

Lecture

Message from the President :

- Harmonized Local Activity Creating New Globalized Society Having Diversity —
- Naoaki YAMANAKA



1. Message from the President

My name is Naoaki Yamanaka of Keio University, and I have been appointed as the 101st President of the Institute of Electronics, Information and Communication Engineers (IEICE). In assuming this position, I would like to share my thoughts on the IEICE and how to strengthen its vitality.

The importance of information technology has increased dramatically, and the more than 22,000

members of the IEICE are active at the center of this trend. It is also true that information technology itself is becoming exceptionally sophisticated and complex. In short, there is no doubt about the importance of acquiring, covering, and utilizing the fields of the IEICE to ensure that they survive and play an active role in the 21st century, becoming an important weapon, just like English and mathematics.

On the other hand, the number of IEICE

members has declined from a peak of over 40,000 in 1993, with a particularly marked decrease in overseas members. I recognize that the decline in the number of members of a major society in a field of such increasing importance is a significant problem for Japan's competitiveness (fewer people playing in the field, and those playing cannot improve their skills). In fact, Japan is the only OECD country with a declining rate of doctoral students. This is simply because IEICE has not changed enough in response to the demands of the times, as former President Morikawa insisted. During my term as President, I will try to change the IEICE to make it needed by our members and society, and I would appreciate your support.

Currently, the IEICE is actively engaged in the activities of cutting-edge researchers, students, and other professionals involved in papers and research meetings. On the other hand, many people in companies are active mainly in actual business, and there is a lack of services that cater to them. In addition, the system for career development through IEICE is weak and does not provide opportunities for employment or career change. Support for start-ups, which are becoming increasingly important as an outlet for technology, must also be strengthened. As shown in Figure 1, we will make the IEICE that can be used throughout one's lifetime by looking at its structure, generations, and activities.

Furthermore, it is important to broaden the applicable generations to increase membership and activity. On the other hand, it is also essential to promote globalization. Members should use the IEICE as a doorway to a global world, not just Japan and should expand the scope of their business activities. As I will explain in detail later, there are two major directions of globalization I consider, and they need to be in the portfolio (Fig. 2). For the sake of clarity, please forgive me for being a bit extreme. The first is the English-centered global style (now, I prefer to say "use of English"), which will lead to the formation of a

global institute like the IEEE. This global style, which we have experienced for many years and which needs no explanation, is a style in which we play while competing with the top journals and top conferences centered on the IEEE. On the other hand, there is a decentralized global style. We have locally important issues and local activities. It is also common to consider issues locally and then upstream them globally. In other words, local activities in one's home country, such as the Japanese study group, are considered part of a global world where these activities are loosely coupled with each other by connecting them in multiple countries. I will discuss this later. I would like to focus on these two issues and will do my best over the next year.

