

= A Serial Introduction Part 3 = Winners of ITU-AJ Encouragement Awards 2019

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.

Kazuki Takeda

NTT DOCOMO, INC *Member of the above organization,
when notified of receiving the award.

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Fields of activity: 3GPP RAN standardization



5G standardization in 3GPP

I am deeply pleased and honored to receive the ITU-AJ Encouragement Award, and would express my thanks to the selection committee and to all those who offered their support and encouragement.

3GPP RAN WG1 (RAN1) is responsible for specifying physical layer designs of 5G wireless access. More specifically, our task was to specify rules for converting upper layer data to wireless signals that can be carried over radio frequencies.

3GPP RAN1 meetings bring together hundreds of wireless experts and

engineers from around the world for week-long sessions held 6 to 8 times a year. In addition to representing my own company, I was also responsible for moderating the discussions on the agenda. This requires technical expertise, a clear understanding of the designs, and the ability to prioritize and make decisions.

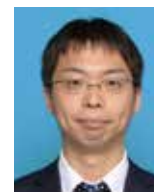
I certainly could not have succeeded in this important role on my own, but had dependable allies I could rely upon including my boss, colleagues, and associates. Allow me to express my thanks again for your support.

Masaru Mitani

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Fields of activity: ITU-R SG6, Broadcasting Service



Advancement of broadcasting services through ITU-R standardization activities

Thank you very much for this prestigious award. I would like to express my appreciation to the ITU-AJ and to all those who helped and encouraged me along the way.

Here I will highlight three key assignments enabling me to contribute to ITU-R SG6 block meetings, which deal with broadcast services.

First, I contributed to the promotion and dissemination of 4K/8K technology. Japan has been a global leader in 4K/8K technology R&D, and was first to roll out 8K satellite broadcasting services. I played an active role in bringing 8K-related information and knowledge into the ITU, and worked to promote and disseminate 8K technology by introducing 8K to broadcasters from around the world at SG6 related meetings.

Second is my involvement with Japan's terrestrial broadcasting system, ISDB-T (Integrated Services Digital Broadcasting-Terrestrial). ISDB-T has been adopted by other countries in South America and Asia, and when

relevant ITU-R Recommendations and Reports were revised and the adopting countries asked for the updated technical information, I provided what they needed and supported them.

Third is sharing studies between broadcasting and other services. I helped organize data for sharing studies from the broadcasters' perspective to assess efficient frequency band usage, and incorporated such information in relevant ITU-R Reports. This also contributed to sharing studies in the WRC-19 agenda.

A new study period began in 2020, and ITU-R SG6 block meetings already have many themes on the agenda including advanced digital terrestrial TV broadcasting, AR/VR, advanced sound systems, Integrated Broadcast-Broadband system, and more. As ever, we are committed to further develop broadcasting technology to enhance the experience and pleasure of viewers.

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Fields of activity: IETF

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Standardization supporting network slicing in IETF

I am deeply honored to receive the ITU-AJ Encouragement Award, and would like to express my appreciation to the many operators and manufacturers from Japan and other countries that have supported these activities.

5G network slicing is a key feature of the 5G architecture for it enables much greater flexibility by allowing the creation of multiple virtual networks that provide quality of service (QoS) for different scenarios, or use cases, atop a shared physical infrastructure. My standardization work for the IETF involves

implementing network slicing in the transport network for 5G services.

This capability is required because 5G base stations are connected to core equipment via the transport network, so the transport network must also be capable of allocating optimized resources with QoS tailored for different use cases.

I am currently involved in IETF standardization of network slicing in the transportation network, and as a network operator contributed to use cases and technical requirements for the ACTN (Abstraction and Control of TE

Networks) hierarchical network control framework. I also helped implement the API (Application Programming Interface) that provides external users with ACTN control requests. Utilizing this API, 5G core equipment can request transport network slicing, which provides users with end-to-end QoS network slicing.

Leveraging these technologies will open the way to a high-quality 5G communication environment by incorporating network slicing in the transport network for 5G services.

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Fields of activity: IMS, VoLTE roaming, and NNI



Standardization of VoLTE roaming and II-NNI

I am greatly honored to receive this Encouragement Award from the ITU Association of Japan. I am also grateful for the opportunity to participate in the standardization and development of Voice over LTE (VoLTE) roaming methods and Inter-IMS Network-to-Network interfaces (II-NNI).

VoLTE roaming is a method for users to connect to Voice services over LTE while traveling outside their serving area. There are two main methods for realizing roaming: S8 Home Routing (S8HR) and Local Breakout (LBO). I participated in the standardization of S8HR starting in 2015. Unlike conventional data roaming services (e.g. Internet access), voice services require low latency and higher QoS characteristics. My colleagues and I were able to make numerous contributions to the GSMA, making it possible to guarantee the quality needed for voice.

II-NNI are used to interconnect different IMS networks. When a user

places a voice call, the originating network needs to decide which network to connect to. This can be done through ENUM processes defined in GSMA NG.105. This document was created in 2017 and I was able to make contributions including defining the key issues that need to be solved, adding solutions to current problems, and defining requirements for the ENUM process itself. Without these contributions it would have been difficult to specify the destination user/operator, and making calls over the II-NNI would have been difficult.

Of course there are many more aspects that need to be discussed and decided in the GSMA (e.g. 5G, roaming issues, etc). I will continue to participate in standardization activities, so that a wider variety of services can be provided through the core network.

Naoto Yoshida

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Fields of activity: International cooperation in ICT development



Contributing to ICT development through international cooperation

It is an honor to receive the ITU-AJ Encouragement Award, and I would take this opportunity to thank the ITU-AJ and all those who offered their guidance and encouragement.

My first involvement in international cooperation came through participation in JICA's Japan Overseas Cooperation Volunteers. I had only been working for NTT East for two years, but applied because I wanted to contribute to people in developing countries. I was sent to León, the second largest city in Nicaragua, as a system engineer at city hall. My instructions were to provide technical guidance and transfer technology to construct a network in city hall, while at the same time upgrading the local IT technology and streamlining operations. Mindful that our Nicaraguan counterparts had to take the lead, I assumed a modest role of supporting technology transfer continuity, encouraging self-help, and allocating tasks based on strengths and weaknesses among the local engineers.

Back in Japan after that project was finished, I was given an opportunity to organize a computer course at the JICA Okinawa International Center.

The purpose of the course was to teach foreign trainees how to set up e-government systems in their own countries, and I was involved in everything from designing and managing the course to instructing the trainees and supporting them after they went back to their home countries. Through constant contact with trainees in the IT program who were from different countries, I developed strong bonds with many of them, and I certainly learned as much from them as they learned from me.

Contributing to the modernization of ICT in developing countries was truly an invaluable experience for me, and bolstered my own self-confidence. Leveraging this experience will not only support ongoing international cooperation, it will forge long-lasting business ties that provide mutual benefit and harmony to both our company and developing countries around the world. Never forgetting our original motive for setting up this program, we will continue to offer cooperation to developing nations in upgrading and enhancing their ICT infrastructures.