

# Presentation

## Message from the President Dream and Future of Information and Communication We Want to Shine Iwao Sasase

### 1. Inauguration address from the President

The environment surrounding Japan is changing dramatically, and the contribution of information and communication technology is being sought even further in order to solve many problems such as the declining birthrate and aging population, safety and security, resources and energy, and the global environment. The role that the IEICE should play is expanding, and it is strongly demanded that "The IEICE boldly challenges the dream of information and communication and the rich future society to be realized by it and makes a big leap forward as an academic society that continuously creates innovative technologies and innovations."

For the further development of the IEICE, it is essential to "create a place for wide-ranging knowledge exchange and open new academic fields", "contribute to solving social issues and create a new social vision", "strive to improve technical ethics and spread these throughout society", such as discovering new fields and themes that attract members, strengthening efforts to lead to industrial competitiveness, providing a place for discussions on technology trends and looking-ahead, activating exchanges with different fields



and strengthening the function as a salon, lifelong education and skill improvement, sharing information internationally in a proactive manner, promoting cooperation with overseas institutes and providing opportunities to work more flexibly and freely.

I believe that it is most important to develop excellent human resources who can play an active role globally in order to maintain national strength and to enhance our technological leadership in the world. I think everyone should make great use of

the IEICE in order to foster human resources who “start new things to fulfill their dreams and constantly challenge themselves to maximize their abilities”. To that end, it is important to increase the value of the IEICE as a place for intellectual exchange where as many people as possible can voluntarily participate in institute activities and work hard through friendly competition while having fun.

As the President, I will do my utmost to provide high-value services promptly and accurately to meet the various needs of our members. At the same time, I hope that all members will actively use the IEICE as a place for self-improvement, information exchange and interchange, and enjoy various activities and contribute to the further development of the IEICE. I look forward to your continued support and encouragement.

Next, while looking back my activities at the IEICE, I would like to talk about the fun and activation of academic activities, outline the business plan for 2020, and discuss human resource development.

## **2. Encounters with the IEICE**

### **2.1 Place for paper presentations, discussions and information exchange**

The first time I presented a paper at an academic conference was at the IEICE General National Conference in 1980, which I attended when I was a first-year master's student. A memorable presentation for me was the 1982 National Conference on Communications, held at Hokkaido University in September 1982. When I was in the third year of my undergraduate program, I traveled around Hokkaido with my friends on a round-trip ticket that didn't allow us to ride on limited express trains, staying at a youth hostel, and taking a whole day to return from Sapporo to Tokyo using the Seikan ferry. Four years later, I still remember clearly the memories of the academic conference presentation where I went out by

airplane and also enjoyed Genghis Khan cuisine. By contrast, it was more than 30 years ago, and I didn't have a copy of the presentation manuscript at hand, so I completely forgot about the contents of the presentation. However, when I bought my iPad for research for the first time a few years ago, I made a decision to digitize all the research results I did in my laboratory, and started searching for papers with the help of students in my laboratory. Papers published in journals and papers at international conferences were found immediately thanks to the digitization work of papers by the Society and IEEE, but it took a lot of time to find the papers that I previously published at conferences and conventions. Fortunately, almost all the conferences and conventions papers of the IEICE were respectfully stored in the university library, so I was able to find a handwritten manuscript from the above conferences, which was early research results for me, and I was thrilled to find a treasure I had lost.

In addition, the paper published in the IEICE Transactions in March 1982 was the first IEICE Transactions (Japanese Edition) published by me, but after handing the newspaper-sized handwritten manuscript and the original drawing drawn on the tracing paper to the secretariat of the IEICE at the Kikai-Shinko-Kaikan and receiving a strict check on the line thickness and character size of the drawing drawn with the lot ring, I still remember clearly the feeling of accomplishment when the paper submission was accepted successfully. (In memory of the paper submission, I also remember climbing Tokyo Tower at the time!) After that, every time I announced my research results at conferences and conventions, I remember being very pleased to receive useful advice and encouragement from prominent professors and researchers. Conferences and conventions are valuable places for discussions, information exchanges and interchanges, and it's still a great pleasure for me. I really feel that it is very important for researchers and engineers that

the results of these papers are properly preserved as documents in this way and the places for research presentations, discussions, information exchanges, and interchanges are close to us.