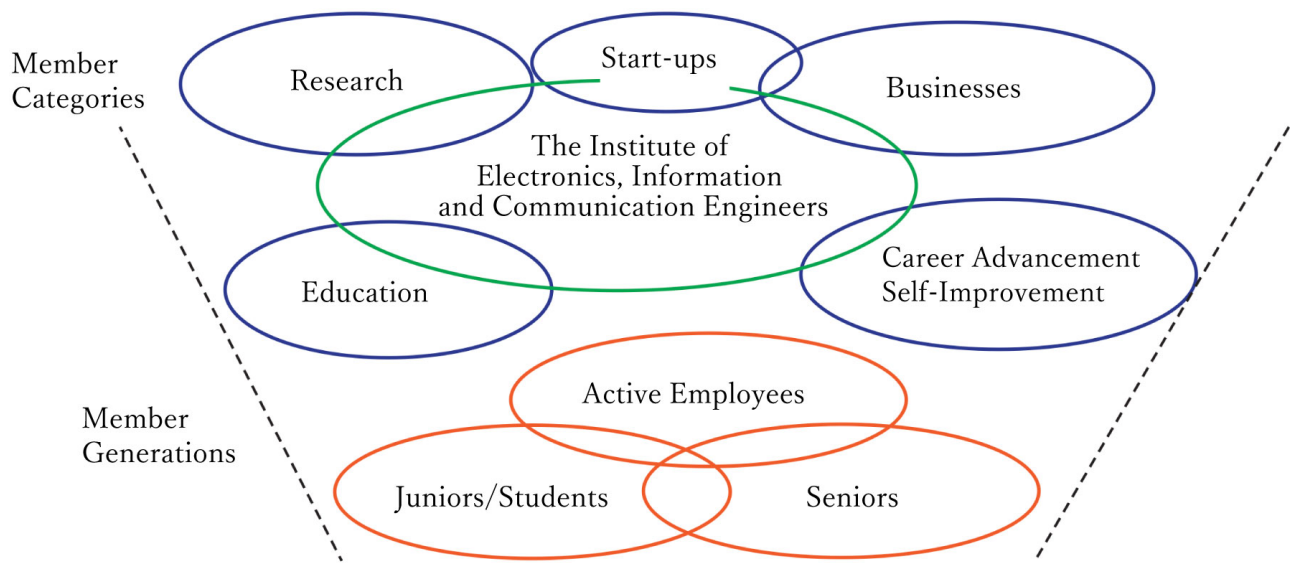


Fig. 1 IEICE Structure and Activities

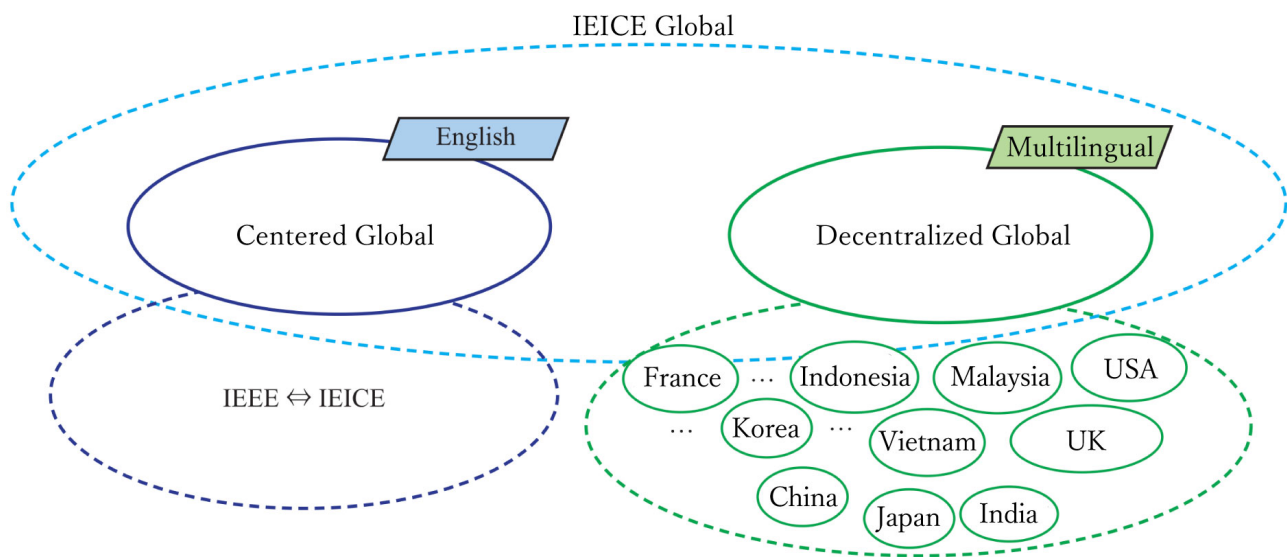


Fig. 2 IEICE Global Strategy Portfolio

2. *Jinkan kousai (human interaction) is what society is all about*

Former President Morikawa said, "To Not Change is to Continue to Change." I believe that even in the year 2040, the center of what is needed is human beings, which is our starting point.

