= A Serial Introduction Part 3 =
Winners of ITU-AJ Encouragement Awards 2020

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.

Yicheng Zhou

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Fields of activity: SMART CITY, SMART ENERGY, ICT

Initiatives in Development of the ISO 37153 International Standard for Assessment and Improvement of Smart City Infrastructure

It is a great honor to receive this ITU-AJ Encouragement Award at this time. I would like to express sincere thanks to ITU-AJ and everyone else involved. I would also like to express deep gratitude to the ISO TC268/SC1 Japan committee, the Japan Standards Association, and Fujitsu Ltd., for their continual support.

As part of Ministry of Economy, Trade and Industry (METI) international standardization development, we promoted creation of international standards for assessment and improvement of smart-city infrastructure, from FY 2014 to FY 2017. We developed ISO 37153:2017-Smart community infrastructures – Maturity model for assessment and improvement, the first Japan-led standard, which was issued in December, 2017. I was the international project leader for ISO 37153, participating in drafting the standard, debate in the Japan domestic committee, presentation and negotiation at international meetings After the standard was issued, I also planned verification tests and promotional activities. It was a great learning experience for me.

There is still a need to revise ISO 37153 and create new specifications as new requirements arise, as the social issues surrounding the evaluation framework for urban infrastructure change, and in particular regarding what urban infrastructure should be like in times of public-health emergencies. I believe that ICT will have an increasingly important role in the future.

Takeshi Shirahase

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Fields of activity: SG6

Activity for Future Broadcasting Services through ITU-R SG6

I am deeply honored to receive the ITU-AJ Encouragement Award, and I would like to take this opportunity to thank the ITU-AJ and all those who offered their guidance and encouragement.

My first participation in ITU SG6 block meetings was in 2014. It gave me a great opportunity to join in making some important recommendations regarding UHDTV and Advanced Sound System so that we could launch the new broadcasting service for 4K and 8K UHDTV.

It was necessary to build a simultaneous workflow for making programs for both HDR-TV and SDR-TV using the same system and same cameras.

We discussed practical issues regarding methods for conversions between HDR and SDR, adjusting cameras, and monitoring, with participants from other countries who have different backgrounds. Finally, we achieved the necessary workflow.

High quality programs such as UHDTV with Advanced Sound System are distributed to various locations through various transmission paths nowadays.

It is more important and more difficult to control quality in program production, due to the increasingly diverse viewing environment.

Broadcasting transmission systems have still been the main field for us, but we can hardly discuss them without taking streaming through the internet and mobile viewing devices into account.

I feel it is necessary to have a broader perspective when considering standardization for future broadcasting.

Teruaki Toeda

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Fields of activity: Mobile communication

Learning from 5G Standardization Activities at the 3GPP/O-RAN ALLIANCE

I am very grateful to have received this ITU-AJ Encouragement Award at this time. I would like to express thanks to the ITU-AJ, and to everyone for their guidance and encouragement.

I would like to take this chance to introduce the two standardization working groups (WG) that I was in charge of: 3GPP RAN3 and O-RAN ALLIANCE WG5.

3GPP RAN3 is creating standard specifications for mobile phone base-station architecture and related network interfaces. For 5G, to reduce the required transmission bandwidth between base station equipment, a new functional split was created (CU-DU split), and an interface between them, called F1, was specified.

At O-RAN ALLIANCE WG5, we were working to connect equipment and modules from different vendors, each with their own strengths, to rapidly support new services utilizing 5G features.

One thing I have learned from these experiences is to have an attitude of not hating anyone, no matter how they behave. When I was acting as a discussion moderator, there were times when people seemed to be using time just to obstruct progress. On the other hand, such people may have a reason for their behavior and a compromise between both sides can sometimes be found by asking or guessing the backgrounds of the behavior. I think this experience helped me to acquire my skills of finding an acceptable compromise.

5G commercial services have already started, and this major accomplishment is obviously due, not to just me, but to my superiors at the time, and all of my co-workers in this industry. I would like to express my gratitude again, and hope that I can continue to contribute in some area, to further development of 5G and subsequent mobile telephone systems.

