Student who won the Niigata round of Japan Business Model Competition

In addition to lectures, we provide Entrepreneurship seminars (lecture presentations) held by entrepreneurs and venture capitalists, and Venture salons (individual consultations) by experts such as VCs. 22 university-originated ventures were founded thus far. TGUP has announced its goal of achieving 30 ventures by students by 2023.



## 1 Seven Double Degree Programs (DDP)

NUT provides seven DDP collaborate with famous representative universities in each country, where students can obtain a “double degree” under the direction of each party’s professors. To date, four students have earned PhD degrees; two students have earned Master’s degrees among the partner universities in Europe, North America, and Asia.

Thailand	Viet Nam	Czech Republic	Mexico
			
Faculty of Science, Chulalongkorn University	Hanoi University of Science and Technology	Institute of Physics at Faculty of Mathematics and Physics, Charles University in Prague	Faculty of Science, University of Guanajuato

## 2 Eight Twinning Programs (TP)

NUT is promoting a Twinning program (TP) intensively, with study at the Home University (first half) and Host University (second half). To date, 327 students have been admitted to TP. It occupies 80% of international undergraduate students. They take advantage of trilingual (mother tongue, Japanese, and English) education and start their life in society as practical engineers. To support the students, we develop and provide bilingual engineering term dictionaries and textbooks to “Learn Japanese through Engineering.”



## 3 SDG Professional Course

A newly launched program in 2018 opens to not only working people but also students in succession to “Continuing Professional Development (CPD) Course” which accepted 320 students from 14 countries. Developing and spreading science and technology on a global scale is essential in order to achieve Sustainable Development Goals (SDGs). This is a practical educational program which extends former CPD course by adding the concept of SDG and collaborates with Japanese Industry.

## 4 Support for Overseas KOSEN



Entrance ceremony of Technological Baccalaureate with International Profile (TBIP, the equivalent of KOSEN), affiliated with University of Guanajuato (September, 2015). NUT cooperates with four KOSENs and supports Mexico.

## 5 Nagaoka Summer School for Young Engineers (NASSYE)



NASSYE, the program accepting overseas students who find much of interest in NUT, is held during the summer holidays.

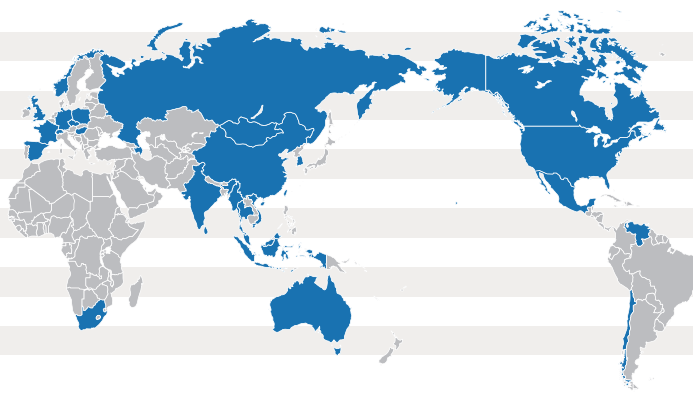
## 6 International Conference “STI-Gigaku”



The students-centered committee holds International Conference of “Science of Technology Innovation” (STI-Gigaku) deals with SDGs.

## 7 Academic Network Extending to Five Continents

Canada	1
U.S.A.	2
Mexico	7
Venezuela	1
Chile	5
Spain	4
France	6
United Kingdom	3
Germany	4
Switzerland	3
Hungary	1
Norway	1
Czech Republic	1
Poland	1

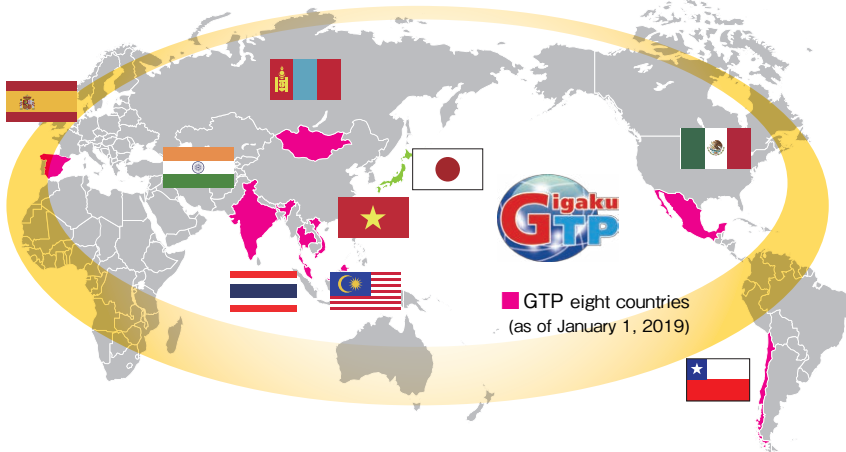


109 institutions in 29 countries and regions (as of January 1, 2019)

