

# Digital Broadcasting Asia-Pacific Region



Ms. Sireerat Bunnag, Programme Officer  
ITU Regional Office for Asia and the Pacific  
[sireerat.bunnag@itu.int](mailto:sireerat.bunnag@itu.int)

# Digital TV: an evolutionary step, is not a choice

From the days of early radio - through the emergence of monochrome television, followed by color TV, satellite and the later digital TV (HD, UHD TV) – innovation has driven change; resulting in a richer and **convergent multimedia world**.



- Terrestrial Television
- Cable Television
- Satellite Television
- IPTV
- Over The Top
- Mobile Television
- Connected Television

Standalone / Triple / Quad  
Play carriage network



# Risks of not embracing the switchover



- ✓ Increased costs for analogue broadcasters
- ✓ Loss of revenues for analogue broadcasters
- ✓ Broadcasters less able to compete with Pay-TV
- ✓ Economic/ Social



# Multiple benefits for consumers

- ✓ More programs available
- ✓ Cheaper digital TV sets available
- ✓ Added value features



# Multiple benefits for broadcasters

- ✓ Generates potential for a mixed of free/subscription model
- ✓ HD and full HD capability
- ✓ Potential for reducing operating costs
- ✓ Gain competitive edge
- ✓ Production of regional content



# ...but there are more benefits...

---

- ✓ Efficiency gains
- ✓ Better quality
- ✓ Lower power consumption
- ✓ Digital production
- ✓ Digital Dividend

