The Winner of the Chief Cabinet Secretary Award of the 1st Japan SDGs Awards

Japan. Committed to SDGs

K.I.T. SDGs Report

Kanazawa Institute of Technology

Top Message

The Role as a University in the Era of SDGs.

Kanazawa Institute of Technology will not only strive to achieve the SDGs (Sustainable Development Goals) agreed upon by all countries of the United Nations through research and activities by specified staff members and students, but will contribute as a whole with our department spanning school system.

The role of a university will significantly change in this time of SDGs. A university must not only conduct its society benefiting research in the laboratory. We must promote a society implementation-based research system which integrates its results into the real world, and further deepens its research from the discoveries.

At Kanazawa Institute of Technology, we anticipated this time of change and prepared to act accordingly. Also, we are already conducting various problem-solving in our local society and are contributing to the achievement of SDGs.

Also, our school will not only link current research/activities to SDGs. Under the new school system we created this year for the SDGs, we will continue to link current research/activities, and create new SDGs-related research/activities.

Satoshi Osawa
President
Kanazawa Institute of Technology

SDGs (Sustainable Development Goals) and Regional Revitalization

The SDGs (Sustainable Development Goals) are the 17 goals including 169 targets agreed upon by the 193 members of the United Nations. These do not only consist of solving social problems in poor underdeveloped nations. They also include problems such as climate change, faced by developed and developing countries. The United Nations has set these as the goals to be achieved by 2030.

Therefore, by aiming to fulfill the SDGs, we are solving local and global scale problems while also accomplishing regional revitalization.

Creating a World Where "No One Will Be Left Behind"

SDGs' ideology is "No one will be left behind."

We believe this ideology lines up with Kanazawa Institute of Technology's (KIT) moral code, the KIT-IDEALS. At KIT, students, the board of director, and faculty members respect each other and follow the KIT-IDEALS with the goal to improve and expand our school. In order to make the KIT-IDEALS more than just a statement, we created the "Human and Nature Seminar", a course unique to KIT which all school members participate in.

The "Human and Nature Seminar" teaches the importance of the KIT-IDEALS through offshore activities and group discussion at our school's Anamizu Bay Seminar House in Noto. By participating in offshore activities and spending time in nature, participants learn to respect and help one another in spite of differences, such as age, gender, capability, race, culture, decent, religion, and social status.

KIT students participate in the "Human and Nature Seminar" each year for three years in which they learn the importance of a world where "no one will be left behind." This will strengthen their core principals which will support their everyday life.

To promote the SDGs, it is most important to not only contribute to the SDGs through research by faculty members, but to support the next generation of students to fulfill the SDGs. KIT believes the transmission of these ideals and development of core principals is vital to drawing out the motivation within each student.

KIT IDEALS

Kindness of Heart
We show compassion toward others, are helpful and considerate, and sensitive of others' feelings. When we show a sympathetic nature, we are rewarded by the feeling of kindness.

Intellectual Curiosity
We pursue things of interest to our intellect, follow our passion for learning and use our discoveries for the benefits to others.

Team Spirit
When working with others on a team, we value each member's role. We look beyond our individual accomplishments to contribute toward the common goal.

Integrity
We adhere to high moral and ethical principles. We are fair, reliable and trustworthy. Our personal code of values complements our school community's code of values.

Diligence
With constant and earnest effort, we set out to accomplish what we undertake to the best of our ability. We use our time wisely and put care into all we do.

Energy
We tap all our potential energy and make positive use of our energy to produce greatness. We recognize and accept the limits of our own capabilities to maintain a healthy balance.

Autonomy
We strive to be independent, and self-sufficient. We respect the autonomy of the individual.

Leadership
When working with others, we share leadership roles and accept all the rights and responsibilities that are inherent in the position.

Self-Realization
We work toward achieving the highest good for all by fully realizing our own potential and natural abilities as we strive to become our ideal self.

