= A Serial Introduction Part 3 = Winners of ITU-AJ Encouragement Awards 2025

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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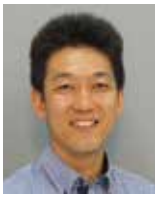
Fields of activity: ITU-R SG5 WP5A, WRC-19(Agenda Item 1.11), APT/APG, APT/AWG



Activities toward the international standardization of railway radio communication systems

I would like to express my sincere appreciation for receiving the prestigious ITU Association of Japan Encouragement Award. I would also like to extend my heartfelt gratitude to everyone who has supported my activities.

I have been involved in standardization activities at ITU-R and APT since 2017, I participated in discussions to promote frequency harmonization in support of Railway Radiocommunications Systems between Train and Trackside (RSTT).

Within ITU-R, I have been actively involved in WP5A for many years, contributing to the development of reports defining RSTT and summarizing national usage, and to the development of recommendations on frequency harmonization. During this period, I also contributed to the adoption of a WRC Resolution at WRC-19.

I have also been actively involved in AWG activities for many years, and more recently, have contributed to the development of reports compiling case studies on the application of other radio technologies to railway systems, such as satellite systems and 5G technologies.

Through these activities, I have worked to ensure that the frequencies proposed by Japan are included in the harmonized frequency bands.

I am eager to continue contributing to various standardization activities related to railway radiocommunication systems by leveraging these experiences.

Masamitsu Harasawa

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Fields of activity: Visual perception

Toward Standardization of Field of View and Spatial Resolution Characteristics for Optimal Head-Mounted Displays

I am deeply honored to receive the prestigious award from the ITU Association of Japan. I would like to express my sincere gratitude to the members of the ITU Association of Japan and all those who have supported our standardization activities.

Since March 2022, I have participated in ITU-R SG6 meetings, engaging in standardization efforts on the ideal specifications for head-mounted displays (HMDs). An HMD is a display device worn on the head that detects head direction and dynamically updates the displayed image, providing immersive and realistic experiences through omnidirectional visuals.

Our research group defines an ideal HMD as one that offers an experience equivalent to observing the real world with the naked eye. We examined the performance requirements necessary to achieve this based on the principle that "performance slightly exceeding human capability is optimal." For example, if the display field is narrower than human field of view, immersion is compromised; if excessively large, it becomes inefficient in terms of hardware and computational resources. Thus, the capabilities of the human visual system serve as a benchmark for determining optimal display performance.

To support this concept, we conducted two assessments of human visual function: the extent of the field of view and the peripheral decline in visual acuity. Since visual acuity decreases toward the periphery, reducing pixel density and rendering

precision in peripheral regions may not degrade the experience. Based on these findings, we prepared ITU-R Report BT.2506, proposing spatial performance for ideal HMDs. This report informed updates to Recommendation BT.2123, which specifies video parameters for advanced immersive audiovisual systems and introduces HMD spatial characteristics to support a 360-degree video format with 30K × 15K resolution.

As a vision science researcher, I am honored that my expertise contributed to this achievement. Applying experimental psychology knowledge to international standardization and implementation of technology in society has been a source of great satisfaction.

Many challenges remain in defining the ideal HMD. I will continue to contribute, albeit modestly, by integrating academic insights into standardization efforts and advancing Japan's broadcasting and communication technologies.

Haruhisa Hirayama

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Fields of activity: O-RAN ALLIANCE

Standardization of RAN Slice SLA Assurance in O-RAN ALLIANCE

It is a great honor for me to receive the prestigious ITU-AJ Encouragement Award. I would like to express my deepest gratitude to everyone at ITU-AJ and to all those involved.

Since joining KDDI in 2017, I have been engaged in the operation and management, research, and standardization of radio access networks, particularly through the O-RAN ALLIANCE (hereafter, O-RAN). In O-RAN, I was a major contributor to the O-RAN Use Cases and Deployment Scenarios White Paper, published in February 2020. From November 2020 to July 2022, I served as a co-rapporteur for the "RAN Slice SLA Assurance Feature," a technology that ensures communication quality using RIC (RAN Intelligent Controller). During this period, I submitted numerous contributions and played a key role in driving and coordinating technical discussions. I fondly recall the passionate technical debates with global telecom vendors regarding control mechanisms and interface specifications in WG2, which is responsible for RIC-related specifications.

Since July 2024, I have been serving as a co-rapporteur for the "Filtered Measurements Feature," a technology that enables RIC to collect data from base stations efficiently and flexibly. As the use of AI/ML becomes indispensable for the operation, management, and control of RAN, I will continue to actively promote discussions to further establish these data collection technologies.

In O-RAN, discussion of 6G already started in 2025, and studies and specification work will become more active going forward. KDDI is committed to contributing to value creation for our customers and solving societal challenges in the 2030s. Drawing on the experience I have gained through standardization of RIC-related technologies, I will continue to make every effort to contribute to the further utilization of AI/ML for autonomous networks, the creation of new value through networks, and the resolution of new standardization issues in the 6G era.

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Fields of activity: 3GPP RAN WG2, RAN WG3

Standardization of Wireless Access Backhaul and 5G Femto in 3GPP

I would like to express sincere appreciation for this ITU-AJ Encouragement Award, and I sincerely thank everyone involved in 3GPP meetings for their support and collaboration.

WAB (Wireless Access Backhaul) was specified as a simplified version of IAB (Integrated Access Backhaul). While IAB offers flexibility, its complexity has posed challenges for implementation and commercialization. WAB addresses these by streamlining protocols and procedures to enable easier deployment and faster commercialization. WAB is intended for areas with limited backhaul and for emergency connectivity during disasters. The concept also includes mounting WAB nodes on satellite platforms, enabling Non-Terrestrial Network (NTN) backhaul and integrated terrestrial-satellite operations.

5G Femto, the successor to 4G Femto, supports multi-cell operation and is suitable for broader indoor coverage. It also supports the Closed Access Group (CAG) mechanism in Non-Public Networks (NPNs), enabling secure and flexible access control for homes, enterprises, and industrial sites.

As rapporteur, I prioritized practicality and simplicity and guided the development of scalable and implementable standards for both WAB and 5G Femto.