Yukichi Fukuzawa, the founder of Keio University, where I graduated, translated the English word "society" into the Japanese word "jinkan kousai (human interaction)" at that time. He translated many English words into Japanese, such as Speech=Enzetsu. We often think of society in terms of infrastructure, telecommunications, electricity, or corporations, social systems, and politics. However, Fukuzawa considers society to be the activities of people interacting, cooperating, improving each other, and growing together. This can be clearly understood by considering the home. The home, at least, is not something that is "purchased" or the furniture that is its infrastructure but is the relationship between parents, children, and others, which can

collectively be called the home (society).

I think that "society = a place for jinkan kousai". Initially, society was a trade association. It started as an organization where people gather, pay money (membership fees), introduce each other's technologies, and help each other when in need. This is the starting point of society, and membership, even if they are in different positions or have different interests, have a chance to meet experts from all over the world who transcend generations in other fields and possess various technologies, who they cannot meet only in their own companies or schools, and have a chance to "collaborate" and "cooperate" with each other. This is the point of society, that is, jinkan kousai.

If one of the greatest weapons of the IEICE, to which we belong, is jinkan kousai, it should neither be an expectation of service nor a collection of information. Instead, the IEICE is a platform for collaboration and cooperation, or as Schumpeter calls it, "new combinations," a platform that truly generates innovation.



3. Society is a treasure trove of seeds, but we would like to get closer to business

Next, I will discuss the IEICE's strengths and areas that need improvement. Perhaps it would be better to say "Japan's." I am very uncomfortable with terms such as "lost 30 years" or "Japan is the lowest in the OECD." I understand Japan is not doing so well, but this seems extreme. Here, I would like to change our point of view and think about those points that Japan can significantly improve on if it improves quickly.

Mr. Kohei Ito, the current president of Keio University and my excellent and respected colleague, has written a very interesting essay. Please read the original article in the Keio University President's Office Newsletter.

(<https://www.keio.ac.jp/ja/about/president/blog/2024/2/27/379-157072/>)

A brief explanation follows.

In Aesop's "The Hare and the Tortoise," in Japan, the tortoise wins over the hare through hard work, but in the U.S., the hare loses to the tortoise by being careless. (He is a PhD from UC Berkeley, but he is a very Japanese person who understands the U.S.)

His research is one of the most global at Keio. Many international students come to Keio, but unlike in the U.S., where students compete for experimental facilities and produce results, they tend to compromise with each other. Also, I often see senior students teaching junior students, who then teach the next person, and international students doing the same, and many highly appreciate it (This is one of the great things in Japan!).

We cannot become hares, and we are not suited to be hares. If hares were good, we would tolerate some failure and bad manners, ask the poor-performing hares to leave, and compete with the surviving hares for immediate success. But surely

the hare's style of global winning does not fit in Japan. In other words, the tortoises should return to being tortoises and work together diligently to build up and produce quality results. The above is what it states.

On the other hand, there is also a bitter irony. "Serious tortoises eager to avoid any demerit points are putting too much effort into governance and complete compliance and being pulled into popular trends in the West, which seems to halt research and business progress in the tortoise style that Japan is so proud of." The tortoises have become stuck instead of serious, polite, and steady.

Figure 3 shows the strategies of the hare and the tortoise.

As a child, I had no idea there would be so many successful Japanese soccer and baseball players in the world. The major leaguers were in a different world, and I had never seen European soccer, but now there are too many Japanese players active to be introduced on the world news. Just look at rugby. The Japanese rugby team played very well in the World Cup. The world is truly amazed at how the Japanese team, with people from many different countries working with Japanese-born tortoises, use the tortoise method to compete with foreign teams with many bigger players. I am sure we, the engineers, will be the next to bring Japan back to the global standard. There are plenty of seeds to choose from.

