



ABU

TECHNICAL COMMITTEE

MEETING 2022

New Delhi
India
26 - 27 November
2022

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ABU Technology

TERMS OF REFERENCE

TOPIC AREAS AND PROJECTS

TOPIC AREA: PRODUCTION

Chairman: Mr Kazim Pektas, TRT, kazim.pektas@trt.net.tr

Secretary: Veysel Binbay, ABU-TD, veysel@abu.org.my

	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
1.	Radio & Television Archiving including Metadata for international programme exchange P/RTA	<ol style="list-style-type: none"> 1. Monitor developments around the world on new archiving formats and technologies, particularly the work carried out by the EBU in this field. 2. Develop a baseline metadata schema for the ABU region to promote programme exchange. 3. Prepare a monograph on introduction of metadata available from the inception of programme production to archiving. 	<ol style="list-style-type: none"> 1. Report on the latest developments in archiving. 2. Metadata schema for ABU region 3. Monograph on introduction of metadata, which can be extended to setting up a digital archive. <p>Time Period: Nov 2022</p>	<p>Mr Yuto Komatsu, NHK komatsu.y-cu@nhk.or.jp</p> <p>Co-Project Managers: Mr Wang Yin, MediaCorp wangyin@mediacorp.com.sg Mr Gary Kum, TVB garry.kum@tvb.com.hk Mr Manoj Gupta, DDI manojdde@gmail.com Mr Aditya Chaturvedi, Prasar Bharati aditya.chaturvedi@prasarbharati.gov.in Mr R P Joshi rpjoshi.delhi@gmail.com Zheng Ruidi, ABS/RTPRC zhengruidi@abs.ac.cn DDI TRT</p>
2.	Ultra High Definition TV P/UHDTV	<ol style="list-style-type: none"> 1. Monitor developments regarding UHDTV, and study its technical specifications. 2. Study the possibility of a programme exchange technology in ABU region. 	<ol style="list-style-type: none"> 1. A report to the ABU members on UHDTV developments, including applications and technical aspects. 2. Contributions to relevant working parties in ITU-R SG6, when necessary. <p>Time Period: Nov 2022</p>	<p>Mr Yoshiro Takiguchi takiguchi.y-ji@nhk.or.jp</p> <p>Co-Project Manager: Mr Byung Sun KIM, KBS bskim2000@kbs.co.kr Mr Halil Us, TRT halil.us@trt.net.tr Zhou Yun, ABS/RTPRC zhouyun@abs.ac.cn Hu Xiao, ABS/RTPRC huxiao@abs.ac.cn</p>
3.	Systems for people with special needs P/SN	<ol style="list-style-type: none"> 1. Study activities related to broadcast service for people with special needs done by other organisations 2. Make possible contributions to international forums or organizations if necessary 	<ol style="list-style-type: none"> 1. Report to members outlining broadcast service and systems in place to serve people with special needs 2. Contributions to relevant international forums or organizations <p>Time Period: Nov 2022</p>	<p>Mr Masaki Takahashi, NHK takahashi.m-iu@nhk.or.jp Mr D Birlanath, Prasar Bharati birlanath@prasarbharati.gov.in Mr Pradeep Mehra pm@air.org.in</p> <p>KBS, TBS, RTPRC, TRT</p>