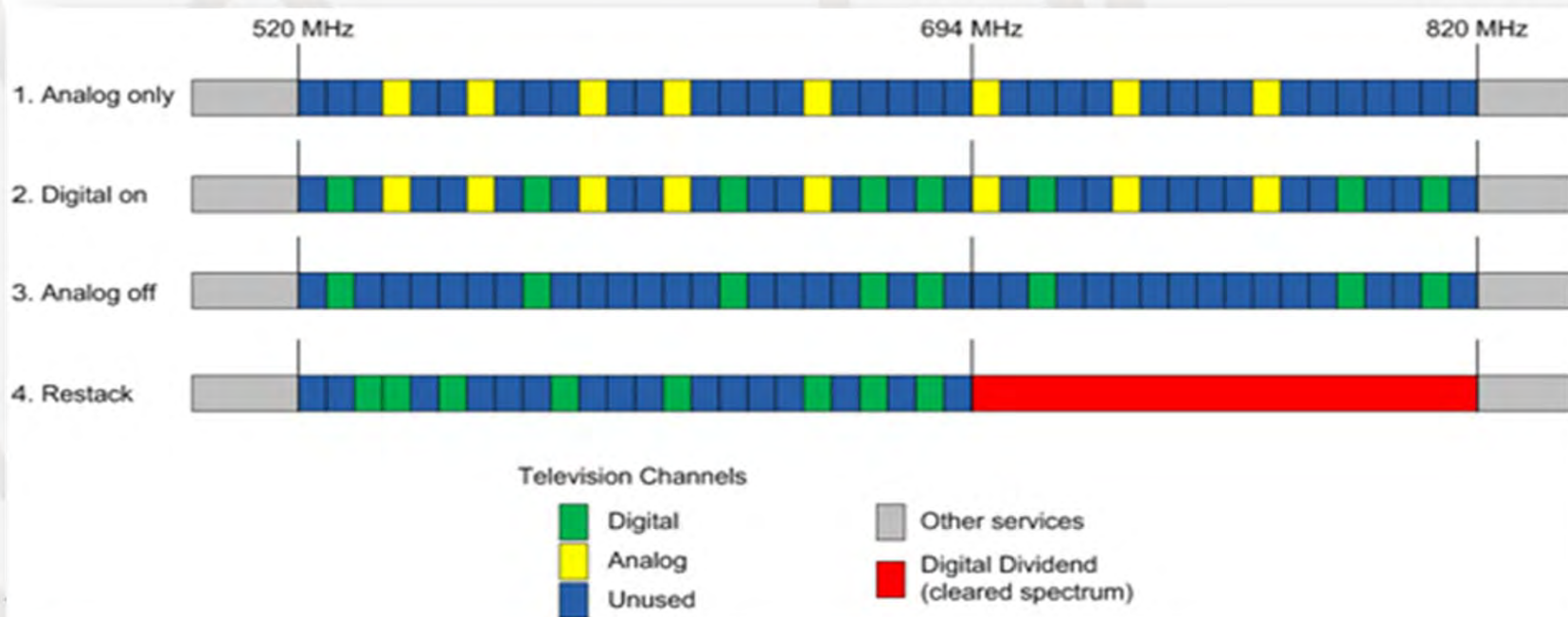


# Digital Dividend



The term **digital dividend** is used to express the **spectrum efficiency gain** due to the switchover from analogue to digital terrestrial television services.

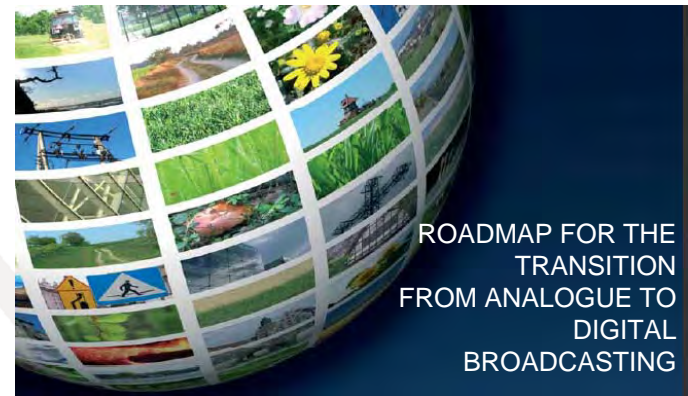
The digital dividend may be used by broadcasting services e.g. provision of more programmes, high definition, 3D or mobile television.



# ITU ASP Regional Initiative on Digital Broadcasting

---

To assist countries in Asia and the Pacific region in smooth transition from analogue to digital terrestrial television broadcasting with the followings:



- **Policy and regulatory framework** for digital terrestrial television broadcasting through adaptation of comprehensive guideline for the transition from analogue to digital broadcasting.
  - **Digital Broadcasting roadmap** for transition from analogue to digital terrestrial television broadcasting;
  - **Enhanced skills** of concerned experts on the Digital Broadcasting Master Plan for the transition and technologies including interactive multimedia services, Mobile TV, Cable TV, Satellite TV and IPTV.
-



# ITU Broadcasting Projects

---



- ❑ **ITU-MIC (Japan)** : Transition from Analogue to Digital Broadcasting in Africa and Asia-Pacific



- ❑ **ITU-KCC-MSIP (RO Korea)** : Roadmap for Transition from Analogue to Digital Terrestrial Television Broadcasting in Asia and the Pacific, Africa, and Americas



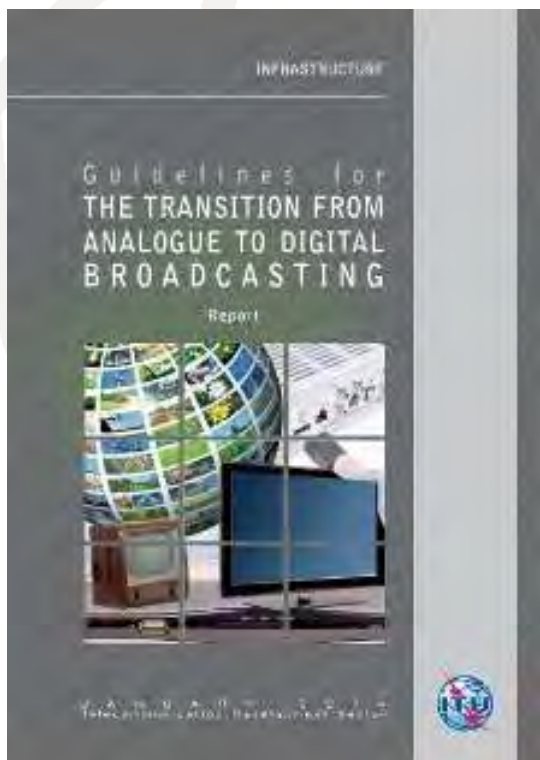
- ❑ **ITU-NBTC (Thailand)** : Roadmaps for Transition from Analogue to Digital Terrestrial Television Broadcasting & Digital Radio Deployment in Thailand