Since becoming president-elect, I have had many suggestions of how to play the hare game, such as "in the IEEE" and "in the U.S." However, I think a tortoise cannot win if it tries to imitate the IEEE and U.S. ways. Because in the hare world, everything is evaluated under the hare's rules and by the hare's way of doing things. The hare is an important competitor and partner, but as President I would like to find the tortoise's rules and promote the tortoise's way. Japan has many seed technologies with world-class potential. I would like to return to the starting point of "contributing

to society" by connecting these technologies to business in the tortoise way and demonstrating our collective strength.

I would like to reiterate Fukuzawa Yukichi's words. He said, "Learning without application is equal to ignorance." This phrase had a significant impact on me. He did not say that we should only apply our knowledge to practical use. Learning aims to contribute to society, enrich people in various ways, and bring peace and convenience. We who aspire to learning should always humbly seek to contribute to society. When a new principle

is discovered through basic research, I believe it is also necessary to have the humility to explain it to many people and work to disseminate that knowledge so that it can be utilized in society. The number of papers and the impact factor may be important. However, pursuing valuable research based on one's interest and conviction is more important, while humbly, like a tortoise, teaching and cooperating with others to spread the results. This is the Japanese way of rugby. Shohei Otani also said that he practiced his favorite sport, baseball, honestly and diligently.