Yoshihide Tonomura

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Fields of activity: ITU-T SG16

Immersive Live Experience Standardization Activity

I am very honored to receive the ITU-AJ Encouragement Award, and I would like to thank the ITU-AJ and the Japan delegation members of ITU-T SG16 for their guidance and encouragement. I received this award for activity in ITU-T SG16, on the Immersive Live Experience (ILE) standard. ILE is a standard that can provide a different viewing experience, feeling as though the athlete is right in front of you. While Virtual Reality (VR) and Augmented Reality (AR) standards assume use of a head mounted display, the ILE standard assumes such displays are not used, and provides a sense of realism, like being there, for

events such as public viewings. Currently, it is difficult to hold public viewings, with COVID-19 sweeping over Japan, but this should not continue much longer. In the near future, I expect that everyone will be able to enjoy events such as concerts and sporting events in front of their eyes, in public-viewing conditions.

In the future, if we can create opportunities for connection with the open source community, in parallel with standardization, and to use contributions from non-specialists, I believe that standardization can have a greater impact globally. I hope to be able to contribute toward that sort of development.

Yoshihiro Nakajima

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Fields of activity: Network Function Virtualization

Contributions to NFV Standardization Activities

It is a great honor to receive this Encouragement Award from the ITU Association of Japan. I greatly appreciate the support of my team members and family.

ETSI ISG NFV was established in 2012 and is recognized as the home of Network Function Virtualisation. The concept of NFV used to be "pie in the sky" in earlier times. Now, ETSI NFV

architecture has frequently been referenced by many SDOs and is used in commercial deployments, especially by communication service providers, to introduce 5GC systems.

Since I was appointed as ISG Vice-Chair in 2018, I led the discussions among operators and vendors on the future direction of NFV and contributed to the development of NFV Release-4

work items. To promote the use of NFV by operators, I actively provided feedback on standardization from our NFV commercial development. I also worked to expand standardization from the perspective of long-term operation and maintenance at operators.

Since the standardized area of ETSI NFV is maintenance and operation, the definition of standard IF is limited to the provider side, and there are no end-end regulations that are necessary for operators. For users, our team has developed a standard specification for a mandated end-to-end MANO sequence that can be implemented with easy integration and minimal workload for future system upgrades, if the products are compliant with this ETSI NFV standard specification.

NFV is a fundamental technology to support recent trends such as base station virtualization and network node disaggregation, and NFV standardization is taking a very important role in terms of facilitating introduction of related systems and long-term operation. The concept of virtualization in the telecom domain is still developing. I believe that the area of NFV, including RAN and MEC, will expand in the near future. I would like to contribute to the evolution of NFV standardization, to expand its scope and its capability to leverage the latest cloud-native, open source, and networking technology.

Yusei Nishimoto

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Fields of activity: ITU-R SG4, SG5, SG6, WRC, Broadcasting Services

Efforts to Expand Broadcasting Business through ITU-R/WRC

I am very grateful for the honor of receiving this ITU-AJ Encouragement Award. I would like to express sincere thanks to the ITU-J and everyone who has given me guidance in these standardization activities.

Since 2017, I have participated in ITU-R SG4 (Satellite services), SG5 (Terrestrial services), and SG6 (Broadcasting services), handling agenda items in WRC-19 related to broadcasting, and involved in technical study and standardization related to broadcasting. I was also involved in WRC-19, dealing with international radio regulations related to broadcasting.

To ensure smooth progress when considering shared use with new wireless technologies to use spectrum effectively, we created ITU-R reports and recommendations with common parameters in radio technology used by broadcasters, and conducting studies and discussion regarding the potential for shared use while protecting existing businesses. In satellite broadcasting, to ensure stable operation of satellite broadcasting services into the future, we also participated in discussion and planning of operational regulations, such as broadcast satellite registration procedures.

Regarding standardization of new technologies supporting broadcast services, broadcasters from around the world are highly interested in the leading-edge initiatives of Japan's broadcasters. We are involved in creating many ITU-R reports and recommendations, from core technologies such as 4K/8K and next-generation terrestrial broadcasting to AI applications in program production.

Technology standardization will play an important role in the continuing expansion and advancement of broadcast services in the future. I hope to continue contributing to the development of technology to support broadcast services, considering the further diversification of viewing environments, and other environments related to broadcasting.

Kenichi Yamamoto

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Fields of activity: oneM2M, GSMA Operator Platform Group, 3GPP SA2/CT3

Standardization Activities in oneM2M, GSMA and 3GPP

It is a great honor to receive this prestigious Encouragement Award from the ITU-AJ at this time. I am deeply thankful to all who have regularly given me support and advice.