	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
4.	IT -based Production System and file-based workflows P/ITPS	<ol style="list-style-type: none"> 1. Study use cases of IT -based programme production systems, which are implemented, or being implemented in broadcasters' facilities. 2. Gather the information about operational know-how in total production chain of the systems above. 3. Collaborate with P/RTA if necessary, especially in metadata or storage issues. 4. Prepare a monograph on IT -based programme production systems if possible. 	<ol style="list-style-type: none"> 1. Report to members outlining use cases of IT-based programme production systems and the information about operational know-how in total production chain of the above systems. 2. Monograph on IT -based programme production systems. <p>Time Period: Nov 2022</p>	<p>Mr Okan Salman, TRT okan.salman@trt.net.tr</p> <p>Co-Project Manager Mr Daeyang Kim, KBS kimdaeyang@kbs.co.kr Mr Gökhan Tikit, TRT gokhan.tikit@trt.net.tr Mr Nguyen Duc Tue, VTV tuend72@vtv.gov.vn Mr Tomofumi KOYAMA, NHK koyama.t-fs@nhk.or.jp Mr P S Srivastava, DDI pss_18@yahoo.com Mr Pradeep Mehra pm@air.org.in Mr Alireza Abedin, IRIB a_abedini@irib.ir</p> <p>CCTV/RTPRC;TDM;TVB [Manufacturers]</p>
5.	Big Data, Personalisation and Artificial Intelligence P/BDAI	<ol style="list-style-type: none"> 1. Study use cases of Big Data and technologies like Artificial Intelligence (AI) within broadcasting and media organisations. 2. Gather information about how Data analysis is used for personalisation and how it can be utilised by broadcasters. 3. Study how AI technologies can be deployed and used within production environment and other related applications for broadcasters. 	<ol style="list-style-type: none"> 1. Report to members on use cases and applications of Big Data and AI within broadcast and media organisations. 2. Report on the use of Data analytics for personalisation and to understand audience requirements and preferences. <p>Time Period: Nov 2022</p>	<p>Project Manager Dr Byunghee Jung, KBS bhjung@kbs.co.kr</p> <p>Co-Project Manager Dr Jun GOTO, NHK goto.j-fw@nhk.or.jp Dr Sansung KIM, KBS TRI sansung@kbs.co.kr Li xiao, ABS/RTPRC lix@abs.ac.cn Zhao Ming, ABS/RTPRC zhaoming@abs.ac.cn Zheng Ruidi, ABS/RTPRC zhengruidi@abs.ac.cn Ms. Wang Yi, ABP/RTPRC wangyiamy@abp2003.cn</p>

TOPIC AREA: TRANSMISSION

Chairman: **Mr Kenichi Murayama, NHK, murayama.k-fu@nhk.or.jp**

Secretary: **Shree Bhadra Wagle, ABU-TD, shreebhadra@abu.org.my**

	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
1.	Frequency Planning for Digital Broadcasting T/FPDB	<ol style="list-style-type: none"> 1. Study the coverage and frequency planning issues relevant to implementation of DTTB systems in the ABU region. 2. Investigate and analyse the latest topics over frequency bands allocated for broadcasting services. 	<ol style="list-style-type: none"> 1. Report on the technical information and planning guidelines for implementation of DTTB systems 2. Information on the latest situation of digital transition in ABU region 3. Report on new technologies and global movement of spectrum use <p>Time period: Nov 2022</p>	<p>Ms Momoko Suyama suyama.m-gw@nhk.or.jp</p> <p>Co-Project Manager Mr Yuen Man, TVB yuen.man@tvb.com.hk Mr Rajeev Kumar, DDI rajeev00kumar@yahoo.com</p>
2.	Next Generation Terrestrial Broadcasting T/NGTB	<ol style="list-style-type: none"> 1. Investigate next generation broadcasting technologies for delivering UHD service. 2. Investigate efforts toward the realization of next-generation terrestrial broadcasting. 3. Investigate mobile reception of digital broadcasting services. 4. Study on TVWS (TV White Spaces). 5. Study/follow studies on the development of 5G technology and its broadcast related delivery/contribution and other applications 	<ol style="list-style-type: none"> 1. Preparation of report, including next generation broadcasting technologies. 2. Information on efforts toward the realization of next-generation terrestrial broadcasting. 3. Preparation of report on mobile broadcasting, including those on broadcasting to handheld/mobile devices. 4. Include report on 5G technologies and its developments <p>Time period: Nov 2022</p>	<p>Mr Akihiko Sato satou.a-cg@nhk.or.jp Co-Project Manager: Dr Jeon Sungho jeonsh@kbs.co.kr Mr Chen Delin, ABS/RTPRC chendelin@abs.ac.cn Mr Halil Us, TRT halil.us@trt.net.tr Mr M S Duhan, DDI msduhan.de@gmail.com Mr Rajesh Meena meena@prasarbharati.gov.in Mr A K Mangalgi amangalgi@yahoo.com Zhang Yu, ABS/RTPRC zhangyu@abs.ac.cn Xiao Jingting, ABS/RTPRC xiaojingting@abs.ac.cn KBS</p>
3.	Integrated Broadcast-Broadband and OTT T/IBBOTT	<ol style="list-style-type: none"> 1. Study the specifications of the various Integrated Broadcast-Broadband (IBB) platforms and identify the common elements in these technologies. 2. Investigation of developments concerning software standards (APIs, EPGs, subtitle, etc). 3. Investigation of developments on UHD TV distribution over IBB (Hybrid) platform and OTT. 4. Investigation and consideration on technologies to enhance broadcasting services in various aspects. 5. Study on information security for broadcasting services via airwave and/or communication network (Content protection, Conditional access, Digital Rights Management system, etc). 	<ol style="list-style-type: none"> 1. A report on technologies on the various IBB platforms and identify the common elements. 2. A report on technologies of UHD TV distribution over IBB platform and OTT. 3. A proposal for an ABU position on international standardisation of IBB platform. 4. A proposal for an ABU position on minimum standard specification of IBB platform. 5. Prepare a requirement of the subtitles in the ABU region. 6. Survey of information security for broadcasting services via airwave and/or communication network. 7. Planning guidelines for content security of digital broadcasting, IBB service, and OTT service. 8. Survey of cyber security in broadcasting industry for protecting the broadcasting systems. 9. Planning guidelines for protecting the broadcasting 	<p>Dr Go Ohtake, NHK ohtake.g-fw@nhk.or.jp</p> <p>Co-Project Manager: Mr A K Mangalgi amangalgi@yahoo.com Mr A K Srivastava akshrivastava@prasarbharati.gov.in Ms Momoko Suyama suyama.m-gw@nhk.or.jp</p> <p>Dr Yuto Komatsu komatsu.y-cu@nhk.or.jp Dr Shinya Abe, NHK abe.s-ig@nhk.or.jp Zhang Dingjing, ABS/RTPRC zhangdingjing@abs.ac.cn</p>

