

ITU - AIBD Regional Pre-Summit Workshop on Future of TV

Masterclass

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Session 3: APAC Broadcasting Landscape

Objectives:

This session presents some insights from the ITU Report/s that looks at the trends influencing the future of television

Global media landscape

Regional media landscape

Local media landsca<mark>pe</mark>

Interactive multimedia services IN ASIA-PACIFIC: TRENDS AND INSIGHTS

REGIONAL INITIATIVES – ASIA-PACIFIC

Report



Telecommunication Development Secto



Source: Interactive Multimedia Services ASP, ITU, 2014













What is the future of the TV?

Future (Linear)	Count (round-1)	Count (round-2)	
Dead	0		
dying	8		
Sustain until 2030	8		
Sustain beyond 2030	3		
Sustain for ever	2		
Do not know/not responded	6		
Please note that Some responded to more than 1 option			





Outline

- APAC or ASP
- Television
- Broadcasting
- Media/broadcasting value chain
- Video coding
- Changing consumption patterns
- Integration and convergence of distribution



APAC or ASP

- APAC Asia-Pacific Region (A-sia PAC-ific)
- ASP Asia and the Pacific as ITU identifies
- APAC has 37 countries
- ITU has 35 member countries in ASP (total 192 globally)
- APAC/ASP is **DIVERSE** in many aspects/dimensions/facets
 - Technology
 - Economy
 - Political
 - Social
 - Culture



Television

- Tele-vision 1920 mechanical machine to B&W, Colour, DTV, UHD-2, HDR, HFR, WCG, Immersive media
- DVB T Australia, in legacy of MPEG-2
- DVB T2 Singapore, PNG, Mongolia, India, Vietnam, Samoa, Malaysia, Thailand
- DVB T & DVB T2 New Zealand, Myanmar,
- ISDB T Japan, Philippines, Maldives, Sri Lanka
- ATSC S. Korea, India-pilot D2M
- DTMB China, Hong Kong, Macau
- DVB T2 & DTMB Cambodia, Laos
- No decision Timor Leste, Micronesia, Nauru
- Follow the region Kiribati DVB-T2





Broadcasting

MMRG 14

RR 1.38 broadcasting service:

A radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission.

Radio Regulations (RR) of ITU

- Inform, entertain and educate
- This was re-iterated during COVID-19 period
- Ubiquitous anywhere, anytime, any-device
- OTA to OTT to Live Streaming



HDR-TV

(according to ITU-R BT. 2100)

ITU-R BT.2100

HDR HLG

Pixel Aspect Ratio

1:1

IEEE Broadcast

Technology Society

Aspect Ratio

16:9







The ITU-R definition

- RR 1.38 broadcasting service: A radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission.
- Radio Regulations (RR) of ITU
- Universal access Right to access, Accessibility, inclusiveness
- No gatekeepers, available, affordable, sustainable



E Broadcast

Society







What are the distribution methods?

- **Terrestrial**
- Satellite
- Cable
- Online
- Mixture of them multi-platform
- Hybrid with seamless integration with broadband -**HbbTV**



64048

HDTV

Other Serv

21







[[]Courtesy of NHK]



640,0

2560A#

HDTV

Other Service



ASO in ASP or APAC countries (2019 Report) + research



- Japan 2011
- S. Korea 2012
- Australia Dec 2014
- New Zealand 2014
- Mongolia Oct 2015
- Singapore 2019
- Malaysia 2019

- Thailand 2021
- Vietnam 2022
- Samoa 2022
- Fiji
- PNG
- Indonesia
- 10 countries have completed analogue switch off
- 27 countries (25 ITU member countries) yet to do ASO
- India 2019 ASO and 2022 DSO
- India 2023 Pilot D2M
- 7 countries have completed analogue switch off

ASO=Analogue Switch off, DSO=Digital Switch off





There are a number of challenges in digital migration

The costs involved and the enormity of task 1.

For certain countries with larger geographies and wide spread population, the deployment of the transmission networks are capital intensive. Having a large transmission network, from hundreds to in some cases over a thousand of analogue transmitter sites, converting these to digital and in a reasonable time period is seen as a challenging task. Not only does the setup of infrastructure for digital but also carrying out a simulcast service for a given period involve a lot of money and resources. On top of these the need to subsidise set- top-boxes to masses is an additional burden.

Not seen as a national priority 2.

Many governments still do not see the move to digital as a priority hence the move is not fully endorsed or supported by the necessary authorities and the necessary initiative and push is not available



E Broadcast



Key Findings and Recommendations

- Lack of cooperation among stakeholders 3.
- In many countries the move to digital is not initiated as a collective effort by all the stakeholders involved. This includes public as well as private broadcasters, regulators and others. This is also partly connected to the previous point on government priority areas.
- Technology standards and ever evolving technologies 4.

