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ABU Technology Activity Report
Nov 2019 – Oct 2020

Below is the brief report of activities organised by ABU Technology for the benefit of our members. The report is divided into four sections; the first part is on Capacity Building Activities organised since the TC2019 in Tokyo; the second part is direct assistance provided to members. The third one looks at International Cooperation and Contributions; and the fourth part is on publications and other projects the TD is involved. Also indicated in the report (next to the section titles) is the areas of the ABU Three-Year Action Plan (3Y-AP) contributed by these activities.

1. Capacity Building Activities (no:2 & 4, 3Y-AP)

Regional Workshop on Engineering Fundamentals for Broadcasters, 6-10 Jan 2020, Kuala Lumpur
The Regional workshop on Engineering Fundamentals for Broadcasters was held from the 6th to 10th January 2020 in Kuala Lumpur, Malaysia. It facilitated participants to learn about the basics of audio and video fundamentals, digital technologies like MPEG and SDI videos, studio design and transmission systems. It also provided exposure on how the digitisation has allowed the integration of computer and networking technologies within the broadcast workflow. In addition to these, the knowledge gained about current trends and advancements in broadcast technologies would help participants to build confidence in running broadcast operations in their respective workplaces. This training workshop in the sixth in the series since 2014 with the aim to provide the basic fundamentals of audio and video technologies to young engineer who are starting their careers in broadcast engineering. We are happy to note that the response from our membership has been positive for this workshop with similar numbers from our members joining every year. This year the workshop was joined by 50 participants from 16 countries representing 19 member organisations.

A20 Global Shortwave Coordination Conference, 24-28 Feb, Kuala Lumpur
The A20 Global Shortwave Coordination Conference took place from 24-28 Feb in Kuala Lumpur hosted by the ABU. The event was initially planned to be hosted by our member NRTA in China in early February but due to the COVID-19 situation they had to cancel, and we had to step in to host it in Kuala Lumpur. The meeting was joined by 30 shortwave broadcasters from around the world, this is much lower than the usual attendance but due to travel restrictions most of them were not able to join the meeting in person, normally over 80 shortwave broadcasters will attend the face-to-face coordination session. The conference provides an important forum to resolve or minimize instances of mutual interference among shortwave transmissions for the summer (A20) season. Delegates from Short Wave Broadcasters and Frequency Management Organizations have a valuable opportunity to coordinate their frequencies directly with the frequency managers of other broadcasters in this regard. The A20 season runs from 29 March to 25 October within the calendar.

Digital Broadcasting Symposium 2020, 2-5 March 2020, Kuala Lumpur
The 16th edition of the Digital Broadcasting Symposium (DBS) was held from 2 to 5 March at Hotel Istana Kuala Lumpur with the theme **"Collaborate and Innovate".**

Amid the uncertainty related to COVID-19 we had to move forward and organise the event as some had already committed to joining the event. It was a difficult decision but the correct one as otherwise we would have lost much more. Unfortunately, for this reason the event had less exhibitors, less participants and less speakers compared to previous years. For this season we had less sessions and had to cut down on the masterclasses and workshops as well.

Close to 500 participants joined the event representing over 200 organisations from 38 countries. The DBS2020 event included an international conference and an industry exhibition. This year a total of 12 exhibitors joined the event with many having to cancel their participation due to travel restrictions. A total of 10 conference sessions covering many areas and topics were presented by over 25 expert speakers who shared their expertise and experiences with the delegates. The conference sessions addressed on latest developments on broadcasting technologies, including latest media delivery trends, 5G technologies, AI software, and many others. The symposium this year had one Major Sponsor in MCMC-Malaysia. In all, the DBS was supported by 24 Sponsors, Exhibitors & Media Partners.