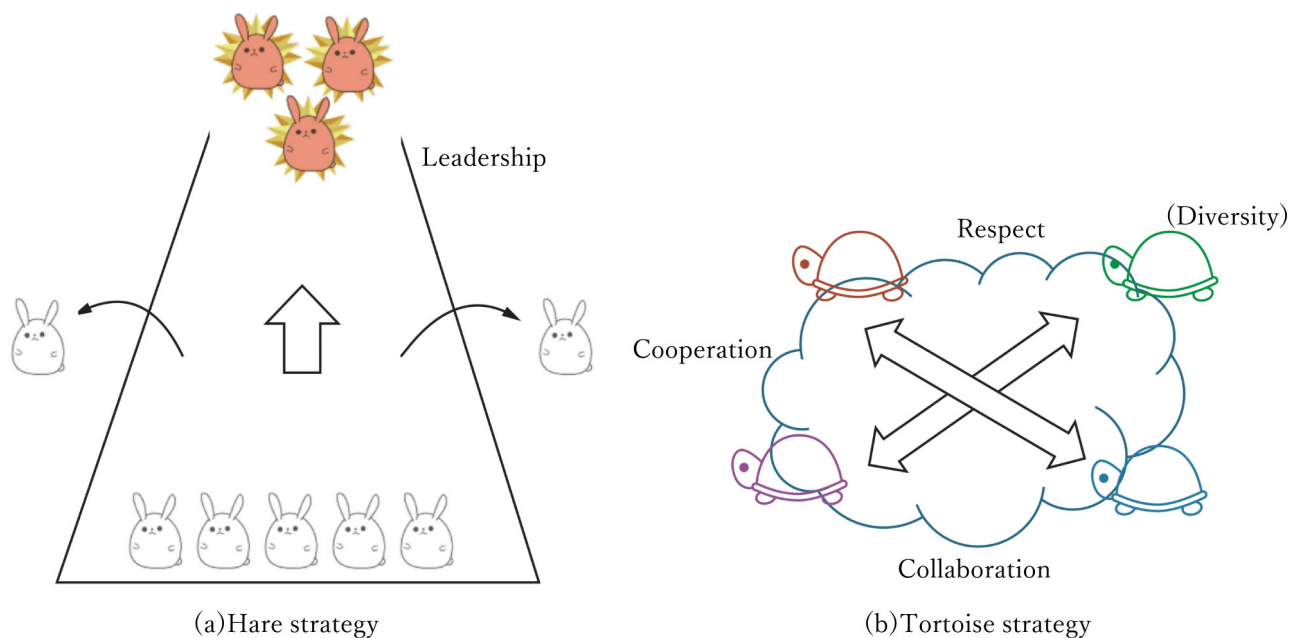


Fig. 3 Strategies of the Hare and the Tortoise

4. Strategies targeted by the IEICE



Consider tortoises as not slow but moving steadily and steadily forward in cooperation. I mentioned that mutual respect and collaboration are essential in a tortoise society. However, we neglected the fact that it is crucial to have "diversity." Japan is said to be highly homogenized and weak in its ability to tolerate outliers. We already know that we need to find and develop individual excellence in education, so all we have to do now is to put this into practice.

In the hare and tortoise strategy shown in Figure 3, I believe that the tortoise strategy is the one that the IEICE should strengthen. The tortoise works cooperatively, but I mentioned that we use the IEICE to obtain a variety of technologies and knowledge. Many of our members have accepted this so I will share another point of view here.

An example is automatic driving technology. Active research and development have been conducted on technologies for self-position estimation, sensor technology, control technology such as steering, and, more recently, fully AI-based technologies for object recognition, object behavior estimation, and hazard prediction. In terms of technology, Japan has always been world-class and leading-edge. Professors specializing in law, policy, and economics at Keio University and

myself, as a representative of the technology field, held a panel for graduate students. The topic was "The Future of Automated Driving Technology and Global Competition," which is a common topic. The panel started with "How can Japan be ahead of the competition?" and then moved on to "Why are automated driving vehicle trials not progressing in Japan?" discussing the risk of liability in the event of an accident. The audience actively participated in the panel, and opinions were concentrated on the fact that Japan has not necessarily lost its technology but that the system to take the risk of accidents is weak. If we put 100% of the responsibility on the manufacturer or designer, we would have to accept a cost of 100 million yen for a car (The same may be true for nuclear power generation.) In other words, there is a need for something that will never cause an accident. On the other hand, the accident rate is said to be 1/100 or even lower than that of human drivers because they do not speed and obey traffic signals without fail. Some people said that we can use the insurance system and guarantee accidents as a social system if we use reason. In contrast, others said it is dangerous to exempt owners, users, and designers' liability and that there is no easy way of dealing with this. It was an excellent experience for me, and the reception continued until after 9:00 p.m. This is the same issue we are suffering from now, such as in Japan's inability to provide vaccines immediately after the COVID-19 pandemic, and the need for privacy protection through AI rather than safety without AI. Privacy protection is about protecting privacy through technology, law, and education, isn't it? But if we can utilize data in the process, we will have abundant big data, and the economic effect will be enormous.

In other words, it is about more than just technology. To take advantage of the technology, we must fully use economics (business), law, and policy and work together. What the IEICE must promote in the future is incorporating a system that integrates the humanities and sciences (Fig. 4).

"Can our societies take the lead and get humanities scholars to cooperate?" When we exchanged opinions at the Japan Federation of Engineering Societies, where the President's roundtable meeting was held, people from the Japan Society of Civil Engineers and architectural societies had a lively discussion. As shown in Figure 4, when IT technology has become such a commodity and an essential element in society, I am keenly aware that improving technical research from 100 to 150 is insufficient. The IEICE has a strategy of actively collaborating with people who specialize in these essential elements of IT technology as associate members (free of charge). Every month, we receive 40 to 50 sponsorship offers for symposiums and lectures from various organizations genuinely interested in attracting IT technology professionals (and vice versa). We would like to take advantage of these offers and devise ways to invite specialists from different fields of humanities and sciences to participate in our activities.