- ❑ **COMMS Australia** : Supports to ITU ASP Digital Broadcasting Initiative



# Guidelines for the Transition from Analogue to Digital Broadcasting (Jan 2014)



<b>Part 1</b>	Introduction
<b>Part 2</b>	Policy and regulation
<b>Part 3</b>	Market and business development
<b>Part 4</b>	DTTB networks
<b>Part 5</b>	MTV networks
<b>Part 6</b>	Roadmap development
<b>Annex A</b>	Implementation of the GE06 Agreement
<b>Annex B</b>	More detailed information on some regulatory topics
<b>Annex C</b>	More detailed information on some DTTB network topics
<b>Annex D</b>	More detailed information on some MTV network topics
<b>Annex E</b>	Guidelines for migration of broadcast archives from analogue to digital
<b>Annex F</b>	Television broadcasting via satellite
<b>Annex G</b>	Television broadcasting via cable TV networks and IPTV

<http://www.itu.int/en/ITU-D/Spectrum-Broadcasting/Documents/Guidelines%20final.pdf>

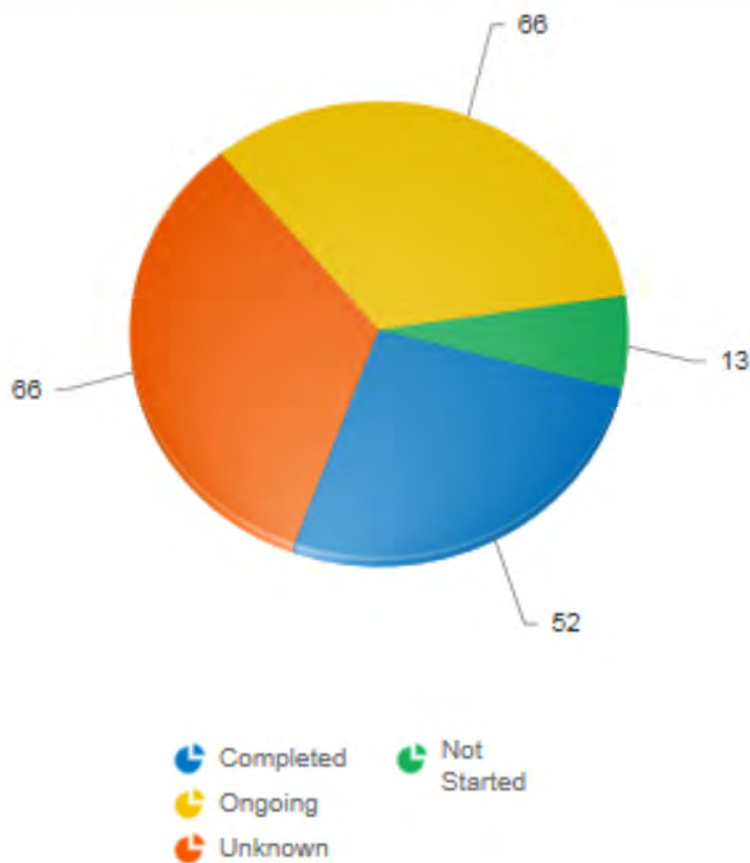
# National Roadmap Reports (2010-2014)