Webinar Sessions April-Oct 2020

Audio Technologies for Broadcasting, April 2020
A 2-day webinar was organized on "Audio Technologies for Broadcasting" from 14-15 April 2020. The webinar sessions covered audio fundamentals, analogue to digital conversion of audio signal, digital audio processing, Mpeg Audio and Immersive Audio, and Dolby Atmos technologies. There were about 200 registrations representing organizations from 35 countries. Each session was attended by over 90 participants representing 66 member organisations. The sessions were run interactively with live Q&A. The topics were presented by ABU and Dolby speakers.

DRM benefits in times of Crisis, April 2020
ABU Technology, DRM and ASBU co-organised a two-part webinar series on the topic of "DRM benefits in times of Crisis". The sessions were conducted on 23rd and 30th April. The webinar series received over 300 registrations representing organisations from over 50 countries in the Asia-Pacific, Middle East, Africa and Europe. In total 214 attended the webinar series. Six experts from the DRM Consortium presented the various topics covering different areas including features of DRM standard, its emergency warning functionality, content monitoring along with beneficial aspects of local, regional and national coverage using DRM Digital Radio Technology. The series was well received by the participants with lots of questions and good feedback.

Modern Radio Studio Automation Systems, May 2020
ABU Technology organized a 4-part webinar series on Modern Radio Studio Automation from 5-8 May 2020. The webinar series explored concepts of modern radio studio design with focus on interactivity and multiplatform integration. Insights on media management, automation and new media tools were shared that would help Radio Broadcasters to improve existing studio facilities to support todays requirements. Participants also got up to date information of the latest radio studio automation products and their features from the industry specialists. The sessions were very interactive with experts answering questions from participants. Over 200 registered for the webinar series representing organizations from 36 countries. On average over 90 participants attended each session during the 4-days.

Dolby-ABU Webinar Series on Audio Visual Technologies, May-June 2020
ABU Technology is hosting a four-part webinar series in partnership with Dolby on Audio and Visual Technologies. The series ran from 14-May to 3-June with one webinar session presented every week. The 4-part webinar series presented basic to advanced topics in audio-video technology and its applications in broadcast and production environment. The topics include Dolby 5.1 Production, Next Generation Audio-Dolby Atmos Production, Dolby 5.1 and Dolby Atmos Transmission workflow, and HDR Fundamentals. The series received over 200 registrations representing organizations from countries in the Asia-Pacific, Middle East, Africa and Europe. The average participation in each session is over 85. The topics are presented by experts from Dolby.

SDI to IP Transition – May 2020
ABU Technology organized a webinar on SDI to IP Transition on 22nd May 2020. The webinar session looked at the key areas and points to consider when moving from SDI to IP infrastructure. Through a case study, presenting detailed full-IP based design of an OB truck, the session addressed areas such as selecting the right switching and equipment for IP design, different methods of communication and connection with routing systems, monitoring and orchestration of processes within the connected devices, and standards, protocols, complexity and industry support besides covering redundancy and cost considerations. Over 180 registered for the session, representing organizations from about 40 countries. A total of 107 joining the live session.

Implementing Interactive TV - HbbTV, DVB-I & Targeted Advertising

ABU Technology organized a 2-part webinar on Implementing interactive TV- HbbTV, DVB-I & Targeted Advertising on 10-11 June 2020. The webinars addressed implementation and benefits of HbbTV, DVB-I and Targeted Advertising, these are among the advanced technologies that can help broadcasters to further improve and enhance the user experience providing more flexibility and interactive options of utilising broadband connectivity more effectively to engage their audiences. It was joined by 112 attendees out of the total 123 registrations received for the series. Experts from IRIB-Iran and Sofia Digital from Finland presented those sessions.

Video Quality Assessment - Fundamentals and Approaches

A Webinar on Video Quality Assessment – Fundamentals and Approaches was organised on 12th June. The session took a comprehensive look at Video Quality Assessment specially in the areas of compressed image and video processing. It addressed areas such as perceptual artifacts, objective and subjective assessment methods, expert and non-expert viewing methods and the use of specific test patterns when assessing the quality of a video images. The session received huge interest and participation. The session was joined by 88 attendees.

