= A Serial Introduction Part 2 =
Winners of ITU-AJ Encouragement Awards 2021

In May every year, The ITU Association of Japan (ITU-AJ) proudly presents ITU-AJ Encouragement Awards to people who have made outstanding contributions in the field of international standardization and have helped in the ongoing development of ICT.
These Awards are also an embodiment of our sincere desire to encourage further contributions from these individuals in the future.
If you happen to run into these winners at another meeting in the future, please say hello to them.
But first, as part of the introductory series of Award Winners, allow us to introduce some of those remarkable winners.

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Fields of activity: ITU-R SG 1 Rapporteur, liaise with CISPR on WPT Issues

Study of Wireless Power Transmission (WPT)

I was nominated as a liaison rapporteur with CISPR, on wireless power transmission (WPT) at the ITU-R SG-1 meeting held in June 2015.

The study of WPT technology began at CCIR in the 1970s as a response to the photovoltaic satellite project. The development of technology for transmitting energy by radio waves, which is not as far as geosynchronous orbit, was conducted using beam-type WPT. However, with the invention of magnetic field resonance technology in 2007, which can extend induction coupling and transmit energy for several meters, the need for proximity WPT expanded suddenly. In response, SG 1 expanded Question 210/1 on WPT in 2013 to stimulate study. This non-beam type WPT was recognized as one of the most useful technologies for charging electric vehicles (EV) and mobile/portable equipment. International standardization organizations (e.g., IEC, ISO) and product manufacturer associations had started to develop product standards. The goal of study in ITU-R was to formulate recommendations on frequencies for WPT operation, considering responsibility for managing global frequency spectrum utilization plans.

Since WARC-79, SG 1 has a history of cooperating with CISPR, which formulates international standards to suppress radio interference by ISM equipment in radio services.

However, there were no CISPR standard limits below 150 kHz, at frequencies expected to be used for EV WPT (WPT-EV). Therefore, SG 1 requested the cooperation of CISPR again and decided to appoint a liaison rapporteur who had been suspended for a while. Japan agreed to this and I was nominated.

WRC-15 requested ITU-R urgently to study WPT-EV, WP 1B was in charge of compiling the CPM report for WRC-19. It was a four-year period in which each country had keen interest and conducted in-depth discussion. During this time, work was continuing actively at CISPR as well. Of course, there were disagreements, and some issues still remain, but there was also a cross-country collaborations.

As a result of effort by each country, before the deadline for submitting the report to WRC-19, SG 1 completed study on the operating-frequency recommendations for WPT-EV and also mobile/portable equipment as guidance to the Administrations. The ITU's recommended frequency band of 79-90 kHz for WPT-EV laid the foundation for global interoperability of WPT-EV. This was a great achievement in showing the world that the ITU is the leading international organization in the use of frequency spectra.

It was an unexpected joy to be able to participate in such a meaningful activity.

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Fields of activity: IoT Interoperability

Contributing to standardization with running code

It is a great honor for me to receive the Encouragement Award from the ITU Association of Japan ITU. I'd like to take this opportunity to thank everyone that has supported me.

The W3C Web of Things Working Group, in which I participate, is promoting standardization to interconnect siloed IoT systems. When I first joined, I had my hands full trying to catch up with what kind of standardization was underway, but gradually I began to think about how I could contribute to this standardization discussion.

In WoT, an event called "Plugfest" is held in parallel with the discussion to define specifications. Each participant brings their IoT devices and applications to propose new specifications that they think are necessary, to verify whether there are any omissions in the specifications. I decided to contribute to the

standardization discussion by bringing my own implementation. At the time, I was also involved in contributing to Node-RED, a low-code programming tool supported by many developers in the IoT field, so I thought that linking Node-RED and WoT would facilitate the development of IoT applications and promote the advantages of WoT. We developed a tool that automatically generates functional blocks for Node-RED from the Thing Description defined by the WoT, and demonstrated it at Plugfest.

We believe that the development of this tool has helped promote standardization as a "working" use case for the WoT and has made it easier to understand the characteristics of the WoT in facilitating interconnection of IoT platforms.