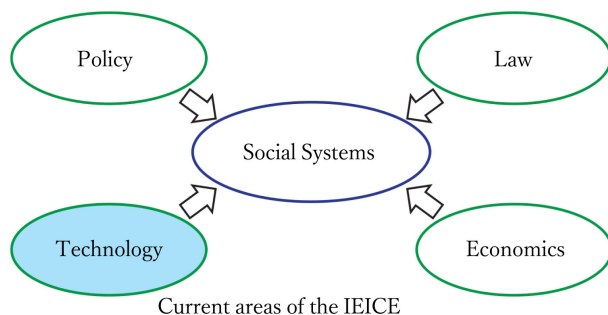


Fig. 4 The way IEICE needs to be in the future

5. The globalization of the IEICE

This is an example of IEICE's style. I will use simple terms and contrasting phrases as much as possible for clarity, but please forgive me. The global standard promoted by hares is global using "English," and papers outside the rule, that is, papers in "Japanese" or "Korean" have zero value,

no matter how excellent and important the contents are. The Impact Factor determines the value of papers based on this rule. But is this true? I also longed for the IEEE as a hare society, and at 40, I became the youngest Japanese person to be awarded a Fellow of the IEEE. In other words, I thought the hare evaluation was absolute. In competition, hares build teams of more and more superior hares and rise to the top. The gap may widen, and they may even exclude those who do not play by their own rules. A global IEICE is about respect for each other, respect for diversity, and working together to achieve success.

Figure 5 shows IEICE's multilingual platform. This is probably a world-first journal style created under the leadership of former treasurer Mr. Ishikawa. We have translated English papers into 15 different languages to be read instantly. In the future, IEICE English papers will be found by search engines in their native language (e.g., Chinese).

The evolution of information technology is a given, and AI has facilitated electronic translation. The meaning and identity of one's native language are again being considered. Even those fluent in English are still inferior to their native language in terms of intuition and speed reading, reportedly with a difference of 140%. So, it is clear that native language is better and easier to express when speed-reading many articles. The English level of many non-natives is such that they cannot instantly laugh at a funny scene when watching U.S. TV programs. However, Japanese people can watch and laugh at essential parts of Japanese TV programs while doing other things. By this analogy, IEICE's four English journals and two other letters have been translated into 15 languages and available since April 2024. Search engine support still needs to be completed, but we will continue to make them available as a global service. The IEICE journal is quite powerful in terms of quality and quantity. If we translate it into German, for example, and show it to our colleagues in Germany,

or translate it into Chinese and increase the number of students from China, people who have not noticed it before might be inclined to look at it. This is the globalization of the IEICE. We respect the identity of each country and language and provide tools for mutual understanding within that diversity. As an invited speaker, I have attended two relatively small international conferences in Korea. There, the official languages were Korean and English, and everyone except me and another person asked questions in Korean. I didn't understand what they were saying, but that doesn't mean there was no content. I think of IEICE's conference. I am sure many of you have "stayed up

late at night discussing in a hot spring." This is not meaningless because it counts nothing under the global rules. However, this kind of activity is desired by the IEICE, not as a top English language journal or a top English language conference. The nearly 10,000 papers presented at the conferences each year are diverse and are, so to speak, an asset of the IEICE. Furthermore, each individual's career path is evolving within the IEICE and, indeed, within the "jinkan kousai." Both Malaysian universities and Singaporean research institutes have such local but deep activities. IEICE's global strategy is to integrate them with the IEICE (Fig. 2).

