1. Introduction

COVID-19 has changed our lives. We once again feel the importance of “meeting,” which has been commonplace until now. While nonessential and non-urgent activities are restricted, we also noticed that the affluence of life and the reason for living are not always essential and urgent. After two years of the COVID-19 pandemic, human beings are gradually regaining their economic and social activities while developing vaccines and adopting a new lifestyle called the ‘New Normal.’ Under such circumstances, Russia’s invasion of Ukraine began in February 2022. There is no way
to end the killing and destruction (as of June 10, 2022), and the daily coverage profoundly saddens me. First of all, I would like to take this opportunity to express my condolences to the Ukrainians who have died in the invasion and extend my heartfelt sympathies to all the victims.

The Minister of Education and Science of Ukraine states that "The continuation of education is of the utmost importance." (NHK NEWS WATCH 9 on April 1, 2022). It seems that they are creating a system to receive Ukrainian education no matter where they go so that evacuated children can continue studying. Creating an environment where people can learn and work regardless of location is a measure that humankind has promoted by utilizing ICT through the COVID-19 pandemic. It is not easy to predict and avoid natural disasters, plagues, and wars. However, we should challenge ourselves to bring together wisdom, predict unprecedented crises with ICT, find countermeasures quickly, and save the important lives of people. The IEICE takes charge of this.

As most people know, ICT is currently positioned as a necessary basic technology in many industrial fields. Each industry has domain technologies that support them, however ICT has become the driving force for improving and advancing each business. The leading technology is AI, and the system form is IoT. Until now, we have been "learning the past, predicting the future, and thinking about the present" to realize a better future under various circumstances. The technology currently possessed by humankind is inadequate and immature for ICT to contribute to the New Normal era. We should strongly recognize that technology is not universal forever, and it is inevitable that it will reach its performance limits with the development of human society. There are tall and thick walls, however I believe that we can overcome them if all research institutes work together to create innovations that break these boundaries.

The IEICE is a meeting place for the best researchers in the field of ICT. I served as the Tokyo Section Chair in 2016 and understood the importance of industry-academia-government collaboration. After that, I served as the President of the Institute of Image Information and Television Engineers from 2018 to 2019 and strongly recognized the significance of cooperation between different fields and the importance of collaboration between academic societies. Together with everyone, I would like to envision a society that looks ahead to the future. I am determined to make efforts toward the goal of a vibrant IEICE.

2. Situation Surrounding the IEICE

The IEICE has its origins in the Institute of Telegraph and Telephone Engineers of Japan, founded on May 1st, 1917. It is a long-established institute that celebrated its 100th anniversary in May 2017 and its 105th anniversary in May this year. It was established with 843 members, with Dr. Morisaburo Tonegawa as the first President, and by the end of 2010 there were about 35,000 members, however by the end of 2020, there were only about 23,000, a decrease of about 12,000 in 10 years.

Considering the economic scale of the ICT industry, the Nominal GDP (Gross Domestic
Product value of the information industry in fiscal 2019 is 108.4 trillion yen, accounting for 10.4% of all industries (2021 White Paper - Information and Communications in Japan). When all industries are divided into eight major industries, excluding "other industries," the information and telecommunications industry is the largest, overtaking "commerce" (92.3 trillion yen). Many of the achievements discussed at the IEICE have contributed to the development of the information and telecommunications industry by private companies and have supported the Japanese economy as one of Japan's major industries. On the other hand, it is also a fact that it has declined since 2000 (120.4 trillion yen) mainly in the information and communication-related manufacturing industry, a decline of about 9.9% when comparing 2000 and 2019.

I believe that the decrease in the number of members and the size of the information and communication industry are unrelated. We must examine whether the attractiveness of academic societies is decreasing from the viewpoint of companies, especially by looking at the number of corporate members. In addition, since industrial development through industry-academia-government collaboration is important, it is also necessary to verify changes in both the number of academic members and in the number of student members, and the contribution of academic societies. At the same time, it is also essential for the IEICE to develop measures to solicit members from a different perspective than the current membership system. I believe that there are many people who are not members of the IEICE but have contributed to the IEICE or are expected to contribute greatly to the IEICE in the future. If the IEICE can reach the relevant people and make them members, it will be a more meaningful place for discussion for members. I would like to consider various means of soliciting relevant members and actively promote them.

By the way, I am sure that you all remember your first conference presentation with a strong impression. I remember going to the conference venue with such anxiety, wondering if I would be able to present my research results well and answer questions. I was surprised at the outstanding results of academia, and I was impressed by the confidence with which these businesspeople were able to industrialize their businesses, hoping to be like them someday. I am sure that conferences have been a special and fascinating place for all of you. I believe that now is the time to rebuild the IEICE into one that attracts academia, students, and businesses.

It is also important to note that the process that has been common in the past, that of studying at national conferences and workshops, improving research results, and submitting these results to international conferences and national journals, has changed. I do not deny that being accepted to top conferences is a source of status as a researcher, and I understand that the number of cited papers is also an important indicator. However, I believe research results should be evaluated in a diverse manner. Of course, as a background, I am aware that the 10,000 Postdoctoral Fellows Support Plan promoted by the Science and Technology Basic Plan in 1996 and the increase in fixed-term employment due to the lack of expansion of positions to accommodate the increase in the number of researchers have led to the need to produce results in a short period of time. The role
of domestic academic societies that have fostered researchers may have changed from both medium- to long-term perspectives. However, it is not desirable for academic societies to contribute to producing short-term results. In light of the current situation in which research results are being achieved based on overseas conferences, I believe it is necessary for the IEICE to formulate and promote measures to attract overseas members with a global perspective. To do that, the challenge is to create attractive packages that contribute to attracting overseas members.