Currently, as a co-editor of the device discovery function being developed under the new charter, I am examining ways to standardize it in a manner that is compatible with the device discovery functions defined by existing IoT platforms. I would like to develop an easy-to-use standard by communicating the standardization content and its merits in an easy-to-understand manner and feeding back the knowledge gained from implementations to the standardization content, and by promoting open-source implementation of the tool in parallel.

(Node-RED is a registered trademark or trademark of the OpenJS Foundation in the United States and other countries.)

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Fields of activity: ITU-T SG16

Immersive Live Experience (ILE) Standardization activity in ITU-T SG16

It is a great honor to receive the Encouragement Award from the ITU Association of Japan. I would like to take this opportunity to express my sincere gratitude to all those involved – ITU-AJ, current and former supervisors, seniors and colleagues in NTT Group and participants in ITU-T and other SDO meetings.

I have been engaged with ITU-T SG16 since 2019, in standardization activities for Immersive Live Experience (ILE), which enables highly-realistic (immersive), real-time transmission of events to remote locations. I acted as an editor of ITU-T H.430.4 (MMT Profile for ILE), where I encouraged sample codes based on working implementations to ensure interoperability and lower the implementation barrier. As an editor for ITU-T H.430.5 (ILE Presentation Environments), I organized the classification of ILE presentation environments, and fostered the development of the presentation environment reference models comprising multiple options. I also led the development of the implementation guidelines.

I believe the post-COVID world, where remote communication is a new norm, has the potential to bring the world closer and to the higher level of equity. For example, many ITU-T SG meetings have been held virtually. This made participation easier for some people who had been unable to do so because of distance, time, financial or physical constraints. However, to realize more natural and intuitive communication, as if you are physically present, transmission of events with more than just audio and video is essential. ILE was developed for this purpose, and there have been five Recommendations regarding ILE, namely: requirements, framework, service scenario, MMT profile, and presentation environments. Further enhancement of ILE is also necessary, to accommodate other senses such as vibrotactile sensation, touch, heat, and smell. ITU's role to interconnect everyone in the world is now more important than ever before. I would like to continue contributing to realize such a world.

Kazunori Fujita

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Fields of activity: International Cooperation Department

Activities toward Eliminating the Digital Divide and Encouraging SDGs in the Field of International Cooperation

At this time, I would like to express my deep appreciation on receiving an ITU-AJ Encouragement Award. I would also like to thank from the bottom of my heart all those at ITU-AJ who have offered me their assistance in the past. The KDDI Foundation was founded in October 2009 through the integration of the International Communication Fund (ICF) founded in 1988 and KDD Engineering Consulting (KEC) founded in 1974. In

addition, it was reorganized as a public interest corporation to promote activities for the public good in April 2012. This year marks the 13th anniversary of its founding. The pillars of the work performed by the KDDI Foundation are international cooperation projects and grant programs.

Based on the idea that the benefits of information-communications should be spread throughout society and that

information-communications should contribute to world harmony and sound development, the KDDI Foundation has been involved in social contribution activities and Sustainable Development Goal (SDG) activities both in Japan and overseas with the mission of contributing to sustainable growth in international society. To help eliminate the international digital divide that has arisen in countries in the Asia-Pacific region, the KDDI Foundation has been carrying out these social-contribution and SDG activities by cooperating with the Asia-Pacific Telecommunity (APT) and government agencies of member countries and promoting various types of surveys, training programs, and trials. In this way, we aim to contribute to activities for the public good and to international exchanges as a Japanese public interest corporation.

Takae Minemura

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Fields of activity: Global Business Development

JICA Project for Development of Business Continuity Plan (BCP) for Disaster Control in Bhutan

I am very honored to receive this ITU-AJ Encouragement Award at this time. I would like to express sincere thanks to the ITU Association of Japan and everyone else involved for their encouragement and guidance.

This project began in November, 2018, with the goal of developing and enabling operation of the first BCP at Bhutan Telecom (BT) for disaster control. It started with instruction on basic questions like "What is a BCP?" and went on to develop the BCP basic policies. Through repeated disaster-measure drills, the code of conduct for disasters was created, and BT's BCMS (Business Continuity Management System) was officially launched. BT's BCP and its activities were expanded horizontally to relevant local agencies, and in December, 2021, all work was completed. Currently, BT is operating the BCMS reliably, on its own.