DRM for Delivering Distance Education

DRM consortium with the collaboration of ABU and ASBU presented a webinar on Digital Radio Mondiale (DRM) - Delivering Distance Education on 18 June 2020. This webinar session showcased how DRM digital radio can be used to effectively deliver rich and tailored teaching material to millions of students who have no or limited access to IP connections and devices. It provided a demo session to show how this can be configured using a content server through a hands-on demo. There were more than 307 registrations and 187 attendees joined the session representing organizations from countries in the Asia-Pacific, Middle East, Africa and Europe. Experts from DRM Consortium presented the session.

HDR Considerations in Production and Broadcast Environment

Another webinar on HDR Considerations in Production and Broadcast Environment was organised on 19th June. The session introduced HDR and WCG as two of the most important technologies used in enhancing the quality of video. There are many HDR standards and only some of them are appropriate for broadcast applications. It addressed HDR technology and its implementation with a look at the standards and its applications in the production and broadcast environment. The session was joined by close to 60 attendees.

Digitising and Management of Audio Video Archives

A 3-part webinar on Digitising and Management of Audio Video Archives was organized from 23-25 June 2020. The webinar addressed Approaches and Solutions for building, Preservation, and Management of Audio-Visual archives and these topics were discussed by Industry Expert and experienced team of Archive professionals from our members Voice of Vietnam, Korean Broadcasting System and Turkish Radio and Television. It included industry perspectives and broadcasters' in-house experiences in Digitising Audio Video archives. Over 100 participants joined the session throughout the three-part series.

Cloud Technologies in Broadcasting

ABU Technology organised a 3-part webinar series from 1-3 July 2020 which focussed on the applications of cloud technologies in the broadcasting environment. The sessions also looked at how broadcasters can leverage cloud technologies and what areas would be the most beneficial to implement both in production and distribution. The session topics were cloud automation playout and cloud-based signal processing, how to manage contribution and distribution network in the cloud, and modern-day cloud broadcasting and service features. Over 100 participants joined the sessions. Experts from ABU industry partners, Ideal Systems, Globecast and Benchmark Systems Singapore, presented the sessions.

Artificial Intelligence (AI) Technologies and Applications in Media

ABU Technology organised another webinar on "Artificial Intelligence (AI) Technologies and Applications in Media" on 16 July 2020. The webinar session explored concepts and tools of artificial Intelligence in Media environment. It also discussed some of the latest applications of AI in audio-video production, automation, workflows and content localisation. It presented two sessions, one on AI Applications in Media Production for Asian Content Localisation and the other topic on Deep Multimedia Data Annotation and Generation towards AI and MAM integration. The session attracted an audience of 94 attendees.

IT and Networking Basics for Broadcast Engineers - Webinar
A 2-part webinar on "IT and Networking Basics for Broadcast Engineers" was organised on 23-24 July 2020. These webinar sessions covered some of the basics of computer networking fundamentals and its applications in modern broadcast workflow. The speakers also delivered presentations on cloud computing concepts, virtualization and the move towards IP workflow in the broadcast environment. The session attracted an audience of 141 from Asia-Pacific and elsewhere during the two days.

ABU Technology Webinar Series 2020
The ABU Technology annual webinar series was organised from 7 - 29 September 2020. This year the webinars covered different technical areas under the main themes; Broadcast Engineering Basics, Cloud and AI Technologies & Applications, SDI to IP Implementation, HDR Technology and Applications, and CDN/OTT/IBB Implementation. To allow attendees from different time zones to join and benefit from the webinars, each session was repeated twice daily, one in the morning and one in the afternoon. Some session presentations were adapted from earlier Symposium, Workshops and Webinars providing the opportunity for those who missed these workshops to also benefit from these presentations. Live sessions with speakers from several established organizations such as Cisco, Telstra, NHK etc were also presented. The annual webinar series is organised as an opportunity for broadcast engineers and others to learn from well-known experts on the development and applications of advanced technologies within the broadcast environment. In total the annual webinar series included 23 presentations covering a wide range of topics related to broadcast technology. Close to 300 participants registered for the month-long webinar series representing broadcasters and technology enthusiast from the region and around the world.