Education in which “No One Will Be Left Behind”

At KIT, to build an atmosphere where students feel free to ask teachers’ assistance, we created the “Student Welfare Section” and “Counseling Center.” Also, teachers watch over their students’ study process as advisers, thus understanding their situation and personal interviews help communication with students who are not able to speak up for themselves.

In addition, through our regional Shouyukai meetings held nationwide, we create opportunities to talk with the parents and guardians of the students in an effort for early discovery and resolution of problems the students cannot overcome by themselves.

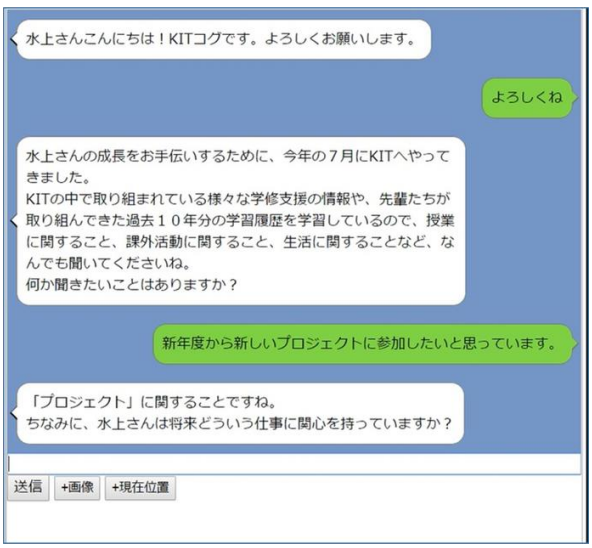
As a result of this intimate school-life coaching, we are able to prevent drop-outs. As external evaluation, in the annual article by Sunday Mainichi, which features surveys of teachers from 2,000 preparation schools, KIT has been chosen No.1 for “most caretaking university” 13 years in a row.

An AI System That Draws Out Student’s Potential

As our social environment becomes more complex and values continue to be more diverse, it is becoming necessary to delicately respond to each student’s separate needs. Therefore, KIT collaborated with IBM to create the school consulting system “KIT Cog” using IBM’s AI (artificial intelligence) Watson.

The school consulting system AI “KIT Cog” utilizes the big data of over one million graduates’ academic history. Specifically, it studies their grades, number of books borrowed from the library, their usage of the learning center, and career after graduating. It also examines each student’s personality by analyzing the data of their answers to about 40 questions. Then based on this analyzation, it extracts the closest resembling graduate in ranking style.

As a result, their consulting adviser can reference the academic activities of former graduates and provide advice containing specific examples and suggestions to find ways for them to improve.



Engineering Ethics, the Base of SDGs Project

In order to fulfill the SDGs with innovative technology such as AI, big data, automatic driving, and bio-technology, we must reevaluate the engineering ethics of that technology.

At KIT, we created the Applied Ethics Center for Engineering and Science in 1997 and lead the way in Japan's education/research on science and technology ethics. For example, by utilizing KIT's historically valuable first-edition books, we can learn the essence of science and technology, study the history of engineering ethics, and develop our ethical sense as an engineer or business manager.

KIT has incorporated these engineering ethic studies into our freshman to junior year as a compulsory subject.

Also, KIT's Science and Engineering Ethics Study has been chosen as the "Private University Research Branding Achievement" of 2017 by the Ministry of Education, Culture, Sports, Science and Technology of Japan.

Galileo Galilei, Dialogue on the two chief world systems of Ptolemy and Copernicus, published in Florence, 1632 , Original Edition, Collection of KIT

Student-based PD Education that Supports SDGs

Before students begin to research how to fulfill the SDGs of our society and take action, they must envision the society they wish to create, extract the problems necessary for this vision, and have the vigor to realize and initiate their solution.

KIT's Project-Design Education (PD Education) is a curriculum unique to our school, required for all year students, where students can obtain the knowledge how to implement their research into society. During this course, each year student will target a different problem and complete the process of problem-finding/solving within a team. Freshmen students target on-campus problems, sophomore students target problems of Kanazawa/Nonoichi City Hall, and students junior and higher target fields of their interest.