The environment in Bhutan is completely different from Japan and BT had very little disaster experience, so it was not easy to develop the first BCP with them. However, with the passion of the Japanese experts, the enthusiastic guidance from everyone at JICA, the strong leadership of BT management, and the sincere attitude of the BT employees, we were able to complete the project successfully.

Although every day felt frantic and worrisome during the project as part of the technical support, upon reflection I personally learned so much from all of the participants from Bhutan and Japan, in terms of technology, thinking, attitude and other factors. I hope to be able to use this experience in the future in collaboration with people in Japan and overseas, to contribute to developing Japanese information and communications together with Bhutan and other countries.

Noboru Yoshikane

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Fields of activity: ITU-T SG15

Standardization activities of OTN interfaces

At this time, I would like to express my appreciation to all concerned on receiving this ITU-AJ Encouragement Award and to sincerely thank ITU-AJ and everyone involved for their efforts in holding this ceremony.

Since 2006, I have been participating in standardization activities at ITU-T SG15 in relation to the Optical Transport Network (OTN). In particular, I have been involved with the OTN interface used by nearly 100% of the world's terrestrial core optical networks by making contributions and proposals on carrier requirements and drafting related Recommendations. I was also fortunate in having the opportunity to work with both domestic and overseas network carriers and network equipment vendors in jointly tackling a variety of problems too difficult to solve independently. In addition, I was able to collaborate with a number of people outside the company in promoting the standardization of an Ethernet transport system on OTN and contributing to the drafting of an OTN Interface Recommendation for transmission speeds in excess of 100G and the drafting of a Flexible OTN Interface Recommendation that could achieve a beyond 100G OTN interface by bundling multiple physical interfaces. This was a rare experience that I cherish.

Going forward, I see the role of the OTN as not just to carry communication traffic but also to support society as a social infrastructure that can help solve a variety of social issues. With this in mind, I will continue in my efforts to contribute to the construction of the OTN as a technical foundation for achieving a safe, secure, and highly reliable information-communications network.

Huang Jingyi, Hiroshi Komatsu, Kentaro Sakata, Shiro Fukumoto

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Fields of activity: ITU-R WP5D, APG, AWG

Kentaro Sakata
(main author)

Standardization Activities for Implementing HIBS

I am sincerely grateful to receive this ITU Encouragement Award at this time.

Our team has been in charge of international standardization activities, mainly with ITU-R and related to International Mobile Telecommunications (IMT). Since 2017, we have been involved in standardization activities relating to High Altitude Platform Stations (HAPS) providing IMT, referred to as High Altitude Platform Stations as IMT base stations (HIBS). Currently, we are studying use of frequencies below 2.7 GHz for HIBS in ITU-R WP 5D, including sharing studies using other systems and any associated regulations. This falls under WRC-23 agenda item 1.4, which was established at WRC-19 based on proposals from Japan and other countries.

This was our first experience establishing a WRC agenda item, and our struggles to make progress as a team, with discussion every day late into the night, is still a fresh memory. The most challenging part was gathering support from other countries and regions. We participated in ITU-R meetings and regional preparatory meetings and also sub-region meetings and small workshops to meet face-to-face with delegates from each country. We explained why HIBS is an effective solution for expanding mobile connectivity, and why frequency bands for HIBS need to be expanded. This activity also taught us how important it is to have a meeting of minds for work on international standardization. Swimming in the Brazilian ocean with meeting participants, and dancing till late at night at the African sub-region meeting with members from various countries still remain as good memories.

In the future, we plan to have further meaningful discussion with the Japanese delegations and members from other countries and regions and hope to reach the best possible conclusion toward our WRC-23 goal of expanding the frequency bands for HIBS. I hope all who have been involved in the discussion will continue their guidance and support.

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Fields of activity: Considering that "Maintaining Mental Health is an important global issue for realizing SDGs," we are focusing our efforts on healing music for the human mind. In long collaboration with the medical field, we are using technologies like AI and Big Data to develop unique healing content, and actively expanding in regions like China, India and Africa. Continuing activity in this area is promising for the future.