WorldDAB-ABU Webinar series on DAB+ Digital Technology, Implementation and Rollout
ABU Technology hosted a three-day webinar series with the support of WorldDAB. It was organized on the theme of "DAB+ Digital Radio Technology, Implementation and Rollout" from 20-22 October 2020. The multi-speaker event saw presentations on DAB+ overview, Business case, DAB Receivers, Headend systems, Regional DAB+ trials implementation, Transmission systems and RF Network design. A total of 239 registered for the webinar with a daily attendance of close to 100 every day. This was another fruitful partnership with the WorldDAB providing valuable information on the DAB+ technology and its implementation to our members in the region.

2. Direct Assistance to Members (No:2 & 4, 3Y-AP)

Technical Advisory Service
Most of the planned Technical Advisory Service missions for the year had be cancelled as experts were not able to travel due to restrictions imposed by many countries. However, wherever possible we have provided information and assistance through the use of online methods. ABU Technology provided pertinent advisory information to VBTC-Vanuatu and Fiji TV recently. VBTC-Vanuatu has a request looking into a radio automation software that can automate their different stations. We have shared the recordings of the Webinar sessions from last May where this topic was extensively discussed and industry solution providers made presentations on their products, solutions and its features. Also shared was a short survey from earlier on the use of automation software within our members.
Likewise, Fiji TV requested assistance related to their transmitters. Their transmitter sites are running on about 30% capacity due to damages caused by the latest cyclone, TC Harold. We had virtual meeting with Technical Liaison Officer Mr Robert from Fiji TV. They are seeking the possibility of securing transmitters or parts that may be in access to requirements from other members which they can utilise to activate the transmissions from damaged sites. Mr Robert will soon share relevant specifications of the transmitters and ABU TD will follow up with members and other industry partners.

Assistance with in-country workshop at VOV-Vietnam
ABU Technology department facilitated providing an expert for VOV-Vietnam in organizing an online technical workshop for their staff. A panel of experts from our affiliate member Benchmark Broadcast Systems delivered a session on multiplatform broadcasting on 7th October 2020 as part of a workshop organised by VOV. Apart from VOV staff at the headquarters, the session was joined by attendees from VOV Provincial Radio Stations as well. We received good feedback from VOV on the session and the information and expertise shared by the resource persons.

3. International Cooperation and Partnership (No:4, 3Y-AP)

ASBU General Assembly, Khartoum
The ASBU General Assembly took place from the 10-13 December in Khartoum. The meeting was hosted by the Sudan Radio and Television Corporation. The ABU was represented at the meeting by Mr Ahmed Nadeem, Director ABU Technology. The meeting was attended by the members of ASBU with representatives from other unions such as EBU, AUB and other invited guests. As usual it also included the partnership meeting among the different unions. This meeting was joined by ABU, EBU, AUB and department heads from ASBU and some of their members.
The partnership meeting discussed specific areas where the different unions can collaborate including training, news exchange and others. The meeting highlighted the cooperation we have had in the past specially in news exchange and technical training areas. The meeting agreed to explore further ways on how the unions can collaborate together and work to improve the services offered our members. Some of the topics for training activities selected for next year include; a workshop on satellite technologies, a workshop on implementation of IP infrastructure and a workshop on digitising of audio video archives. These and other topics and areas will be explored and discussed further with ASBU in the coming year.

BES2020 Expo, New Delhi
The annual BES2020 conference and exhibition took place in New Delhi on 13-15 February 2020. The expo, which focuses on broadcast and media technology, is organised each year by the Broadcast Engineering Society of India, BES. This year's show was the 26th. Its theme was Disruptive Technologies: Shaping Future Broadcasting. ABU Technical Committee Vice-Chairman, Mr Sunil chaired a session on Disruptive Technologies, 5G, IP based Production, ATSC. He is Additional Director General (Engineering) & Head International Relations, Prasar Bharati.
The Director ABU Technology joined and made three presentations covering different topics. The ABU is a supporting organisation and has a longstanding partnership with BES.