- National Roadmaps for Transition from Analogue to Digital Terrestrial Television Broadcasting (24 countries in the region)
   
<http://www.itu.int/en/ITU-D/Technology/Pages/ProjectonthedigitalbroadcastingtransitionroadmapinAsiaPacificCountriesRoadmaps.aspx>
- Asia (15):** Afghanistan, Bangladesh, Bhutan, Cambodia, Indonesia, Lao PDR, Mongolia, Maldives, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Timor-Leste, Vietnam
- Pacific: (9)** Fiji, Kiribati, Micronesia, Nauru, Papua New Guinea, Samoa, Solomon Islands, Vanuatu, Tonga



# Digital Switch Over of All countries

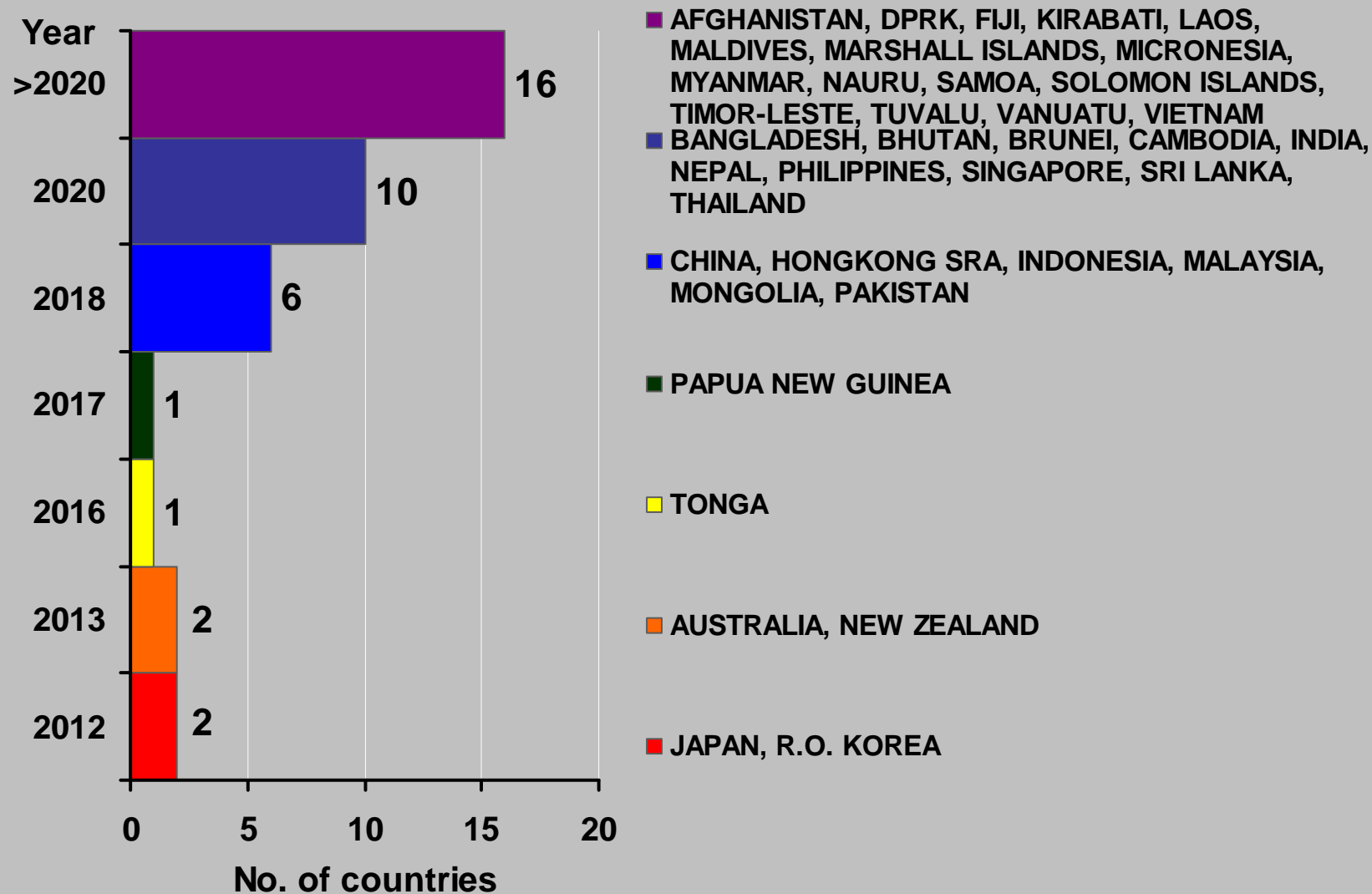
## ALL COUNTRIES STATUS



- Andora
- Australia**
- Austria
- Belgium
- Canada
- Croatia
- Cyprus
- Czech Rep
- Denmark
- Estonia
- Finland
- Former Yugoslav  
Republic of Macedonia
- Georgia
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Israel
- Italy
- United Arab Emirates
- United Kingdom
- United States
- Japan**
- Korea R.O.**
- Latvia
- Lithuania