## **2.2 Fun and activation of academic activities**

Until now I have served as a member of various committees related to the operation of the IEICE, such as the IEICE President-Elect, Vice President, Chair of the Centennial Anniversary Committee, President of the IEICE Communications Society, Chair of Technical Committee on Communication Systems, Chair of Technical Committee on Network Systems and Associate Editor of IEICE Transactions. These duties seem to be quite burdensome to be considered volunteer activities, but I think that if you work aggressively, you will get more benefits than you can imagine, and you will enjoy them a lot. For example, you can meet many excellent people by proposing a special issue of a journal to discover new themes, planning a session by asking front-line researchers and engineers to give lectures regarding hot-topic technology trends of interest, awarding young researchers who made excellent presentations and sharing various ideas with active members to provide better academic services. In addition, through academic activities, you can actively promote industry-government-academia collaboration and joint research. In particular, I think that it is essential for university faculty members to actively engage in academic activities. Also, I think that it is even more necessary for people in companies to build intimate and wide-ranging personal connections that transcend the boundaries of various people and individual companies through active institute activities from a young age. I believe that it is not possible to develop excellent human resources only by passively receiving the full services of the IEICE. What is more important is to encourage young people to voluntarily participate in the IEICE and

actively engage in activities that lead to their development.

Nearly 3 years have passed since we were able to celebrate the 100th anniversary ceremony with everyone at the Meiji Kinenkan on September 15, 2017, and as a commemorative project, we were able to plan and carry out many diverse projects such as "100th Anniversary Declaration", "Logo/Catchphrase Selection", "Milestone Selection", "100 Year History Publication", "Co-Sponsorship Committee Activities", "Society Contest Paper/ Convention Planning", "Section Memorial Project" and "Special Lecture at the Memorial Ceremony". As the Chair of the Centennial Anniversary Committee, I would like to take this opportunity to thank you again for all your hard work and support.