WBU-TC Conference Call, 3-Feb, Online
The WBU Technical Committee's conference call took place on 3-Feb. The meeting was chaired by the Chairman Mr John Lee and together with the ABU the meeting was joined by NABA and EBU. The meeting discussed some pressing issues within the broadcasting industry including the outcomes from the WRC-19 and the items of important within the agenda of the next WRC-23 conference. These will be identified, and each union will continue its regular work on the process. The meeting also highlighted the work on Cybersecurity recommendations, deepfakes, work on 5G MAG, IP implementation and the EBU Pyramid for Media Nodes and an update on the UHDTV/4K/8K/HDR/NGA technology implementation, amongst others.

4. Publications and Other Projects (No:1 & 3, 3Y-AP)

Technical Review Magazine Revamped
The ABU Technical Review magazine which is published quarterly by ABU Technology has gone through a revamp process in the past year. This is an effort to further enhance the communication with members and also to improve the look and feel of the magazine both for printed and for the online version. The process started with the Q2 edition of 2019 and was fully completed by Q4 edition last year. This included a change in the cover design and also the internal layout of the magazine, making it clearer and easier to read making the font and style selections more consistent and at the same time giving it a more refreshed look. The Technical Review Q4-2019 (printed) and Q1, Q2 and Q3-2020 (e-versions) have been published and is available for online viewing and download from https://www.abu.org.my/technical-review

Email system migrated to O365 platform and use of MS Teams for collaboration
The email server used by ABU Secretariat has now been completely migrated to Microsoft Office365 cloud platform. This was a strategic move that has been planned since last year to further improve the efficiency of the email platform and improve collaboration among the secretariat staff and members using the many integrated features and tools available within the O365 platform. Built on the cloud and more streamlined for today's technology and multi-device usage the O365 platform will enable the use of email on multiple devices with integrated features like calendar, tasks and team collaboration. In addition to this the IT department has also deployed Microsoft Teams platform for easy and enhance communication and collaboration among staff and members. Microsoft Teams platform will allow enhanced online communication with meetings and easy management of tasks based on projects. This tool has been a vital addition to the system in the current COVID-19 situation allowing easy online meetings and collaboration while working from home.

Asia-Pacific View (APV) Platform Trial launched

The Asia-Pacific View (APV) platform development is managed by ABU Technology department. The APV platform is a cloud based online content sharing network that is developed and operated by the ABU to combine the current content exchange services AVN, APX and ASN. The exchange feature of the platform is now going through a trial with selected members. One such trial on the platform is COVID-19 Database project. The COVID-19 project under APV provides a platform for member to exchange and share COVID-19 related content. At the moment over 40 members have already signed up for this project with many audio and video related content currently made available and shared among them. At the moment the Exchange and Distribution modules of the planned 5 modules of the APV platform are functional with the Screening, Submission and Live modules still under development. These modules will be available for testing in the coming months. Like many projects the global pandemic has caused some delays due to lockdown and travel restrictions affecting the developers. We hope the platform will be fully operational by mid next year when it will be open for members use. An official launch is planned for the next GA2021 in Hanoi.

Technical setup for the virtual GA and Associated Meetings

ABU Technology has been very heavily involved in the preparations of the technical facilities and setup for this year's General Assembly and Associated Meetings. After testing multiple platforms and comparing the different features, Zoom webinar platform for the open sessions and Microsoft Teams for the closed sessions have been selected. The registration is now open online for members to register for the meetings. Some selected meeting sessions will also be steamed live on other popular platforms. In addition to these the TD is also testing and setting up the required production facilities to allow multi-speaker panel sessions with the possibility of interaction with participants using different online and offline software and hardware solutions to provide the best possible experience and interactivity. We hope the first ever virtual GA and associated meetings is going to be great experience for the secretariat as well as the members.

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