- Luxembourg
- Malawi
- Malta
- Mauritius
- Monaco
- Montenegro
- Netherlands
- New Zealand**
- Norway
- Poland
- Portugal
- Rwanda R.O.
- Saudi Arabia
- Serbia
- Slovak Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- Tanzania



## Asia and the Pacific - Digital Switch Over (DSO)



Source: National Roadmap Report 2010 - 2014

# Digital Broadcasting Activities



- 24 Direct Country Assistance
- Conference/Seminar/Workshop/ Training in collaboration with ABU, AIBD, and CoE, over 1,000 participants from 33 countries to-date.



# Upcoming events

---

**ITU-ABU PACIFIC MEDIA PARTNERSHIP CONFERENCE 2015:**  
Partnering for Broadcasting  
25-27 August 2015, Apia, Samoa



## World Radio-communication Conference

2 – 27 November 2015,  
Geneva Switzerland

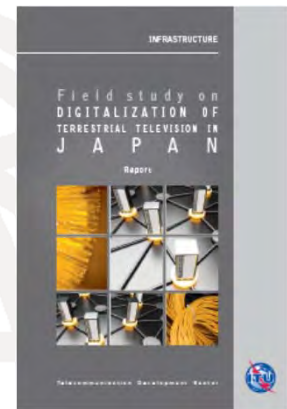
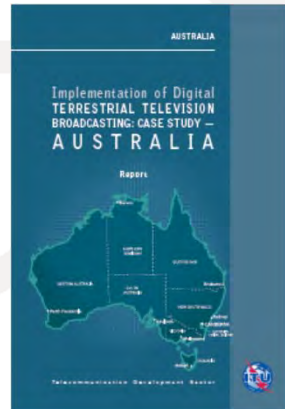
---

# Publications – available by 3Q 2015



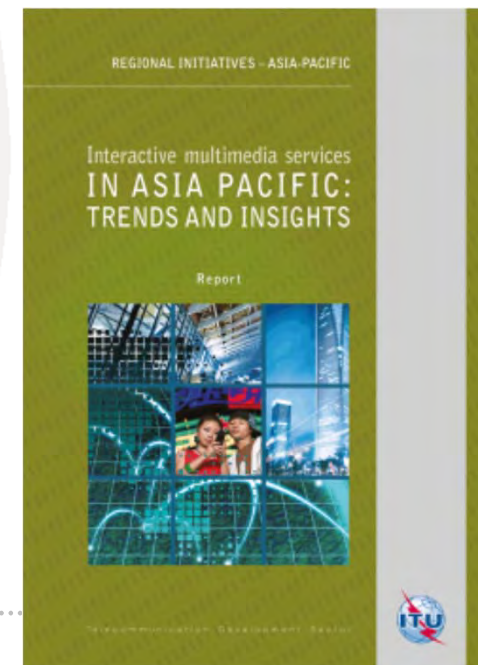
## ☐ Countries case study on DTTB implementation