### 3. Overview of the FY2020 business Plan

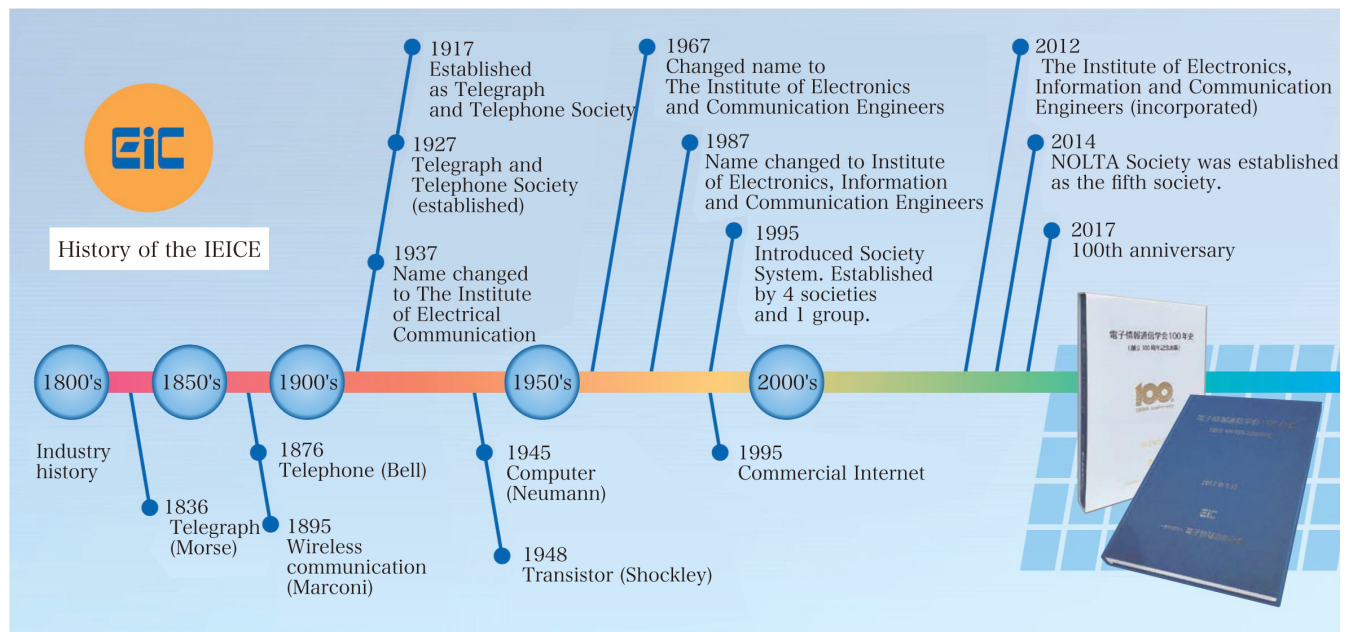


Figure1 History of the IEICE

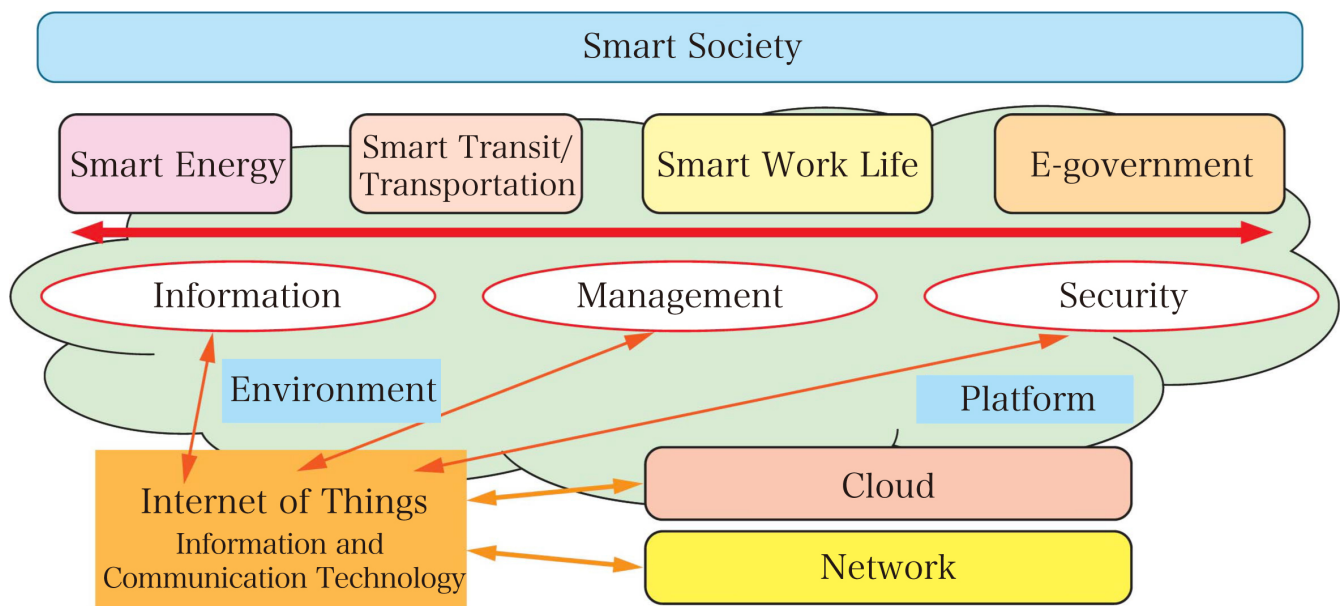


Figure2 Realization of a Smart Society through Information and Communication Technology



### 3.1 Background and philosophy

In 1911 (Meiji 44), a research group was formed at the Electrical Testing Laboratory of the then Ministry of Communications. After this, the members of the research group were recruited from the general public, the research group was converted into an academic society, and the Telegraph and Telephone Society was founded on May 1, 1917 (Taisho 6) <sup>(1)</sup>. Figure 1 shows the history of the IEICE. Since then, for a long time, we have made a great contribution to the progress of a wide range of fields in Japan from basic theory to applied development in the field of electronic information and communication, and have reached the 100th anniversary on May 1, 2017.

On the 100th anniversary, aiming for the IEICE to boldly challenge the dream of information and communication and the rich future society realized by it and to make a big leap forward as an academic society that continuously creates innovative technologies and innovations, we have declared that we will work in the following areas <sup>(2)</sup>.

- (1) Create a place for wide-ranging knowledge exchange and open new academic fields
- (2) Contribute to solving social issues and create a new social vision
- (3) Strive to improve technical ethics and spread them throughout society.

The 100th Anniversary Declaration declares that the IEICE will transform into an ideal institute, aiming for the next 100 years with the courage of the 100 years of achievements of the past, including the idea that sustainable development does not protect the past, but always seeks change toward a changing world and values.

As shown in Figure 2, the realization of a smart society through information and communication technology is progressing, and expectations for information and communication services are increasing, as shown in Figure 3. Similar to SDGs

and Society 5.0, we aim to integrate with a wide range of knowledge, including humanities and social sciences, promote politics, industrial development, interdisciplinary fields and human resources development, contribute to the solution of short-term and long-term issues that are required by the goals of human welfare and environmental sustainability through making full use of science and technology and raise the ethics of technology by setting the well-being of society and humanity as a goal in the pursuit of science and technology, and we hope to share the significance of all of this along with the results of our research. We also hope that together with our members, we will further enhance the value of the IEICE as shown in Figure 4.