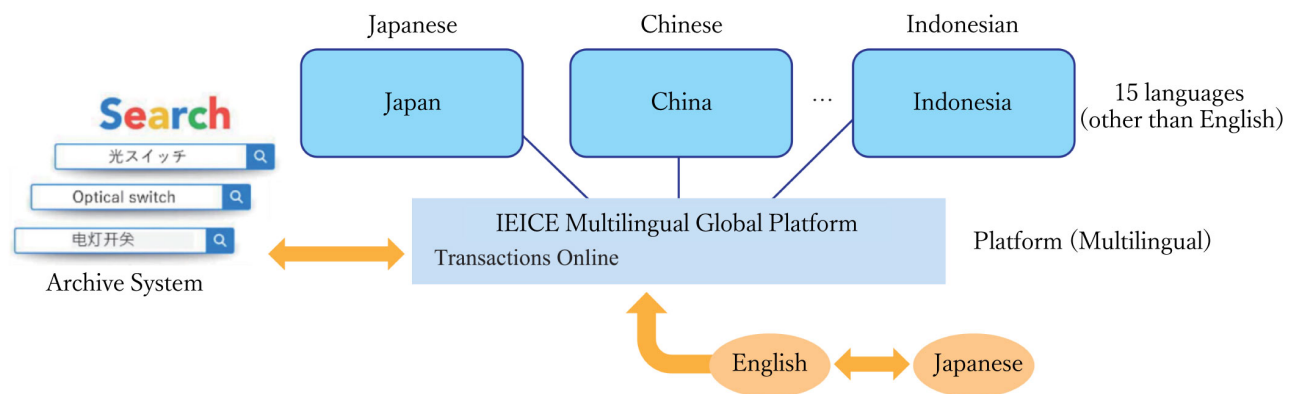


Fig. 5 Multilingual Platform

6. From joining a company to employment and career paths

The last topic is the primary task of academic societies in tortoise countries: supporting the career paths of individuals. To put it simply, it is the job market. I mentioned at the beginning that "there are good things about hares and bad things about tortoises. In chapter 3, I described the good ways of tortoises, but in this chapter, I will discuss the job market in Japan, which I would like to change in certain ways. Japanese companies publish starting salaries for university and graduate

school graduates online. I do not know whether this is a message of "equality?" or is it a message that "the university education, skills, and abilities of individuals are worthless?" In other words, don't you think it is disrespectful to students who have studied hard and conducted research in a high-level educational environment? It is common sense in Japan and uncommon sense around the world. In addition, university faculty members are well aware of the job-hunting style in which they are encouraged to say, "I will try my best," in a 15-minute recruiting interview in which they are dressed in black clothes. And in this short time,

what does the company "know" about the various abilities and potential of the person being interviewed? On a social networking site, a university faculty member referred to the current trend of internships as "KidZania for university students. Is it a fun experience like KidZania? Internships, which are time-consuming and costly to recruit and have become increasingly earlier and more escalated, are not only beneficial. Rather, students are exhausted and not able to do their essential master's research. However, in this strange game of chicken, has it become a game in which students try to get more and more job offers faster and faster, and companies give out more job offers faster and faster because students are running away?

Ideally, students should acquire various "skills" through education and research at junior high school, high school, university, and graduate school, and companies should hire students after observing their "skills" and "human nature." Students should not "join a company" that hires many students, makes 500 job offers, and then slowly decides their assignments after they enter the company. There are cases where students quit if assigned to a job they dislike. (This is called "employment gacha.") To match your desired job, ask, "Can I do this job?" Then, it would be best if you got a job at a company that is willing to do it for you. In other words, you should join a company that is willing to develop your skills. In this situation, academic societies are the best chance to see "ordinary university and graduate school" students. In the hare world, at top conferences in the U.S., graduate students from top universities confidently present their excellent research results. GAFA members, watching this, approach them immediately and ask, "Would you like to come visit us?" Sometimes, I see them recruiting with offers of high salaries. The top conferences are a place for students to show off their "skills" and get a job. This is not only for students, but I hope this will be

an opportunity for individuals to show off their skills and connect with others in preparation for an era of increased mobility (which will eventually grow). The IEICE Communications Society is also involved in various activities. I would like to make IEICE a place where people can meet, collaborate, and form teams with multiple companies. I look forward to your cooperation.