China	9
Korea (Rep.)	5
Viet Nam	9
Thailand	17
Malaysia	7
Sri Lanka	1
Indonesia	3
India	5
R.O.C.Taiwan	3
Mongolia	2
Myanmar	2
South Africa	1
Australia	2
Russian Federation	2
Azerbaijan	1

## 1 Establishing the GIGAKU Techno Park (GTP) to Strategic Growth Regions

● Establishing GTP in strategic regions overseas



4th GTP Alliance Meeting in Nagaoka (October, 2018)

NUT established offices at 10 overseas bases in eight countries (Mongolia, Mexico, Viet Nam, Thailand, Malaysia, Spain, India, and Chile). Each office's coordinator supports collaborative research, internship, and so on.

- ① Promoting integrated global campus and supporting internship, study abroad, and joint R&D
- ② Promoting global industry-academia joint research
- ③ Supporting the globalization of Japanese enterprises through GTP network
- ④ Cultivating human resources among overseas strategic regions, NUT, and enterprises
- ⑤ Providing leading engineering education between global industries and universities

(Number of Japanese manufacturing industry enterprises in Mexico, Viet Nam, Thailand, Malaysia, and India were the top 10 listed in 2017)

	Nation	Number of industries	Nation	Number of industries	
1	China	3,641	6	Viet Nam	801
2	U.S.A.	3,257	7	Malaysia	678
3	India	1,635	8	Mexico	672
4	Thailand	1,587	9	Philippines	603
5	Indonesia	956	10	R.O.C. Taiwan	537

Number of Japanese companies abroad (Manufacturing Industry)  
Source: Statistics on the Japanese National Residing Overseas, MOFA, Consular Affairs Bureau, Consular Policy Division, as of October 1, 2017

GTP / NUT Office	Area characteristics
Ulaanbaatar (Mongolia)	Industrialized project supported by JICA is ongoing
Guanajuato (Mexico)	Mexican Detroit, Automobile industry base
Hanoi (Viet Nam)	Japanese industry agglomeration
Bangkok (Thailand)	ASEAN base (Automobile, etc)
Penang (Malaysia)	Cluster region of the electronics industry
Bilbao (Basque Country/Spain)	Industrial area of metal, machine and chemistry, etc.
Chennai (India)	Port city of a major base for production and exportation
Santiago (Chile)	The most stable economic growth in South America

## 2 Coordinators are Serving for GTP Network

Assigning coordinators with specialized knowledge in each office, and supporting industry-academia liaison and exchange students.



## 3 Liaison with MONODZUKURI Regions in Japan



● Exchange local information

GTP holds international industry-academia activity meetings and provides the latest information of local situation to industries that are interested in overseas markets and human resources. We pursue collaboration with SME entrepreneurs and engineers.

● Liaison with MONODZUKURI regions in Japan

Utilizing unique and strong networks between KOSEN and NUT, expanding global collaboration with MONODZUKURI regions in industry and government.

● The lamp society 21

Sloganeering "Giving global light to the local community", this society works to share NUT's knowledge, technology and connection to domestic and overseas with the local community, and to evolve together. (43 members as of December 31, 2018)



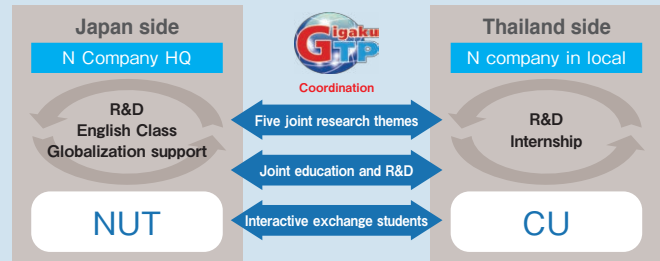
## 1 Support through Human Resource and Technology Development

Support example 1

### Global industry-academia collaboration and joint research (N company/Thailand)

#### Global industry-academia collaboration and joint research by CU-NUT

Composing and concluding agreements among four institutes (CU, NUT, N company HQ, and N company in local) and promoting students' participation. Through engineering education of employees, this alliance contributes to problem solving of companies operating overseas.