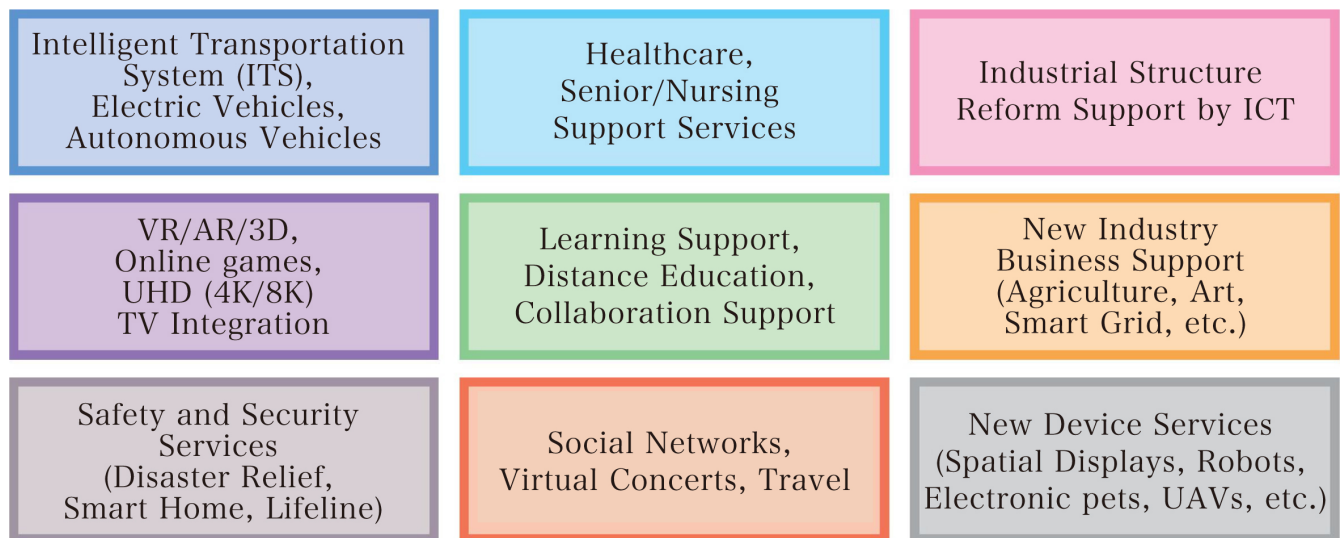


Figure3 Expectations for Information and Communication Services

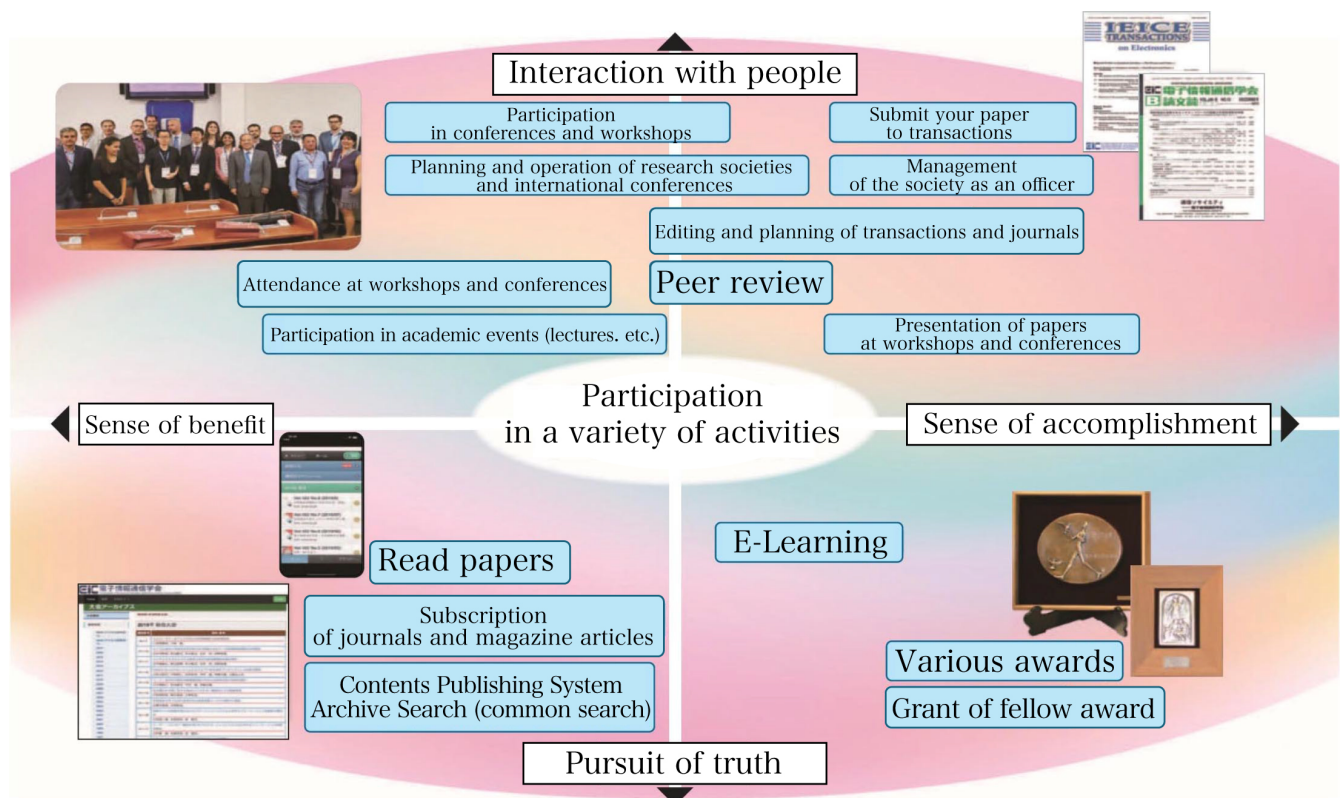


Figure4 What is the value of the IEICE?

Table1 The Image of Reforms that the IEICE Should Aim for

|  |
|--|
| • Activation of collaboration with industry and creation of an environment where companies can easily participate          |
| • Creation of a place for presentations and discussions without writing papers   |
| • Function as a place for ventures and exchanges with other fields   |
| • Free-spirited "Opinion exchange meeting" are important.  |
| • Provision of a place for matching open innovation  |
| • Lifelong education, skill improvement, industry-academia-government collaboration base                                   |
| • Promotion of contact with various technologies from a global perspective   |
| • Measures to improve the evaluation of academic activities from industry  |
| • Strengthening of collaboration with related academic societies in Japan (Aiming to develop IoT and new fields)           |
| • Promotion of cooperation with the government and administration (Support for ventures within the academic society, etc.) |

### 3.2 Basic policy of activities

Keeping in mind that the IEICE fulfills its responsibilities based on the above-mentioned philosophy, in accordance with the guidelines of the 100th anniversary declaration, looking at what the future academic society should be like in order to increase the value of the IEICE, we will engage in business at the level of each organization with the aim of improving member services, boosting social contribution, and increasing the number of domestic and overseas members by improving our international position. At the same time, we will steadily continue to execute our public interest expenditure plan, which is an obligation of general incorporated associations as a transitional corporation, and promote business under "Sustainable academic society management".

### 3.3 Recognition of the current situation and main measures

Table 1 shows the image of reforms that the IEICE should aim for, and Table 2 shows the recent

measures of the IEICE. In the following, we would like to give a specific description of each item.

Table2 Recent Measures of the IEICE

- Membership development
  - Preparing a Junior Membership system with the aim of making young people interested in electronic information and communication systems and contributing to future leader development