	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
		6. Study on cyber security in broadcasting industry for protecting the broadcasting systems.	systems connected to the IP network Time period: Nov 2022	Zhang Yu, ABS/RTPRC zhangyu@abs.ac.cn Zhang Wei, ABS/RTPRC zhangwei@abs.ac.cn He Jing, ABS/RTPRC hejing@abs.ac.cn Wang Lei, ABS/RTPRC wanglei@abs.ac.cn
4.	Satellite Broadcasting T/SB	<ol style="list-style-type: none"> 1. Investigate latest satellite broadcasting technologies for delivering UHD service. 2. Study the specification of latest satellite broadcasting system. 3. Investigate advanced satellite broadcasting technologies using Ka band, etc. 	<ol style="list-style-type: none"> 1. Report on technologies on the latest satellite systems for UHDTV broadcasting. 2. Report on specification of the latest satellite broadcasting systems. 3. Survey of the latest topics on advanced satellite broadcasting technologies using Ka band, etc <p>Time period: Nov 2022</p>	Mr Masashi Kamei, NHK kamei.m-kw@nhk.or.jp Co-Project Managers: Mr K K Rao kkrao@prasarbharati.gov.in TRT IRIB
5.	Digital Sound Broadcasting Systems T/DSBS	<ol style="list-style-type: none"> 1. Follow developments in respect of digitally modulated radio transmissions in broadcasting and examine issues related to transition from analogue services to digital applications and implementation. 2. Examine issues related to transition from analogue services to digital applications in the FM band. 3. Examine implementation in the Medium and Short wave band 	<ol style="list-style-type: none"> 1. An information document on digital radio in all relevant, including relevant information about the ITU-R recommended system(s) and digital receiver developments. 2. A report on implementation issues and possibilities. <p>Time period: Nov 2022</p>	Project Manager Mr Shabib Hyder shabihhyder@prasarbharati.gov.in Co-Project Managers: IRIB RRI TRT

TOPIC AREA: TRAINING AND SERVICES (Updated)
Chairman: Mr P Das, Prasar Bharati, pdasdelhi@gmail.com
Secretary: Shree Bhadra Wagle, ABU-TD, shreebhadra@abu.org.my