The results designed in PD Education by the students is further developed by the Honors Project, an extra curriculum activity run by the student body. It is then implemented into society, and contributes to solving real-life problems.

This PD Education model has received high praise for overseas. Vietnam Japan Institute of Technology has already imported it into their system. We also conduct a Co-op Education course in which pairs of Vietnamese and Japanese students who have received PD Education create buddies and tackle problem-solving as internship participants in Japanese corporations.

As an Honors Project, "Intelligent Bus Stops" equipped with monitoring and information transmission systems have been installed in Nonoichi City.

Problem-finding/solving activities in the Internship Program by Vietnamese and Japanese students in pairs. (Buddy System)

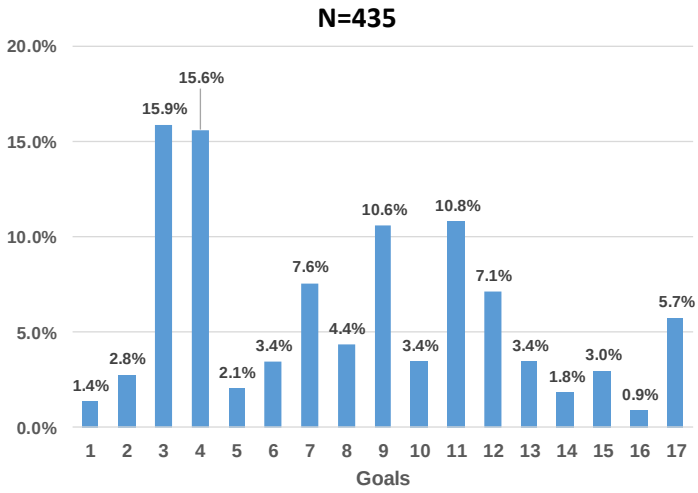
The Current State of SDGs Related Projects in Each Department

KIT students begin their specialize seminar/PDⅢ with their department teacher in their junior year. Their teacher supports the student's SDGs related project by providing guidance on connecting the student's ability attained by PD Education with their target problem, and sharing known methods of research and technology.

Also, as two SDGs centered courses, we created the "Environmental Technology Innovation", which concentrates on awareness; and the "Society System Innovation", which aims to develop the skills to plan and conduct real SDGs contributing projects. All students are able to attend both courses.

By attending these courses, KIT students develop a strong connection with local social problems and challenges our world faces; and create SDGs related projects utilizing the strength of their specialized department.

Through monitoring all our faculty members, we discovered that we are contributing to all SDGs. We also noticed that there were especially many contributions to Goal 3 and Goal 4; and that the goals each department was capable of contributing to differed.



Ratio of students participating in projects to achieve SDGs Goals

Matching data of contributions as the result of PDⅢ courses and the 17 SDGs Goals

	17 Goals of SDGs																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Dpt. of Mechanical Engineering	○		○	○		○	◎	○	○		○	○	○				
Dpt. of Robotics		○	◎	○		○			○	○	○			○			
Dpt. of Aeronautics							○		◎	○	○		○	○	○		
Dpt. of Electrical and Electronic Engineering		○		○		○	◎		○		○	◎	○				○
Dpt. of Electronics, Information and Communication Engineering				○	○	○	◎		○	○	○	○					
Dpt. of Information and Computer Science			○	○				○	○	○	◎	○	○		○		○
Dpt. of Architecture			○				○	○	○		◎	○	○		○		
Dpt. of Architectural Design			○	○				○	○		◎	○			○		
Dpt. of Civil and Environmental Engineering									○		◎		○	○			
Dpt. of Media Informatics			○	◎	○			○	○	○	○	○					○
Dpt. of Psychological Informatics			◎	○	○				○			○				○	○
Dpt. of Management Systems	○		○	○	○		○		◎	○		○	○	○	○		○
Dpt. of Applied Bioscience		◎	◎	○								○	○		○		
Dpt. of Applied Chemistry		○	○	○		◎	○				○	○		○			
Humanities and Social Sciences Program		○	○	◎	○			○	○	○		○				○	○
Mathematics and Science for Engineering	○		○	◎	○	○	○	○	○	○	○	○		○	○	○	○
English Language Program				○	○						○						◎
Practical Engineering Education Program		○	○	○	○	○	○	○	○		○	○		○	○		◎