  - Established the Platinum Club as a new activity mainly for mid-career employees (40 years old and over) of companies, and for members with experience and age
- IEICE Digital Library service started
  - Around 400,000 documents such as Journals, the IEICE Transactions (Japanese Edition/English Edition), IEICE Technical Report, the IEICE General Conference Papers, and the International Conference Papers were stored and a common publications search service was provided from April 2019. It has been used more than 45,000 times and has been very well received by members.
- IEICE Proceeding Series service started
  - Aiming to contribute to the development of science and technology by storing and using important technical research data at low cost, archiving the contents of international conferences and making them available to the libraries of universities and research institutions nationwide. It accommodated 54 international conferences, about 12,000 papers, and had about 26,000 accesses since April 2019. There is great demand including old conferences from members, and while establishing the International Conference Content WG and promoting expansion, it is also possible to use the content of other academic societies
- Full electronic publishing of Technical Report
  - The IEICE Communications Society and The IEICE Information and Systems Society has started the full electronic publishing of Technical Reports since FY2018, with no publishing of booklets, and all of the IEICE Society will start the full electronic publishing of Technical Reports from FY2020.
- Started using smartphone application
  - Schedule distribution of conferences started from October 2019 using the application
  - Providing a conference application that provides the conference program of the General Conference in March 2020 with smartphone content
- From April 2020, "Associate Supporting Member" was changed to "Subscription Member", and the collective unit for IEICE Transactions on all IEICE Societies (Japanese edition/English edition) has been changed to contract units.
  - In FY2018, there were 276 Associate Supporting Member institutions, but now there are 252 Subscription Member institutions.
- Strengthen cooperation between headquarters and sections to revitalize section business
  - Using the conference, face-to-face meetings held by the president and Section Representative Committee Members (September 2019)
  - After the Board of Directors, extended executive meetings held by members of the Board of Directors + members of the Tohoku Section (February 2020)