	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
1.	Technical Training Priorities and Members Requirements TS/TTPMR	<ol style="list-style-type: none"> Periodically conduct surveys among members to understand the requirements and priority areas by members and based on these suggest topics for training. Identify requirement of Technical Advisory Services for Member organisations Work with ABU Media Academy to develop: <ul style="list-style-type: none"> - curriculum-based training programmes - a certification system with different levels - effective monitoring and assessing methods to evaluate how beneficial the training workshops/seminars have been to members. Collaborate with AMA and other established Media Training Academies of members 	<ol style="list-style-type: none"> Survey Report on Member requirements List of Priority Areas, Topics and Program Schedule for training Certification and Evaluation Template Database of training academies and training programmes offered by them Database of Production/ B'cast Technology/ equipment used by Members Database of Resource Persons along with Topics, <p>Time period: Nov2022</p>	<p>(TBC)</p> <p>Co-Project Managers:</p> <p>Mr Devesh Kumar devesh@prasarbharati.gov.in Mr Rajesh Kumar Sharma rksharma@prasarbharati.gov.in</p> <p>Contributors:</p>
2.	Skill Development Programme for Managerial, and Occupational Safety TS/ SDPMOS	<ol style="list-style-type: none"> Identify and develop training programmes for non-technical, managerial, financial and occupational safety and skills enhancement Conduct surveys to study members requirements on these areas such as General management, Health & Safety considerations. Explore the best possible ways of delivery of such training and good practice methods within the industry 	<ol style="list-style-type: none"> List of non-technical, managerial, financial Skills courses that can be organised. Identify and suggest at least one such topic to be included in the TD training calendar annually based on member requirements Find out Standard Operating Procedures (SOP) and best practice methods adopted by members on different situations and work environment in general develop standard code of conduct and work ethics information manual Develop a disaster recovery and response manual that can be used in technical areas <p>Time period: Nov2022</p>	<p>(TBC)</p> <p>Co-Project Managers:</p> <p>Mr Devesh Kumar devesh@prasarbharati.gov.in Mr Rajesh Kumar Sharma rksharma@prasarbharati.gov.in</p> <p>Contributors:</p>
3	Technical Skill Building and Knowledge Sharing TS/TSBKS OR High-Tech Exposure & Knowledge Sharing TS/TEKS	<ol style="list-style-type: none"> Work with industry partners and international events to identify applicable training opportunities available in broadcasting field eg: ITU, IABM, SMPTE etc. Explore and develop a staff exchange or short-term attachment programme among members. Explore easy ways how redundant or in excess equipment from members can be acquired and utilised by other members who can use them. 	<ol style="list-style-type: none"> MoU with Industry Partners Guidelines for staff exchange programme Members' Information Exchange platform <p>Time period: Nov2022</p>	<p>(TBC)</p> <p>Co-Project Managers:</p> <p>Mr Devesh Kumar devesh@prasarbharati.gov.in Mr Rajesh Kumar Sharma rksharma@prasarbharati.gov.in</p> <p>Contributors:</p>

TOPIC AREA: SPECTRUM

Chairperson: Dr Li Leilei, RTPRC, lileilei@abp2003.cn

Secretary: Veysel Binbay, ABU-TD, veysel@abu.org.my

WRC-23 ISSUES				
	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
1.	<p>to consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 245 (WRC-19)</p> <p>(WRC-23 AI 1.2)</p>	<ol style="list-style-type: none"> 1. Follow developments of studies in WP 5D to identify and possible impact on Broadcasting Services. 2. Possible impact on broadcasting service in Asia-Pacific Area. 	<ol style="list-style-type: none"> 1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. <p>Reports: As required.</p> <p>Time Period: Oct 2023</p>	<p>Project Manager</p> <p>Co-Project Managers:</p> <p>Contributors:</p>
2.	<p>to consider primary allocation of the band 3 600-3 800 MHz to mobile service within Region 1 and take appropriate regulatory actions, in accordance with Resolution 246 (WRC-19);</p> <p>(WRC-23 AI 1.3)</p>	<ol style="list-style-type: none"> 1. Follow developments of studies in WP 5A to identify and possible impact on Broadcasting Services. 2. Possible impact on broadcasting service in Asia-Pacific Area. 	<ol style="list-style-type: none"> 1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. <p>Reports: As required.</p> <p>Time Period: Oct 2023</p>	<p>Project Manager</p> <p>Co-Project Managers:</p> <p>Contributors:</p>
3.	<p>to consider, in accordance with Resolution 247 (WRC-19), the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level;</p> <p>(WRC-23 AI 1.4)</p>	<ol style="list-style-type: none"> 1. Follow developments of studies in WP 5D to identify and possible impact on Broadcasting Services. 2. Possible impact on broadcasting service in Asia-Pacific Area. 	<ol style="list-style-type: none"> 1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. <p>Reports: As required.</p> <p>Time Period: Oct 2023</p>	<p>Project Manager</p> <p>Co-Project Managers:</p> <p>Contributors:</p>