Achievable Goals by Department （○＝Effective to achieve the Goals　◎＝Very good contributions to achieve the Goals）

【 Example 1 】
Equipment/Hardware to Support Handicapped Sports Players

At KIT, we are developing equipment and hardware for handicapped sports players.

Currently, we are working on the sit-ski. More specifically, we are collaborating with the Japan ChairSki Association, Chugai Pharma Manufacturing Co., and Kanagawa Rehabilitation Center. With the guidance of Alpen Sit-ski former Paralympic Japan representative Hiroshi Nojima, we are aiming to design an even better sit-ski.

【 Example 2 】
The Small-Scale Installment of Electricity and Life Improvement into Village in Mozambique

KIT is participating in the JICA Grass-root Technical Cooperation Project “Small-Scale Installment of Electricity by Villagers with Jatropha Biofuel Project” in Mozambique.

Since 2011, we have conducted collaborative research with Tokyo University, the Mozambique Government, and Universidade Eduardo Mondlane (UEM) on the Science and Technology Research Partnership for Sustainable Development (SATREPS) with permanent production of Jatropha biofuel. We have successfully applied our research to Inhambane Province, Jangamo District, Lilika Village, which has improved the life of the villagers through the instalment of small-scale electricity via Jatropha biofuel.

To further improve the life of the village, we not only installed electricity, but promoted the manufacture and marketing of soap made from the Jatropha oil as a new source of income.

【 Example 3 】
The Development and Publication of Material to Construct Buildings Highly Resistant to Natural Hazards

The thermoplastic carbon fiber composite “CABKOMA Strand Rod” was developed by KIT’s Innovative Composite materials research and development Center and Komatsu Seiren. They announced it to be the next new standard for earthquake resisting material. CABKOMA’s development was inspired by Noto’s traditional Kumihimo (the method of braiding threads to make rodes) technology. It is a fourth of the weight of iron, highly durable and flexible, hardly rusts, and is a material easily applied. It is already used to reinforce the important cultural properties such as Zenkoji Kyozou against earthquakes due to its highly regarded ability to be applied without damaging the precious woodwork.

It is estimated that the standardization of this new material will not only contribute to the protection from earthquakes of cultural properties, but also ordinary wood houses.

【 Example 4 】
Local Traffic Safety Policy

The Student Organization “Gakuyukai” members consist of undergraduate students who aim to improve their community, lifestyle, character, and physique. One of Gakuyukai’s most praised activities is the “Bicycle Ring-ring Manner Up Campaign.” Specifically, eight times a year since 2002, they work together with Nonoichi City Traffic Safety Association to call for good bicycle manners during students commuting time at intersections near the school, and for safety awareness of drivers at intersections where many accidents occur.

Gakuyukai was awarded the Ishikawa Traffic Safety Meritorious Individual (Group) Award by the governor of Ishikawa prefecture in November 2016, and the “2017 Traffic Safety Meritorious Individual Award” by the Japanese Cabinet Office in September 2017.

【 Example 5 】
Creating a Better Working Environment for Women

We are striving for a better working environment for women from a gender mainstreaming perspective.
Of our working staff, approximately 40% (111) are women, and they are actively incorporated into crucial sections such as the personal section and administration office at manager positions.

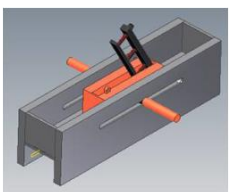
Also, by creating a nursery and clinic within campus grounds, we aim to create a workspace friendly to families in which both parents are full time workers.