- ❖ Australia
- ❖ Japan
- ❖ Thailand



## ☐ Interactive Multimedia Services for Asia and the Pacific: Trends & Insights

<b>1</b>	<b>Introduction</b> .....	<b>1</b>
1.1	Scoping interactive multimedia services.....	2
1.2	Categorizing interactive multimedia services.....	3
<b>2</b>	<b>Market and business trends</b> .....	<b>7</b>
2.1	Service changes.....	7
2.1.1	Service anywhere and anytime.....	8
2.1.2	Service tailoring.....	14
2.1.3	Video quality enhancements.....	19
2.2	Business model and strategy changes.....	22
2.2.1	Business model changes.....	22
2.2.2	Business strategy changes.....	25
<b>3</b>	<b>Technologies and standards</b> .....	<b>29</b>
3.1	Type 1: Linear Digital Television.....	29
3.2	Type 2: Wired Integrated Broadband Broadcast.....	30
3.2.1	HbbTV.....	31
3.2.2	Hybridcast.....	32
3.2.3	iCon.....	34
3.2.4	System comparison.....	35
3.3	Type 3: Mobile Integrated Broadband Broadcast.....	37
3.3.1	Malaysia.....	37
3.3.2	Japan.....	37
3.4	Type 4: IPTV.....	39
3.4.1	IPTV architecture.....	39
3.4.2	IPTV functionality.....	43
3.5	Type 5: OTT.....	44
3.5.1	OTT architecture.....	44
3.5.2	OTT implementation barriers.....	45
<b>4</b>	<b>Policies and regulations</b> .....	<b>46</b>
4.1	Regulatory aspects and concerns.....	47
4.1.1	Convergence of media frameworks.....	47

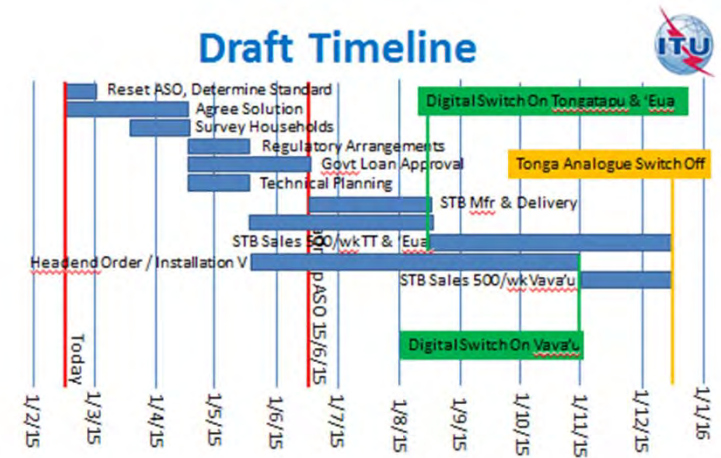




# Implementation of Digital Broadcasting Transition

- 2015

- 1Q Tonga
- 2Q Bhutan
- 3Q Papua New Guinea
- 4Q Philippines



- 2016

- 1Q Samoa



# Conclusion



- ❖ **Transition to DTTB services** is a complex process – yet necessary for broadcasters to remain in business in the longer term
- ❖ **Late DSO transition** leads to increased costs and loss of revenues
- ❖ **A successful transition to DTTB** requires:
  - ✓ Strong leadership of government
  - ✓ Firm decision of analogue TV switch-off date
  - ✓ Close cooperation between Regulator and industry
  - ✓ Clear and timely developed regulatory framework
  - ✓ Adequate information and assistance to the public