WRC-23 ISSUES

	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
4.	<p>to review the spectrum use and spectrum needs of existing services in the frequency band 470-960MHz in Region1 and consider possible regulatory actions in the frequency band 470-694 MHz in Region 1 on the basis of the review, in accordance with Resolution 235 (WRC-15);</p> <p>(WRC-23 AI 1.5)</p>	<ol style="list-style-type: none"> 1. Follow developments of study results on WRC-23 AI 1.5 conducted in ITU-R TG 6/1 2. Possible impact on broadcasting service in Asia-Pacific Area. 	<ol style="list-style-type: none"> 1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. <p>Reports: As required.</p> <p>Time Period: Oct 2023</p>	<p>Project Manager</p> <p>Co-Project Managers: Mr Satyajeet Dash dash.satyajeet@gov.in</p> <p>Contributors:</p>
5.	<p>to review Appendix 27 of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU-R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (R) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution 429 (WRC-19);</p> <p>(WRC-23 AI 1.9)</p>	<ol style="list-style-type: none"> 1. Follow developments of study results on WRC-23 AI 1.9 conducted in ITU-R WP 5B 2. Possible impact on broadcasting service in the HF band. 	<ol style="list-style-type: none"> 1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. <p>Reports: As required.</p> <p>Time Period: Oct 2023</p>	<p>Project Manager</p> <p>Co-Project Managers:</p> <p>Contributors:</p>
6.	<p>Co conduct, and complete in time for WRC 23, studies for a possible new secondary allocation to the Earth explorationsatellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, including in adjacent bands, in accordance with Resolution 656 (Rev.WRC 19)</p> <p>(WRC-23 AI 1.12)</p>	<ol style="list-style-type: none"> 1. Follow developments of study results on WRC-23 AI 1.9 conducted in ITU-R WP 7C. 2. Possible impact on broadcasting services. 	<ol style="list-style-type: none"> 1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. <p>Reports: As required.</p> <p>Time Period: Oct 2023</p>	<p>Project Manager</p> <p>Co-Project Managers:</p> <p>Contributors:</p>

WRC-23 ISSUES

	WRC-23 ISSUES			
	PROJECT TOPIC	TASKS	DELIVERABLES	PROJECT MANAGER
7.	<p>In accordance with Resolution 657 (Rev.WRC 19), review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors with a view to describing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services. (WRC-23 AI 9.1a)</p>	<p>1. Follow developments of study results on WRC-23 AI 1.9 conducted in ITU-R WP 7C. 2. Possible impact on broadcasting services.</p>	<p>1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. Reports: As required. Time Period: Oct 2023</p>	<p>Project Manager Co-Project Managers: Contributors:</p>
8.	<p>Study the use of International Mobile Telecommunication system for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis, in accordance with Resolution 175 (WRC 19)((WRC-23 AI 9.1c)</p>	<p>1. Follow developments of study results on WRC-23 AI 1.9 conducted in ITU-R WP 5A 2. Possible impact on broadcasting services.</p>	<p>1. From time to time, circulate among ABU members, relevant information on sharing studies. 2. Preparation of ABU contributions to the relevant SGs and WPs of ITU-R, APT and others. Reports: As required. Time Period: Oct 2023</p>	<p>Project Manager Co-Project Managers: Contributors:</p>