### **3.3.1 Integrating with a wide range of knowledge, training human resources, and improving the quality of member services and management**

Utilizing the ICT infrastructure system, which was the result of the "Grand Design" that was promoted as part of the 100th Anniversary Business last year, various new measures such as the creation of Subscription Members, the simplification of our membership fee system, the enhancement of My Page, a common publications search system and business efficiency were started to be provided to members, and great results were achieved. Figure 5 shows the improvement of the IEICE's website, and Figure 6 shows the changes in the number of accesses to Forest of Knowledge. It can be said that the foundation for improving the quality of member services and management in the future has been set up. In this fiscal year, by further utilizing the results of our "Grand Design", we will promote the following measures with the aim of creating a place where a wide range of knowledge can be exchanged, opening new academic fields, and continuing to expand our member services. A wide range of knowledge will be exchanged, new academic fields will be opened, and opportunities to discuss and exchange opinions on solutions for social issues and new social visions will be promoted. For that purpose, we will hold attractive events such as conferences and conventions, and widely inform and publicize using our website, email and SNS, and as shown below, we aim to improve member services, develop human resources and acquire new members.

#### **(1) Introduction of Junior Membership System**

In order to make young people feel more interested in the fields of electronics and information and telecommunications, and to contribute to the development of future leaders, this system will be created and provide services for Junior Members.

#### **(2) Enhancement of Platinum Club**

Targeting mainly members aged 40 and over, while using an academic society as a place for self-realization, a place will be provided to enhance the sense of fulfillment as a researcher and engineer throughout life.

#### **(3) Improvement of Services for Supporting Members**

A "Thank-you Party for Supporting Members" will be held to express our gratitude to all the Supporting Members who support the IEICE. In addition to understanding the business situation of the IEICE, a place to exchange opinions with key people from industry, government and academia will be provided. Furthermore, the provision of seminar distribution services using webinars, etc. is being examined.

#### **(4) Improvement of Services for Overseas Members**

The main article of the Journal will be published in English and posted on the website. Services for overseas members will be expanded by improving the English website, etc.

#### **(5) Smartphone Application**

The newsletter application has already been provided, and the distribution function for the conference schedule was added last year, and convenience has been improved. In the future, as part of promoting various services utilizing smartphones, a convention app will be provided to improve the convenience of participants in the General Conference and the IEICE Conference.

#### **(6) Revitalization of Discussions between the Headquarters and Sections**

Membership development through the Sections and service to members are becoming more important to stop a decline in the number of members. In addition, it is necessary to reflect the ideas of Sections in Headquarters measures. For



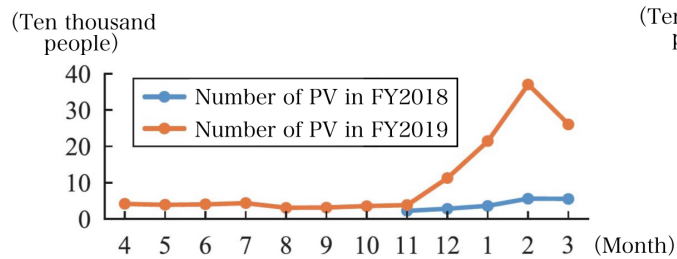
this reason, a system and method for further stimulating discussions between the Headquarters and Sections will be examined.

## (7) Services that Utilize Corporate Sponsor

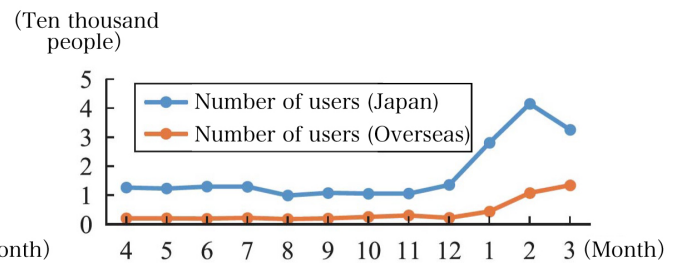
Other academic societies utilize corporate sponsors to activate and select services for members. The utilization of a corporate sponsor

system will be examined to enhance member services.

- A new website (design renewal, responsiveness) was opened in late October 2019, and a global site was opened from January 2020.
  - The number of page views and the number of unique users have increased significantly since December.
- ⇒ The following data does not include PV numbers and UU numbers at sites outside the Conference, the Convention, Forest of knowledge, etc.