The technologies are evolving at a rapid pace. However, digital terrestrial transmission technologies are matured with a number of providers and supporters readily available. However, there are still cases where some still feel it may be better to wait for the next technology or next standard. But many of the experts have already shared their views that a major change or upgrade is not possible as current standards are providing performances close to the theoretical limits in current form. In some countries there is still the debate on which Digital Terrestrial Television Broadcasting (DTTB) standard to choose from DVB-T2, ISDB-T, ATSC or DTMB.





Key Findings and Recommendations

- 5. Spectrum is not an issue for certain countries
- This means that the benefits of digital dividend can immediately be initiated. It is not necessary for broadcasters to vacate the spectrum for government to explore these benefits. This leads to no drive or initiative from policy makers and authorities.
- 6. Availability of alternate options other than terrestrial TV

In certain countries, Direct to Home (DTH) services from the satellite and cable services have gone digital and are readily available especially in main cities and population centres at reasonable costs. These options provide many of the benefits of that digital could offer to viewers. Hence, there is little demand for digital terrestrial from the public which makes digital terrestrial propositions being delayed.





Media/broadcasting value chain

• Academically



- Production
- Distribution
- Audience













H266 VVC Versatile Video Coding

ITU Video coding standard H266 ISO Video coding standard MPEG-I



- Finalized in 2020
- First devices in the market
- Supports * 8K/4K/HD with HDR
 - * Gaming and screen content
 - * Streaming
 - * VR/AR
- ATSC is working on integrating VVC into the ATSC3.0 standard

Reference: Benjamin Bross, Fraunhofer HHI













A Review of Emerging Video Codecs: Challenges and Opportunities

A Review of Emerging Video Codecs: Challenges and Opportunities This paper presents a review of video codecs that are in use Publisher: IEEE and currently being developed, the codec development process, current trends, challenges and opportunities for the research community. There is a paradigm shift in video coding standards. Concurrently, multiple video standards are standardised by standardising organisations. At the same time, royalty free video compression standards are being developed and standardised. Introduction of enhancementlayer-based coding standards will extend the lifetime of legacy video codecs finding middle ground in improved coding efficiency, computational complexity and power requirements. The video coding landscape is changing that is Figures challenged by emergence of multiple video coding standards for different use cases. These may offer some opportunities for coding industry, especially for New Zealand researchers serving niche markets in video games, computer generated videos and animations.



Cite This

PDF



Abstract:

Document Sections I. Introduction II. Evolution of Video Codecs III. New Coding Tools IV. Challenges Related To Video Codecs V. Tren Opp By N

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Abstract

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The future of broadcasting services

- Except delivery OTA, rest are digital
- Multiple ways of consumption of content anywhere, anytime, any-device
- Integration between broadcasting and broadband service delivery
- Change enablers technologies
- Cloud, Interactions, Data, AI, Analytics, XR,



2023 Gartner Emerging Technologies and Trends

- Globally, digital transformation happening
- Hype curve

2023 Gartner Emerging Technologies and Trends Impact Radar









Changing consumption patterns

- Growth in technologies have enabled multiple ways of consumption of content
- New user patterns with interactive methods like
 - Video-on-demand,
 - Video-on-demand and time-shifted viewing are common applications now,
- These lead to more accurate AI-powered consumer behaviour analyses
- These new emerging services with AI are getting more interest from users.
- Advanced TV sets offered in the market are addressing these demands with even greater integration between broadcasting and broadband service delivery
- IBB HbbTV, Hybridcast









How to integrate and converge?

- Standards for interoperability
 - ITU standards
 - ETSI standards
- Technologies
 - HbbTV
 - Hybridcast
 - Known as IBB Integrated Broadcast-Broadband Technologies
- Latest developments in IBB
 - Programme discovery
 - Programme recommendations







How to converge?

- Convergence is required as many forms of delivery
- Converged using the IP
- Native IP broadcast technologies
- ATSC 3.0
- DVB-I, DVB-NIP
- Programme discovery
- Programme recommendations







- Television continues to be the single largest source of video consumption
- Though screen sizes have changed, and people create, post, stream and consume content on different platforms, the number of households with television sets around the world continues to rise
- The interaction between emerging and traditional forms of broadcast creates a great opportunity to raise awareness about the important issues facing our communities and our planet











What is the future of the TV?

Future (Linear)	Count (round-1)	Count (round-2)		
Dead	0	0		
dying	8	3		
Sustain until 2030	8	11		
Sustain beyond 2030	3	4		
Sustain for ever	2	0		
Do not know/not responded	6	9		
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Thank you

• DTV 3.0





Dr Amal Punchihewa © Distinguished Lecturer of IEEE Broadcast Technology Society,



21st November World Television Day

- Why this day?
- In 1996, the United Nations general assembly declared November 21 World Television Day
- The UN recognised television as having an increased impact on decision making as well as being an ambassador for the entertainment industry
- Television is a symbol of communication and globalisation that educates, informs, entertains and influences our decisions and opinions
- Diversity, Inclusion and Equity (DIE)