In this age of the new normal, it is advantageous to be able to participate in conferences without depending on the location. In addition, technological innovations that can overcome language barriers may make it possible for people of various nationalities to participate in the IEICE in their own language while in their own country. To do that, we need a remote world "as if we were in the same space," a perfect translation platform, and above all, an ultra-low latency world where distance is no barrier, no matter where you are on the planet.

A mechanism is also required to obtain status for IEICE’s members. Now that we are becoming less and less dependent on location, it will be difficult to promote goods and services that can only be obtained by going to the conference venue. We should consider the value that IEICE adds to its members, without getting caught up in its previous value. In addition, domestic academic societies as a whole are in decline. According to a survey by the Japan Science and Technology Agency (JST) and the Mainichi Newspaper, the number of members of major academic societies has declined significantly over the past decade, despite an increase in the number of researchers in universities and other natural science fields. (Tokyo Morning Edition dated July 27, 2019, Mainichi Newspaper). Some academic societies have declined by more than 30%, which is a critical situation for domestic academic societies as a whole. From a higher perspective, the collaboration, fusion, and integration of domestic academic societies should be considered boldly.

3. Research and Development (R&D)
Aiming for a Major Game Changer

Focusing on Japan’s international competitiveness in the telecommunications infrastructure market within the information and telecommunications industry, in the first three quarters of FY2019 five companies from China, Europe, and South Korea accounted for 97% of the global market share for mobile base stations, while Japanese companies accounted for a shocking 1.5%. Analyzing the causes, we can see that there is a difference between avoiding risks and taking risks. The top five companies that invested aggressively in development and developed the global market have dominated the market.

A major game changer will require companies to invest aggressively in R&D. This requires discontinuous rather than continuous change. In terms of communication systems, the generations have changed from 3G to 4G to 5G, however this change can be viewed as a continuum. On the other hand, 5G and Beyond 5G are discontinuous changes that require limit-breaking innovation. In terms of careers, it will be an effort that overturns
conventional wisdom, such as investing in device development by extending conventional areas of business. It is necessary to expand this effort to the entire information and communication industry. Herein lies the significance of IEICE efforts to bring together wisdom. As concrete efforts, we will establish the Corporate Initiative Committee and promote the globalization of academic society activities.

3-1. Establishment of the Corporate Initiative Committee

We will establish the Corporate Initiative Committee to strongly support the efforts of corporate R&D activities toward limit-breaking innovation. Innovation requires the creation of new value (products and services) using innovative methods (technologies and ideas) that lead to solutions to social and customer issues. (Ministry of Economy, Trade and Industry (METI), the Innovation 100 Committee, "Action Guidelines for Japanese Companies' Management for Value Creation Formulated" on October 4, 2019). It is also important to note that companies cannot now promote R&D without being aware of carbon neutrality. As you know, universities (including National Research and Development Agencies) have contributed greatly to the development of science and technology in Japan. In the 21st century, Japan has produced many Nobel Prize winners in the natural sciences. I am aware that many of these achievements in the past have been the result of research conducted by universities and companies working together. The place where universities and companies meet is important. Therefore, this Committee is a place where "industry-academia-government" can create innovative methods that contribute to solving social issues and customer issues, while at the same time contributing to carbon neutrality.

This Committee promotes the matching of industry-academia-government, plans a path to social implementation so that the people can enjoy the results of R&D, implements PDCA cycles, and realizes innovations that break through limitations.

3-2. Globalization of Academic Activities

For the globalization of the IEICE, it is important to overcome the language barrier mentioned above. We would like to promote measures that allow people to participate in the IEICE in their own language while staying in in their own country. On the other hand, we aim to increase the opportunities for members of overseas academic societies to access the IEICE by translating content written and presented in Japanese into multiple languages.

Writing in English will be essential for globalization, given the current situation in which papers and presentations in English increase the exposure of research results and are reflected in the achievements of researchers. On the other hand, we would also like to note that the language of a country is the country itself. Since ancient times, the Japanese language has incorporated Chinese words through translation, and since the modern era, various Western cultures, natural sciences, and
humanities and social sciences have been made understandable in the Japanese language. In contrast to the current situation where overseas conferences are held only in English, we believe that selecting the native language of each country will be a differentiating factor in the globalization of the IEICE from the perspective of diversity. Specifically, we will launch a project to study a translation platform and promote multilingualization.

4. Conclusion

The world has entered the New Normal Era. People are in a state of anxiety because conventional wisdom is no longer valid and change is inevitable. However, we can create innovations that break through limitations, predict and avert unprecedented crises, and solve social issues.

The IEICE plays a part in this. Toward the revival of the IEICE, we will examine the contributions to our members. We aim to increase our membership significantly in the next few years to provide a meaningful place for discussion for our members.

The IEICE will strive to lead the creation of innovation and contribute to the development of the information and telecommunications industry. To enable the IEICE to contribute to game-changing R&D, we will establish the Corporate Initiative Committee that enables universities and companies to create innovative methods and promote the globalization of the IEICE’s activities.

We will promote the social implementation of the results of R&D so that the public can enjoy their convenience. At the same time, the wellbeing of human beings is important, regardless of their nationality. In addition, the earth is home to a wide variety of living organisms, and it is our role to pass on our beautiful natural environment to the next generation. From this point of view, we would like to set carbon neutrality as one of the objective functions of R&D and promote R&D on a global scale. We ask for the support and cooperation of all our members.