I have been involved in oneM2M activities, which handles IoT platform standardization, since 2016, creating technical specifications as the rapporteur for work items, including Vehicular Domain Enablement, Edge Computing, and Interworking with 3GPP SCEF API. In 2018, I was also presented with a oneM2M Technical Excellence Award, as a participant with outstanding technical contribution.

In 2020, I participated in the GSMA Operator Platform Group, by suggesting requirements for using services functions that are exposed by the 3GPP NEF. This group created the requirements for an Edge Computing platform and 3GPP and ETSI ISG MEC are planning to hold specification discussions based on these requirements.

Starting in 2021, I am participating in 3GPP SA2 and CT3 meetings and am involved in standardization of areas such as Network Automation and Network Exposure.

In the future, I hope to continue contributing to activities in these organizations, to work to nurture others coming up in this field, so that Japan can produce many who can be active in the front-lines of standardization.

Rudi Lumanto

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Fields of activity: Cyber Security

How International Cooperation Is Boosting the Solution of Cyber Security Problems

I was completely surprised, but I am very happy to receive this ITU-AJ Encouragement Award this year. This award is for all people that have supported me and given their warm guidance, both from Japan and Indonesia.

In 2009, I joined National CSIRT of Indonesia, called ID-SIRTII/CC (Indonesia Security Incident Response Team of Internet Infrastructure / Coordination Center), which led me to understand more about the cyber security problems faced by my country, especially because limitations in many areas, such as knowledge, technology, regulation, budget, and even human resources. In 2011, I was appointed as chairman of ID-SIRTII/CC and felt the burden from such problems increasing as the country, like other ASEAN countries is changing drastically and trying to boost national development by adopting the latest ICT in many sectors.

The CSIRT concept as a strategy to manage cyber security processes and reduce cyber threat was in very poor condition at that time. However, after some serious national cyber incidents and encouragement from telecommunication communities and experts, the Ministry of Communication enacted ID-SIRTII/CC as Indonesia's national CSIRT in 2007. The purpose of its establishment, as stated in the Ministerial decree, is building a safer environment and utilization of IP based telecommunication networks that is safer from any potential threats and attacks. It is a very big mission but with very limited resources. My role is to solve these problems by using whatever resources I have, while trying to reduce the cyber risk. This brings me to the strategy of international cooperation and how to use and utilize it while solving the problems of budget, capacity building, security awareness, etc., and even contributing to national cyber security strategy. International cooperation, especially with Japan, gave many concrete solutions to answer both technical and non-technical problems. As cyberspace is borderless due to the connected telecommunication infrastructure, solving one node helps the overall chain stay safe and secure. I believe international cooperation gives benefit to not just one country, but to all. I would like to continue to contribute to these activities together.

QKDN Standardization Team

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Fields of activity: QKD, QKDN

Receiving a 2020 ITU Association of Japan Encouragement Award

In September last year, we received an Encouragement Award from the ITU Association of Japan. Some time has already passed since then, but we would like to take this opportunity to offer thanks to all of those involved. Receiving this award is really a result of efforts by the quantum key distribution network standardization team, including members from NICT, NEC, and Toshiba. This activity was supported by a strong partnership with NICT, NEC, and Toshiba.

NICT, NEC and Toshiba made a proposal to ITU-T SG13 and SG17 based on research results from the Tokyo QKD Network in Japan. At the June, 2019, WP meeting of the SG13, Y.3800 "Overview of QKDN" was approved, and later, a series of Recommendations were completed, including Y.3802 Functional Requirements, Y.3803 Architecture, Y.3804 Key Management, and X.1710 Security Framework. For these important Recommendations, which is the basic standard set for QKDN, NICT, NEC and Toshiba worked actively as editors, and the proposals from Japan were adopted in these Recommendations.

Currently, large scale feasibility tests connecting all of Europe, such as OpenQKD, are being conducted, and a QKDN spanning 4,600 km and connecting Beijing and Shanghai is being built in China. In Japan, a quantum cryptographic network is being developed and built based on the Tokyo QKD Network, and efforts to implement it are being strengthened. We intend to continue building a safe and secure society using quantum technologies, with cooperation from many partners. We look forward to everyone's continued support in these efforts.