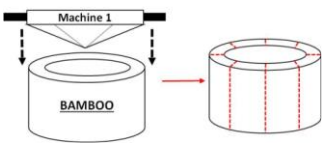
The solutions above were contributed to by KIT students from computer science and psychology perspectives.

【 Example 6 】
Problem Solving in Rural Areas in Asian Countries

KIT has conducted the “Learning Express” program since 2013 in which our students group up with other Asian students to create innovation in Asian rural areas. KIT students join with students from Singapore, Indonesia, and Vietnam, travel to villages in countries such as Indonesia, and preform problem finding and products planning to solve those problems. Later, they return to Japan and actually manufacture the ideas they came up with and return to the area for a final demonstration. When building the prototype, it is important that the local people can replicate and repair the product with material accessible to them.

Previous entries include a water filtering system using a bicycle, a gluing machine used for manufacturing paper fans, and an improvement in the creating process of bamboo furniture. These result contribute to better hygiene and an increase in income.





【 Example 7 】
Helping Foreign Residents

KIT takes part in supporting foreign residents in our local community who are in need. Our students conducted interviews in English with the foreign residents as part of a problem finding/solving project.

Currently, in Nonoichi city, where KIT is located, we have created English pamphlets and cellphone apps of the following: reference table for separating household garbage, time schedule for community bus Notti, Nonoichi sports guide, Suku-suku health calendar, list and map of local medical facilities, and Nonoichi emergency pamphlet.

The pamphlets were presented to Nonoichi City and are officially distributed to the foreign residents. We will continue to partner with Nonoichi City and make sure no foreign residents of our local community are left behind.

【 Example 8 】
The Vitalization of SDGs Business

KIT has made partners with several corporations concentrated on SDGs related business to pursuit the accomplishment to the SDGs. In 2017, we reinforced those partnerships by contributing to SDGs through business.

We collaborated with main think-tank intellectuals and the BoP Global Network Japan Institute to create the first Japanese SDGs Business Award, which publicizes the advanced pursuits of Japanese corporations.

Also, to encourage SDGs related business in district areas, we signed the “Note of Joint Research to the diffusion of SDGs Business” with the Junior Chamber International Kanazawa, United Nations University Institute for the Advanced Study of Sustainability Ishikawa Kanazawa Operating Unit, and JICA Hokuriku.

In addition, we created the SDGs Business Leaders Network in Kansai (or SDGs Leaders Kansai) with From Far East Co., a joint effort to build a venture eco system to promote the development of SDGs related business.

In the future, we anticipate to cooperate with these partners to design new SDGs related business and create opportunities for students to cultivate their ability as a practitioner in the SDGs business.

Three SDGs Promoting Bases within KIT

There are three bases within KIT where students and faculty members can promote SDGs across different departments and divisions.

The first is the “Challenge Lab” in the Ohgigaoka Campus. The “Challenge Lab” is equipped with a 3D printer and laser cutter; and is not only suited for discussions, but can be used to design prototypes for society.

The second is our “Institute for Regional Revitalization and Innovation” in the Hakusan Campus. Based on our Comprehensive Cooperation agreement with Hakusan City, we can conduct multiple new life-style innovative problem solving and research within the wooded mountain area.

The third is the “Laboratories for Intellectual Creation and Management” in our Toranomon Campus. This facility is designed for students in society who study at the Toranomon Business School to collaborate with corporations and examine the results of initiating, protecting, and utilizing their creations.