Support example 2

### Support first overseas expansion through human resource and technology development (S company/Mexico)

#### Implementation of internship and global frontier research to Japanese companies

Supporting innovation for corporate culture, strengthening technological development capabilities, and globalization by collaboration between Sanjo, Niigata, and Mexico, S company has realized its first overseas expansion through problem-solving and university support.



Support example 3

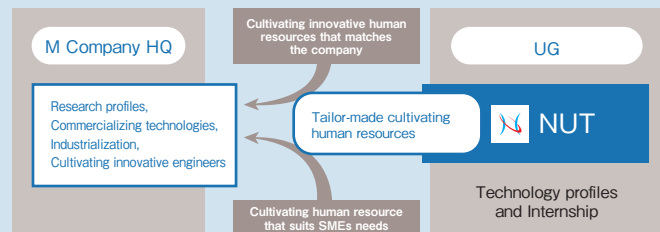
### Tailor-made cultivation of human resources (M company/Mexico)

#### Producing candidates for executive positions and HR development

Meeting the demands of companies that expand their business to Mexico and earn scholarships from these companies, NUT provides Tailor-made education (practical engineering and Japanese language) to local youth.



Scholarship students of M company started to study from April 2017!

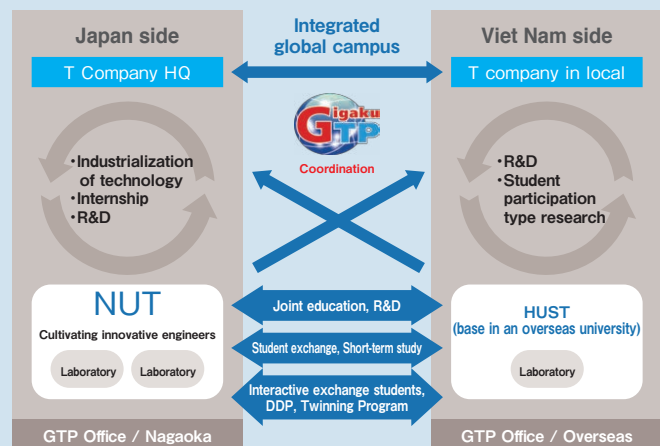


Support example 4

### Multilateral industry-academia model expanding at multiple global market (T company/Viet Nam)

#### Extending the same system to other countries

Through international collaborative research that involves a major air-conditioner T company's engineers, local T company's engineers in Viet Nam, HUST, and NUT students, NUT provides human-resource and technological support.



## 1 Learning Environment

### Courses that can be completed in English only

- SDG Professional Course (Master's program and Doctoral program)
- Science of Technology Innovation (5-year Integrated Doctoral Program)

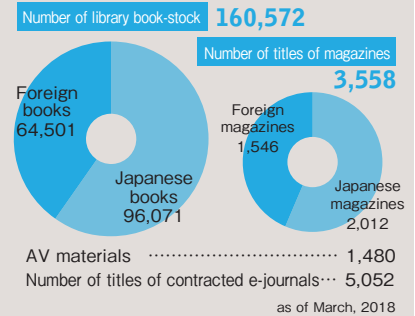
	FY2013 Achievements	FY2017 Achievements	FY2023 Prospects
Number of lectures given in English	111	294	592
Percentage of total	12.1%	21.6%	62.7%

### Bilingualization of administrative documents

- Regulation
- Syllabus
- Course guide
- Degree Application Procedure
- Student Life Guidebook
- Laboratory Guidebook written by Students
- Various Application guidance

Documents above are made bilingual and are accessible from the web site.

### Library book-stock (books and magazines)



## 2 Campus Life

### Response to diverse food cultures



vegetarian mark



NUT's cafeteria provides vegetarian food, not only ingredients but also separate dishes, kitchens, and washing space.

### Citizens' support



Members of the volunteer Mutsumi-kai advise international students every Wednesday at lunchtime.

### International exchange activities by students



National day (Viet Nam)



National day (Sri Lanka)



Our World at NUT (Introduction of home country)

### Bilingualization of signboard



NUT is promoting a globalization of the campus by translating information sign and pavement marking, etc. into English.

### In case of an emergency



NUT provides disaster manuals and promotes public address system announcements in English.

NUT International Exchange Student Council (NUTIESC) organizes voluntary student events regularly.

## 3 Living Environment

### List of dormitories on campus

Living space is an extremely important space for the personal growth of global students. LinkTeCH House (mixed-type dormitory) opened in September, 2017, with total capacity of 589 on the NUT campus.

