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

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 in 2014, allow us to introduce some of those remarkable winners;

Kimihiko Kazui

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Video coding

H.265 standardization activity in JCT-VC

Currently I am participating in the activities of the JCT-VC, a joint organization of ITU-T Q6/16 and ISO/IEC JTC1/SC29/WG11 (MPEG), for the standardization of H.265 (a.k.a. High efficiency Video Coding, HEVC). H.265 is designed for next generation video applications such as ultra-high definition TV (4K/8K) and achieves coding efficiency twice that of its predecessor, H.264.

On this occasion, I received the 2014 ITU-AJ Encouragement Award for my contribution to H.265 standardization, and in particular, for the specification of the ultra-low latency operation mode.

Emerging real-time video applications such as remote robot operation need very low video transmission delay of less than one frame interval (e.g. 16 ms for 60 Hz video), but existing standards such as H.264 do not specify an ultra-low latency operation mode. As a result, interoperable ultra-low delay video communication has not been possible.

To solve this problem, I spent a year proposing to JCT-VC, that an ultra-low latency operation mode be supported. This operation mode was adopted in the H.265 draft in 2012.

JCT-VC is now working on an extension to H.265 for new video applications such as Virtual Desktop Infrastructure (VDI). In parallel with this extension work, activity has been launched for a future new video coding standard. This future standard is targeted for the forthcoming telecommunication environment enabled by 5G network technology, in around 2020.

I will continue my standardization work in ITU for enhancing our life through video technologies.

Takato Kawamura

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My experience in ITU-R activity and contribution to future broadcasting technology for the Tokyo Olympics and Paralympics, 2020

My international standardization activities in the field of broadcasting spectrum at the International Telecommunication Union Radiocommunication Sector (ITU-R) and World Radiocommunication Conferences (WRC) began in 2010. My contribution to ITU-R Working Party 6A on broadcasters' role in the Great East Japan Earthquake in March 2011 became a part of Report ITU-R BT.2299. It drew attention to the importance of broadcasting in emergency situations and Japanese broadcasting technologies such as the Earthquake Early Warning System and "One-seg" mobile TV, which notified people of the disaster quickly. Sharing our experience and technologies in the ITU-R was highly regarded. In addition, I was also involved in frequency sharing studies related to WRC-12 agenda items. These involved protection of the Broadcasting Auxiliary Service (WRC-12 Agenda Item 1.25) and radio microphones (WRC-12 Agenda Item 1.15).

Broadcasters use wide range of radio-frequency bands, such as AM radio in medium frequency band, radio microphones in high frequency, terrestrial TV service in ultra high frequency, and satellite TV service in super high frequency. This requires us to have wide ranging knowledge regarding the various frequencies. Also, in the sharing studies in these various frequency bands

between services related to the broadcasting and other services, reaching mutual understandings between experts in these services was the real challenge for me.

Japan has completed migration of television from analogue to digital. In preparation for the Tokyo Olympics and Paralympics in 2020, new challenges have just begun in the further development of broadcasting technologies such as 8K Super Hi-Vision and Hybridcast. I will devote myself to the development of these broadcasting technologies and promote the latest Japanese technology internationally through ITU activities.

Yasuji Sakaguchi

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Design and maintenance of digital terrestrial broadcasting network

Emergency Warnings, Anywhere and Anytime

— Proposal and standardization of an Emergency Warning Broadcast System (EWBS) suited to broadcasting conditions in Central and South America —

The Japanese digital terrestrial broadcasting format (ISDB-T) has been adopted by 17 countries in South and Central America and around the world. I was in Peru for three years starting in September, 2009, as a JICA expert supporting their implementation of ISDB-T. I engaged in a wide range of activities, including consolidating their frequency plan and broadcast network, and educating broadcasting technologists.

I put particular effort into supporting implementation of the Emergency Warning Broadcast System (EWBS) using digital terrestrial TV. Peru is a major earthquake country, so there is great interest in EWBS, and strong demand for my support. However, emergency bulletins on television were not common in Central and South America, so the implementation had to be customized to suit local broadcasting conditions. After a long period of surveys and studies, we proposed a simple emergency warning system using text captions. The ISDB-T International Forum, an organization of countries that have adopted ISDB-T, is conducting standardization activities to harmonize the process of implementing digital terrestrial broadcasting in the overall Central and South American region. Within it, I was the founding chairman of the EWBS working group, and completed the international agreement to use my proposed format as the international standard.