(a) Number of page views FY2018 vs. FY2019



(b) Changes in the number of users by domestic and overseas (FY2019)



(c) New website



(d) Global site

Figure5 Improvement of the IEICE's website



- By putting the comprehensive edition handbook (Forest of Knowledge) online, knowledge will be utilized by the systematic retention/recording of knowledge and the data search function in academic fields where the IEICE should take a role.
- Forest of Knowledge is written by many researchers and engineers (about 1,500 people) who are active on the front lines, widely used in the world to contribute to the improvement of science and technology, and to further enhance the social contribution required as an academic society.
- Forest of Knowledge (handbook/knowledge base) has exceeded 1 million annual accesses and 400,000 unique users in the 10 years since its release. There are many student users, and advertisements focusing on recruitment are being planned.

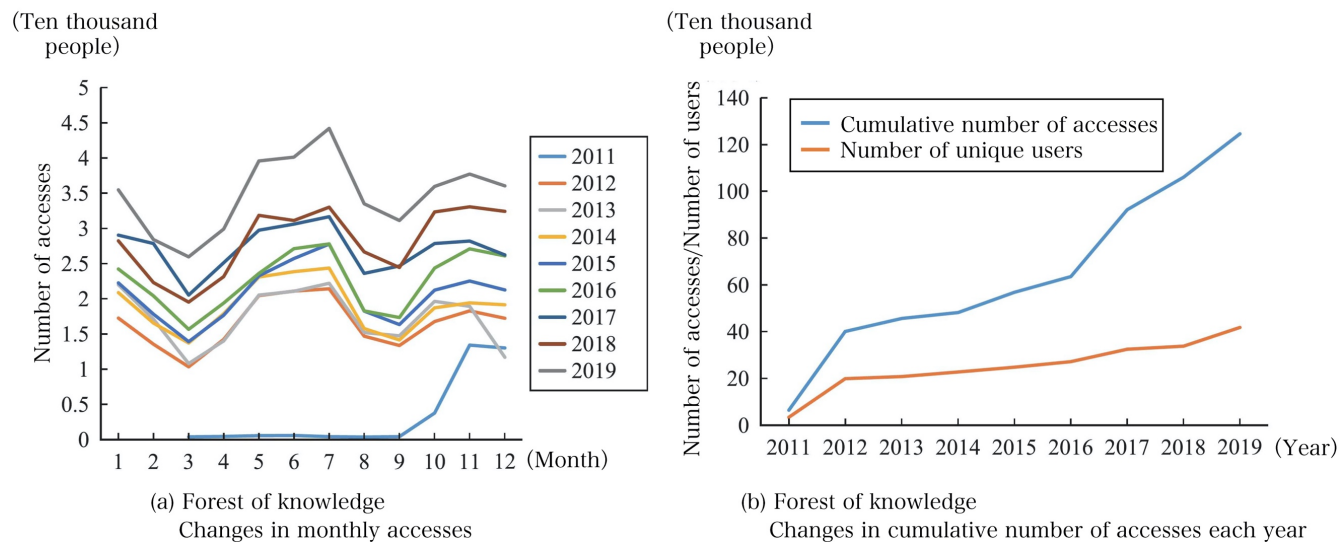


Figure6 Changes in the Number of Accesses to Forest of Knowledge



### **3.3.2 Utilization of content, open access and impact factors**

We are working to improve convenience by digitizing the IEICE Transactions, Journals, and the IEICE Technical Reports, Handbooks, etc. The IEICE Technical Reports are being digitized in stages, but are expected to be fully digitized from this fiscal year. As a part of this, in the last fiscal year, Subscription Member Services were launched to allow institutional and group users to fully utilize the content of more than 200,000 articles, which was an academic achievement of the IEICE. Currently, options of IEICE Transactions, the IEICE Transactions (Japanese Edition), Journals and Convention/International Conference can be selected, but discussions are underway to add the IEICE Technical Reports of the conference as an option for Subscription Members. In addition, centering on the Membership and Services Committee, the Editorial Board Liaison Meeting, and the International Affairs Committee, active consideration is underway for early implementation, such as the translation of the special features part of the Journal into English and the early launch of the brand English journal. Furthermore, in order to make better use of the content of international conferences, the handling of content is being coordinated with the IEEE. Regarding open access for English journals, from 2020, the IEICE Transactions on D will be open-accessed at J-STAGE. We will continue to measure and evaluate the impact of open access on the number of members and financial impact, clarify a business model that can increase profits, and reflect this in future policy considerations. We are also working to improve the impact factor of IEICE Transactions. The decrease in the number of overseas members may be due to a low impact factor, and we have been debating mainly on society so far, but dramatic efforts will be made throughout the IEICE as a whole.