Name	Number of rooms
Student Dormitory	360
International Student House	50
30th Anniversary Student House	24
International House	59
International Lodge	14
LinkTeCH House	82
Total	589



LinkTeCH House (mixed-type dormitory)  
6-7 students in 1 unit × 12



## 1 Increasing the Number of Foreign Faculty Members, Faculty Members who Received PhD Degrees Overseas, and Faculty Members who had Experience Living Overseas

### ● Globalization of faculty organization's efforts

- \* Expanded international public offerings and 10 foreign members were adopted during the past five years. (Number of international public offerings FY2014: 1 / FY2015: 2 / FY2016: 6 / FY2017: 2)
- \* Encourage faculty members to take sabbatical research and provide opportunities for overseas training. (Eight faculty members went to Germany, the US, and other countries, then received training and conducted research during the past six years)
- \* Adoption of foreign nationality by cross-appointment program. (FY2014: 1 / FY2016: 2)

## 2 Strengthen Development of Administrative Staff for Global Operation Activities

- \* To encourage staff members to participate actively in international training. (FY2013: 16 / FY2014: 6 / FY2015: 4 / FY2016: 2 / FY2017: 6)
- \* Strengthen development of English training for young staff members. (FY2013: 7 / FY2014: 19 / FY2015: 14 / FY2016: 12 / FY2017: 14)
- \* A total of 83 staff members took the TOEIC-IP test. The total number of staff members whose foreign language skills meet the standards by TGUP is increasing steadily. (FY2013: 12 / FY2014: 15 / FY2015: 26 / FY2016: 17 / FY2017: 13)

## 3 Creating Diversity of Faculty Members and Staff Organization with Different Cultures

To create faculties and staff organizations with vitality and originality, we adopt system reforms that include annual salaries, cross-appointment, promotion of women employment, and evaluation systems. At the same time, a banking institution and municipal employees have been transferred. We are pursuing the creation of new organizations.

### FY2015

- Reforming the evaluation system with international applicability
- Appointing 2 banking institution staff members as Presidential adjunct advisers (Sanjo Shinkin Bank)

### FY2016

- Appointing the bank manager as a Technical Partner (Taiko Bank)
- Transferring a bank officer as an NUT staff member (Taiko Bank)

### FY2017

- Hiring the world's leading foreign researcher who contributes integration and deepening of different fields
- Transferring a local government officer as an NUT staff member (Nagaoka City)

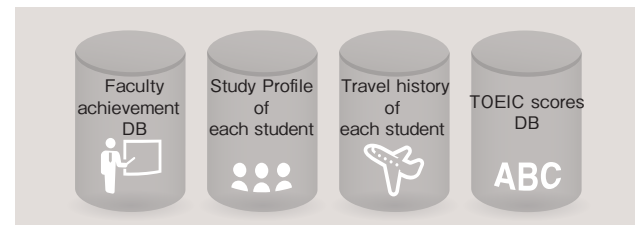
## 4 Evidence-based Management Intention Decision

### ● Institutional Research (IR) office



Establishing an IR office in April, 2016 to collect and analyze a wide range of necessary information for evidence-based management intention decisions.

### ● Monitoring tools



To monitor the implementation of TGUP status, a travel history management analysis system by individual students and TOEIC scores. These numerical values of this brochure are provided by the IR office.

## 5 Crisis Management and Quick Response



NUT gives students instructions during their internship overseas and provides the following response.

- \* Contact network with partner universities<sup>1</sup> and NUT branch's staff
- \* Prompt evacuation instructions via multiple channels such as video conference systems
- \* Decisions by concept of informed consent including parental view
- \* Compulsory subscription to general study and research insurance
- \* Introduction of Overseas Student Safety Management Assistance (OSSMA)



NUT is ranked on "Employability Rankings (Valuable University 2019, special edition of Nikkei CAREER MAGAZINE)" published by Nikkei HR, Inc. This ranking is calculated based on the image of students and universities' effort which Nikkei Inc. and Nikkei HR, Inc. jointly investigated all listed companies and some powerful unlisted companies.

NUT received high evaluations in all aspects and section of "Contribution to a local industry and culture" ranked No.1. Universities play an increasingly significant role in regional activation. It often seems to happen that local companies realize universities' enthusiasm for trying to send excellent graduates to them in recruiting activities. NUT continues leading to activation of communities with local governments and companies.