Initially, people in Peru touted ISDB-T as a magic box, that would "give us early warning of earthquakes through digital television...," but the implementation was not so simple. The format had to be customized, standardized, operating rules created, and transmitter and receiver equipment developed and introduced to market. There were many things to be done. I had to explain to the people of Peru how cooperation was necessary at each step, in order to implement the system. In spite of difficulties due to differences in language and culture and as a result of continuous and persevering activity, the EWBS standard was finally settled.

In the future, I want to continue efforts to support implementations of EWBS throughout the world, and work to promote and spread its advancement.

Hitoshi Sanei

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Standardization at ITU-R and Overseas Promotion Activities through the ABU and ARIB

In the ITU-R Working Party 6A, I did work including addition of interference protection ratios for ISDB-T and IMT to the planning criteria Recommendation for digital terrestrial broadcasting, and created new Recommendation on planning criteria for terrestrial multimedia broadcasting for mobile reception using handheld receivers such as ISDB-Tmm. In the Asia-Pacific Broadcasting Union (ABU), I was project leader for Mobile Digital Multimedia Broadcasting, a technical committee transmission topic area, and there gave reports on trends regarding One-Seg, multimedia broadcasting, and area One-Seg in Japan. In the Digital Broadcasting Experts Group (DiBEG) of the Association of Radio Industries and Businesses (ARIB), I worked on customizing technical standards and operating guidelines for countries like the Philippines and Botswana, which have recently adopted ISDB-T. On one hand, we are spreading the ISDB-T systems recommended by ITU-R overseas, but we are also working to revise ITU-R Recommendations on planning criteria for existing digital terrestrial television services, to deal

with broadcast bandwidth in newly adopting countries and other broadcasting systems in neighboring countries.

Currently, I am engaged in the promoting adoption of broadcast services such as Hybridcast and 4K/8K broadcasts.

Regarding Hybridcast using HTML5, we are introducing its status in Japan, which is advanced in this area compared to other countries, through ABU-hosted workshops on operation and promotion of integrated broadcast-broadband services. We are also extending domestic services and publishing information for overseas markets.

With 8K Super Hi-Vision, we have various initiatives to start test satellite broadcasts in 2016, start satellite broadcasts in 2018, and spread it in a major way for the 2020 Olympic Games in Tokyo, for which planning has begun. For example, we are actively holding public viewings within Japan and abroad to give more people experience ultra-realistic viewing.

By deploying these services successfully in Japan, we believe it will contribute to deploying Hybridcast and 8K Super Hi-Vision, as standardized by ITU-R, overseas as well.

Fumie Fukushima

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International Cooperation

Telecom for Humanitarian Support Activities at BHN

Since I joined BHN in 1997, I have been involved in international collaboration. I did not have much experience or specialist knowledge in information and communications technology (ICT) or international cooperation. Therefore, in my first few years of being involved in support activities, I endured many hardships with providing initial response assistance activities in disaster-hit areas and other dangerous areas. However, through wide-ranging experiences, I was truly able to learn a lot.

When providing disaster relief for earthquakes and tsunamis, it is necessary to obtain permission from the disaster-hit country's government before starting activities. Even though it is an emergency situation, permission is necessary for things like NGO registration, using transceivers, and setting up FM radio stations. Additionally, the difficulty of doing this depends on the country's disaster conditions, level of confusion, and level of acceptance of support organizations. The ability to hire local staff that have a lot of experience and good connections has a large effect on the success of such activities, so discretion is needed in hiring personnel.

At the time in which our other project involving building wireless networks in medical facilities in Afghanistan was being carried out, there were many incidents of suicide bombings, as well as kidnappings and abductions of foreign NGO staff. Therefore, extreme care was taken regarding safety measures while carrying out these life-or-death activities. Once public order was restored and on-site work could resume, we still had to be careful every day to wear the same clothing as local women, travel in vehicles with bullet-proof glass, and watch for disorder on the roads.

We put our things in order before leaving Japan, and when we arrived at a stopover such as Dubai or New Delhi on the way home, I can remember the indescribable feelings of relief and release I felt, thinking, "Well, it looks like I'll get home safely now…"

Although I have told many stories of adversity, last year we received a wonderful report that a graduate of our first human resource training session was appointed Chairman of the Uzbekistan National Committee on Information and Communication Technologies (equivalent to a Cabinet Minister in Japan). This feels like a real success after many years of hopes and efforts from past chairmen and leaders.

As BHN approaches its 25th Anniversary, those that have been involved with the work will inevitably repeat past mistakes and regrets, but our activities continue to advance as continuing training and post-project monitoring become more emphasized.

We will continue to build cooperation with many NGOs, telecommunications organizations, and organizations for international cooperation as we continue our activities. Through this, we hope to increase the number of people who care about these activities.