

# Present Status, Trends, New Technologies in Broadcasting Sector

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# Outline

- Emerging technologies
- Challenges
- Opportunities
- Transformation of the industry
  
- Way forward

# Emerging Technologies

- UHD-1 and UHD-2
  - ITU's Ultra-High Definition Television Recommendation BT.2020
- HDR
  - ITU-R HDR-TV Recommendation BT.2100
  - Report ITU-R BT.2390-3, 2017,
  - Report ITU-R BT.2408-0, 2017
- WCG - superior colour fidelity
- Compression technologies
  - MPEG-2, MPEG-4 part 10 or H264 or AVC
  - HEVC or H265
  - AV1
- Cloud
  - Private, public and hybrid cloud

# Emerging Technologies

- HFR
- NGA
- AI, ML and DL
- Data analytics
- Cyber security
- UI and UX
- NGB – ATSC 3.0, DVB-T2, HbbTV - the latest version of the specification (HbbTV 2.0.2)
- Multiplatform delivery
- Accessibility
  - For differently able people - hearing and vision impaired

# Multiplatform delivery

- Delivery options – Terrestrial, satellite, cable, broadband
- In APAC, ASO is yet to be completed in many countries
- Long simulcast of ATV & DTT nearly doubled the delivery cost
- Fragmented audience demand content over multiple platforms

# Challenge of other technological transitions

- SD to HD to UHD
- SDR to HDR
- SFR to HFR
- Tx capacity upgrade
- Compression technology MPEG-2 to AVC to HEVC

# DTTB standards adopted by ASP countries

- DVB T Australia, in legacy of MPEG-2
- DVB T2 Singapore, PNG, Mongolia, India, Vietnam, ..
- DVB T & DVB T2 New Zealand, Myanmar,
- ISDB T - Japan, Philippines, Maldives, Sri Lanka
- DTMB - China, Hong Kong, Macau
- DVB T2 & DTMB – Cambodia, Lao
- No decision – Timor Leste, Micronesia, Nauru
- Kiribati DVB-T2



# ASO in ASP countries

- Japan - 2011
  - Korea - 2012
  - Australia – Dec 2014
  - New Zealand - 2014
  - Mongolia - Oct 2015
  - Singapore - 2019
  - Malaysia – 2019
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- 7 countries have completed analogue switch off
  - 43 countries (38 ITU member countries) yet to do ASO