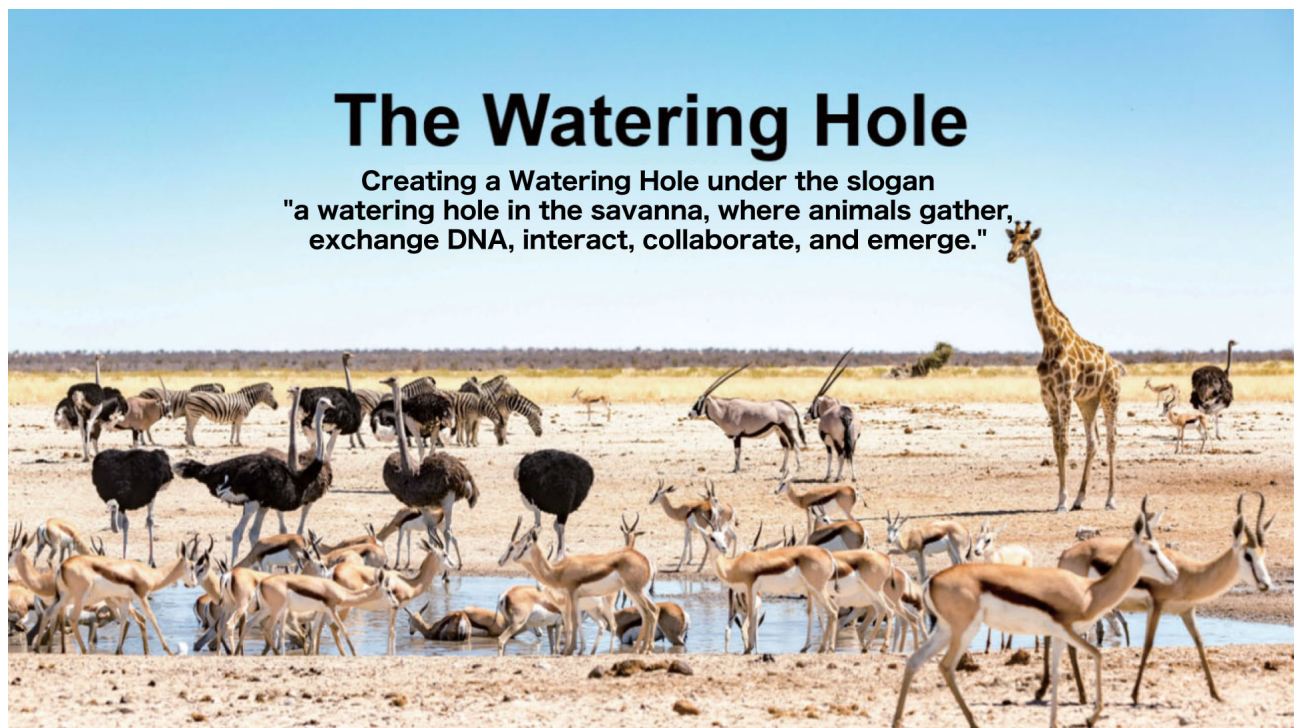


Fig. 6 Watering Hole

7. Conclusion

In becoming IEICE President, I have described the value of IEICE to me. My grandfather was the 16th IEICE President, and this is an important society that has nurtured me for more than 40 years since I was in my early 20s. Some may criticize me for Showa era thinking, but I hope that the IEICE will become like the Japanese rugby team. The keywords are teamwork, collaboration, and cooperation, because it is a tortoise world, and society is about diversity and globalization. IEICE will become a watering hole (a watering hole in the savanna) where many animals gather, exchange DNA, and innovate (Fig. 6). Finally (again, I'm sorry to say), Fukuzawa Yukichi said, "Scholars are the country's dogan." Scholars are people with insight, that is, members of the IEICE. A dogan is a goose that raises its head to look around when most geese are looking down to feed without thinking. A dogan says we should always

ask ourselves, "Is there better food out there?" "Is there danger?" So, please raise your head, look around you, summarize the idea, and use the IEICE for your career. IEICE does not automatically serve you, but it is supported and built by everyone. I look forward to working with you over the coming year.