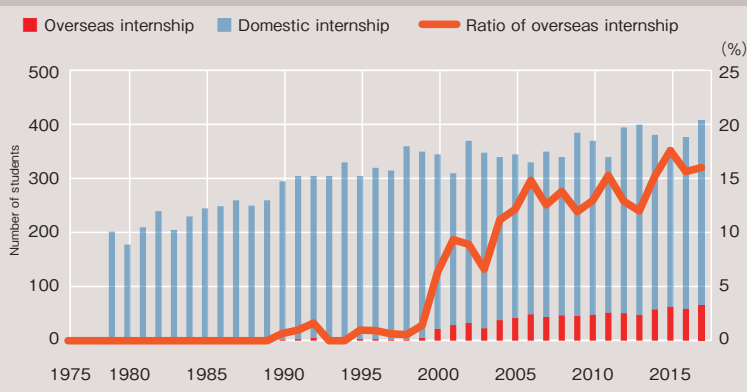
## Contribution to a local industry and culture **1st**

Quality improvement in education		<b>7th</b>
Support for student placement		<b>7th</b>
Originality	Creativity, Strong personality, Have a great perspective	<b>4th</b>
Proactive attitude	Enthusiasm, Independence, Challenge spirit	<b>12th</b>

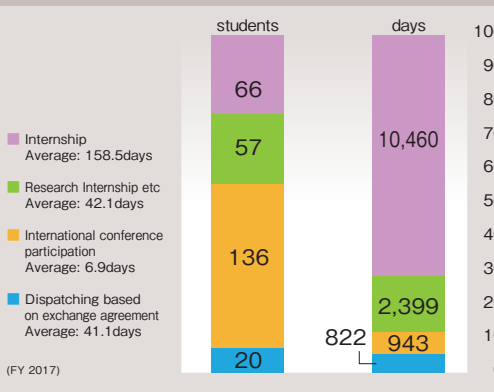
## 1 Long-term Internship that Cultivates Activity, Interpersonal Skills, and Creativity

Since its foundation, NUT has been offered opportunities for all students who enroll in graduate school to participate in internships for five or six months. In all, 12,277 interns are sent to actual workplaces. This long-term internship is an unprecedented system in other universities. Overseas internships were started in 1990: 66 students in FY2017 (16% of internship students) were sent to institutions in 14 countries. One aim of TGUP is "40% of internship students gain experience of studying overseas for more than 3 months before completing a master's course." NUT provides opportunities for studying abroad in various ways from undergraduate to graduate course, and supports students' proactive challenges.

Internship students vs. overseas internship students



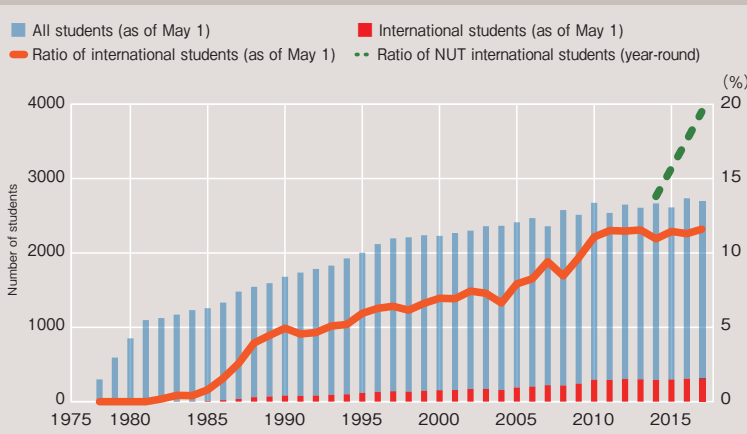
Experience of going abroad actively in each program  
(Total number of students : 279, Total number of days : 14,624)



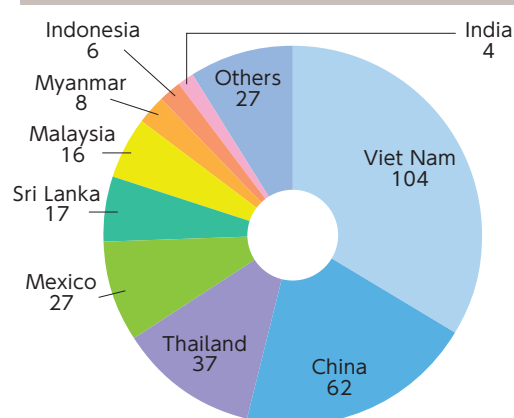
## 2 NUT Campus is a Microcosmos

The ratio of international students on May 1, which is the date of investigation of the Report on School Basic Survey for FY2017, was 11.6%. However, international students ratio (including short-term) is 19.5% throughout the year. Breaking down the ratio of grades, undergraduate and doctoral course are much higher among 37 TGUP universities. The government has established a "Plan for 300,000 Exchange Students" to be achieved by 2020 (equivalent ratio to 10%), i.e., we have already exceeded this level. Moreover, the composition of countries of international students is extremely diverse (refer to map on the cover page). NUT campus is a Microcosmos!

Ratio of international students



Number of international students by country



as of May 1, 2017