Challenge Lab : **Ohgigaoka Campus**

Institute for Regional Revitalization and Innovation
: **Hakusan Campus**

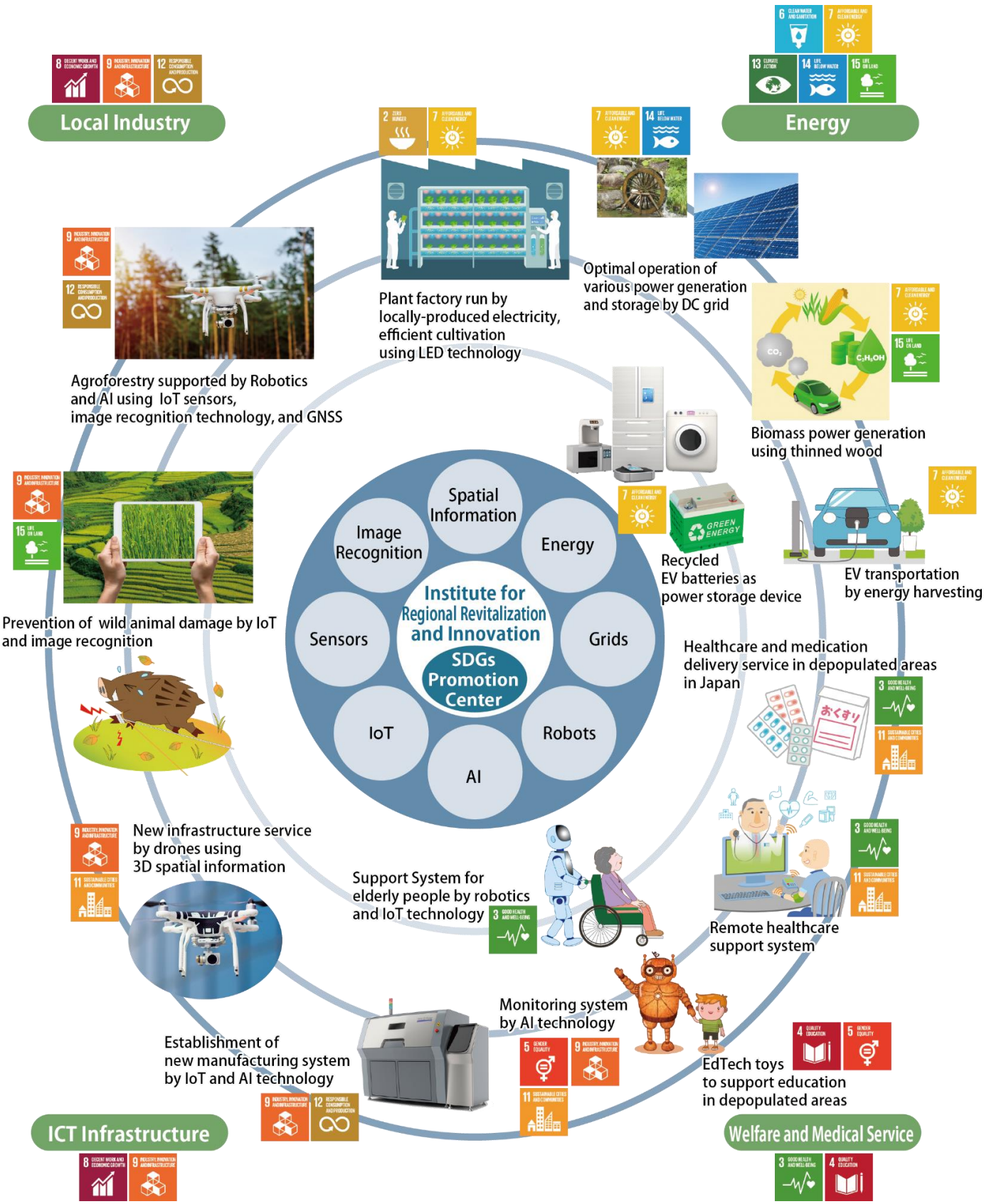
Laboratories for Intellectual Creation and Management
: **Toranomon Campus**

The SDGs Monitoring System at KIT

As external evaluation, KIT has received approval from the Japan University Accreditation Association and the Japan Institution for Higher Education Evaluation. We have also been judged by the Japan Productivity Center and received the Japan Quality Award and National Corporation Quality Award.

In addition to this praise as a university, we have begun a survey during our all faculty member meeting to check on the monitoring of student’s SDGs related activities. Returning the feedback to all faculty members will further initiate student-based SDGs activities.

Initiatives by SDGs Promotion Center, Institute for Regional Revitalization and Innovation, KIT



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