### **3.3.3 Globalization**

We will proactively consider measures to improve overseas member services, such as translating the special feature part of the Journal into English, the launch of a brand English journal soon, and starting a new plan for Board composition and Intern Activity that includes people from overseas. In addition, while actively utilizing overseas sections, we will exchange opinions and share information among section representatives through the all sections meeting, and we are further revitalizing international exchanges, such as improving the website of each section and holding conferences overseas in cooperation with sections. It is important to secure profits other than annual membership fees and technical reports in order to realize the sustainable management of the academic society. Looking at academic societies in other countries, content and international conferences are the pillars of earnings. Therefore, we will accelerate discussions to set up international conferences and workshops organized by the IEICE, and to create an environment for that purpose.

### **3.3.4 Dialogue with the government and local governments and collaboration with industry and other academic societies**

The industry expects that it will provide a place for different industries to gather, disseminate information on future technological trends, strengthen collaboration between industry, academia and government, and foster young researchers. In addition, the base of industries related to ICT is expanding, and in order to bring in R&D staff that are active there to the academic society, we will promote plans that are attractive to those in the industrial world and new ICT fields. Moreover, as the IEICE, in order to put effort into making policy proposals to relevant governments and local governments based on specialized knowledge, we will further promote dialogue with

governments and local governments, making use of venues such as conventions. We will also work to develop new areas of fusion by strengthening cooperation with other academic societies, including the Information Processing Society of Japan, the Institute of Electrical Engineers of Japan and the Japan Society of Mechanical Engineers.

### **3.3.5 Stabilization of financial foundation**

As with other academic societies, the number of members continues to decline, so we will continue to improve member services and revitalize attractive academic activities, and work to increase income by increasing members from a wide range of people. In addition, consideration is being given to earning advertising income by utilizing the IEICE's own effective content such as Forest of Knowledge. In addition, we will do our best to secure stable income while strengthening businesses that are in the black, such as the conference businesses, and by improving services.

## **4. Developing unique leaders with rich international connections**

A great paradigm shift is occurring due to the digitization of all kinds of information and the advancement of networks that include not only computers and people but also 'tangible goods' and 'intangible goods'. After a few years, the word "telephone" may not be used anymore. From now on, only those that can provide communication services and content that sufficiently meet various quality requirements of users for personalization and customization will survive, and it is necessary to build a cultural infrastructure which has a cultured atmosphere and where not only is the communication environment convenient, flexible, and reliable, but it is safe and secure in terms of security, including privacy. In such an advanced information society, "creative technological development and research based on original ideas"

is required more, and it is thought that "Intellectual groups with strong communication skills and basic multimedia technology placing great importance on strategy and swiftness, and will create technological breakthroughs by repeating challenges while maximizing their individuality and characteristics."

From this point of view, I believe that engineers, researchers and developers in the future will be required not only at the technical level but also at a high level of deep education and well-honed sensitivity. That is to say, in a global international society, human resources with advanced communication skills and outstanding skills based on wide and deep knowledge in a wide range of fields and a challenging spirit to tackle new themes are further required. To that end, it is important to have a deep interest in various things from a young age and gain a deep insight to carefully examine what the technological needs and services demanded in the world look like while polishing sensitivity<sup>(3)</sup>.

In addition, for talented people who have a natural gift and ambition, it is also extremely important to encourage and cultivate that talent to the fullest, and to develop them as elites who can demonstrate true leadership. The Bible has many evangelical sentences, but the "elite" is supposed to be a person who has many talents (A talent is a unit of mass used in the ancient Mediterranean world. It was also used as a currency unit. This is the origin of the English word "talent (talent, ability)", and this is meant to suggest a free person full of individuality who is clearly aware of the responsibility of increasing their talents and returning them to society.

Researchers and engineers involved in "communication (Tsushin)" must be constantly aware of what they can do to build a rich and fulfilling (Tsushin) society through a broad perspective and communication skills based on culture. Otherwise, communication will become a means of heartbreak (Tsushin). The important

thing is "to have a frontier spirit and start something new to fulfill dreams and constantly challenge to maximize one's abilities." It is important to nurture world-class talented people who have outstanding originality and identity as Only One. With Hilti's words of "The secret of education is to guide the students, on the one hand, to gain an interest in and proficiency in their work, and on the other hand, to make the decision to dedicate their lives to something great at the right time." as my motto, I will continue to work harder in research and education. Also for corporate people, I think that it will be increasingly required in the future to build a close and wide-ranging network of contacts that goes beyond the boundaries of various people and individual companies through active academic activities from a young age <sup>(4)</sup>.

I feel that the value of "information and communication" is shifting from "anytime, anywhere, with anyone" to "only now, only here, only you". To make you feel more actively involved, as a "place to raise intellectual curiosity, a valuable place for self-improvement, information exchange and interchange, and a wonderful place which has a cultured atmosphere", we will do our best to earn a higher value for our existence, and we would appreciate your warm support and cooperation.

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