⊕ CROIX

Changing meditation and sleep around the world

We are very grateful to receive this ITU-AJ Encouragement Award. We would like to express sincere thanks to everyone involved at the ITU Association of Japan.

According to our company concept that "All of our conduct shall be based on a conviction that we can change meditation and sleep around the world," we continue to develop sounds and images in collaboration with medical facilities, medical doctors and other specialists, as well as subscription services and managed treatment devices. These are provided to customers through three channels: our "App & Online business," our "Meditation & Sleep Content business," and our "Healing EC business."

In the future, we plan to expand the current three businesses and also build a well-being platform service that will link everything required to achieve quality meditation and sleep, from travel and lodging, to housing, and even to insurance.

There are still many challenges to solve in realizing the business concept for which we received this award, but we intend to change meditation and sleep around the world, using technologies created by everyone participating in the ITU and to take on a role of connecting the hearts and minds of people. We hope for your continued encouragement and support in this endeavor.

Next Generation DTTB (Digital Terrestrial Television Broadcasting) Task Force

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Fields of activity: Next Generation DTTB

Kohei Kambara
(main author,
taken at SET EXPO 2019)

Collaboration on next generation terrestrial broadcasting with countries adopting ISDB-T

Since ISDB-T broadcasting service first started in 2003 in Japan, 20 countries have adopted ISDB-T. Meanwhile, collaboration with ISDB-T adopting countries has matured. In particular, the relationship between Japan and Brazil, the first and the second ISDB-T adopting countries, has deepened over the decades.

Almost 20 years have passed since ISDB-T was standardized. During that time, there have been various technical advancements in the broadcasting field. Nowadays, countries that initially began ISDB-T broadcasting service are starting to consider the next-generation broadcasting system, using new technologies. In Japan, we have been studying advanced digital terrestrial broadcasting systems since 2019, under the auspices of the Information and Communications Council of the MIC. Similarly in Brazil, they started the call for technical proposals for their next-generation terrestrial broadcasting system in 2020. As such, the Next Generation DTTB Task Force has been working to harmonize the next generation broadcasting technologies between Japan and Brazil.

Since 2020, activities have been limited to on-line communications due to the COVID-19 pandemic. The time difference between Japan and Brazil is 12 hours, so online meetings have been conducted at 8:00 am Japan time and 8:00 pm Brazil time, or vice-versa. Although there are advantages of working on-line, such as the ability to meet more frequently, serious disadvantages exist when performing tests or demonstrations using actual equipment. We look forward to resuming real interaction, and accelerating collaboration in the field of next-generation broadcasting technologies with our colleagues worldwide.

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Fields of activity: Battery regeneration

Reduction of Digital Divide & Contribution to the environment

We received an encouragement prize from ITU-AJ and feel greatly honored. We'd like to express our sincere appreciation for assistance we received from ITU-AJ, MIC and others. We exhibited at ITU Telecom World 2015 in Budapest, and received an Entrepreneurship Award. We also participated in ITU Telecom World in 2016 (Bangkok) and 2019 (Budapest). We submitted contribution documents to ITU-D Study Group in 2016 and 2020 through ITU-AJ.

We have been working on ITU related topics based on the theme, "Reduction of Digital Divide and contribution to the environment".

We produce and market an additive (Super-K) for lead-acid batteries, which can extend battery life and with which old, abandoned batteries can be regenerated and re-used. We have experience regenerating and re-using thousands of old lead-acid batteries from telecom towers in Bangladesh. By regenerating old abandoned lead-acid batteries, those batteries can be re-used for construction of small-scale network systems, or re-used for off-grid communication systems in non-electrified regions such as remote islands and rural areas. With such applications, we think we can contribute for reducing the digital divide. Inappropriate disposal of abandoned batteries is also a serious problem for the environment, and our technology can contribute to reducing industrial waste.

We will keep working so our technology can be widely utilized to reduce the cost and extend the life of batteries and to re-use old batteries around the world. We'd like to contribute to and support SDGs in areas that preserve the environment by stopping mass production, mass consumption and mass disposal, create clean energy for everybody, and promote sustainable consumption and production.