



AIBD/ITU/ABU Pre-Summit Workshop on Enabling & Enhancing the DTT Broadcasting Experiences: The Development of Digital Broadcasting in ASEAN

DTTB implementation in Thailand
23 May 2016, Incheon, Republic of Korea

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NBTC, Thailand



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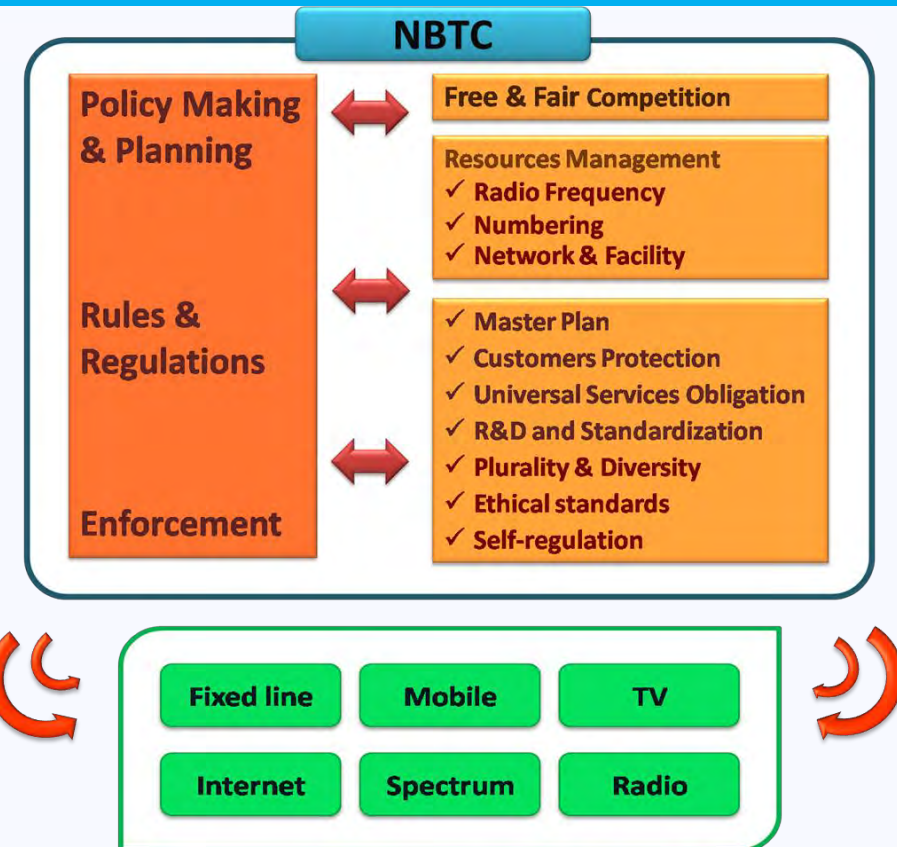
National Broadcasting and Telecommunications Commission (NBTC)



Established under the “Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Service, B.E. 2553 (2010)”

NBTC mandates:

- ❑ To license and regulate the operation of TV and radio broadcasting, radio communication, and telecommunications
- ❑ To promote free and fair competition in the industry
- ❑ To ensure universal telecommunications service is provided
- ❑ To promote research and development in the industry
- ❑ To protect right and liberty of the citizen and consumers from being exploited by the operators
- ❑ To maintain plurality in the provision of broadcasting
- ❑ To protect for the citizen and consumers against unfairness or the infringement of privacy, and against



The NRA Organization Act of 2010*

Telecommunications Business Act of 2001

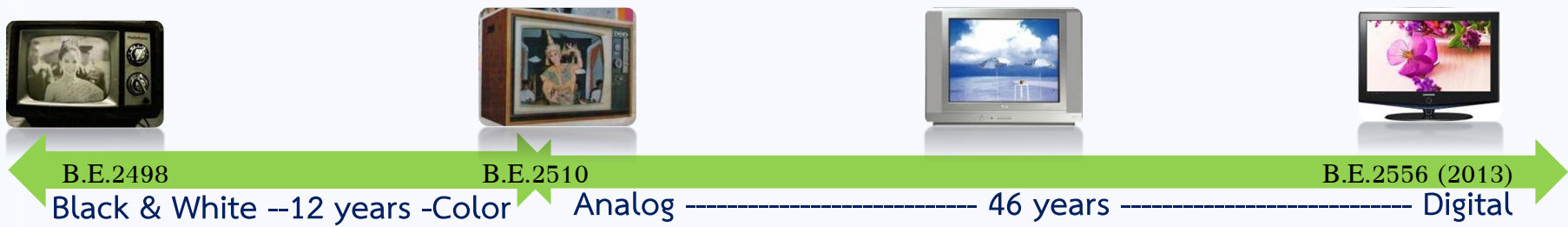
Broadcasting Business Act of 2008

Radio Communications Act of 1955

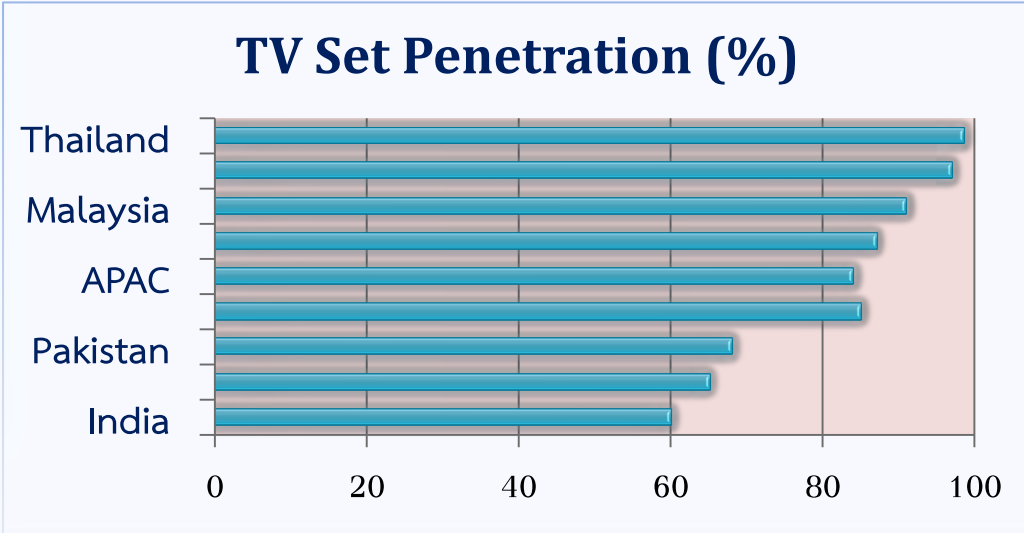


Broadcasting Landscape

History of TV Broadcasting in Thailand: 60 years



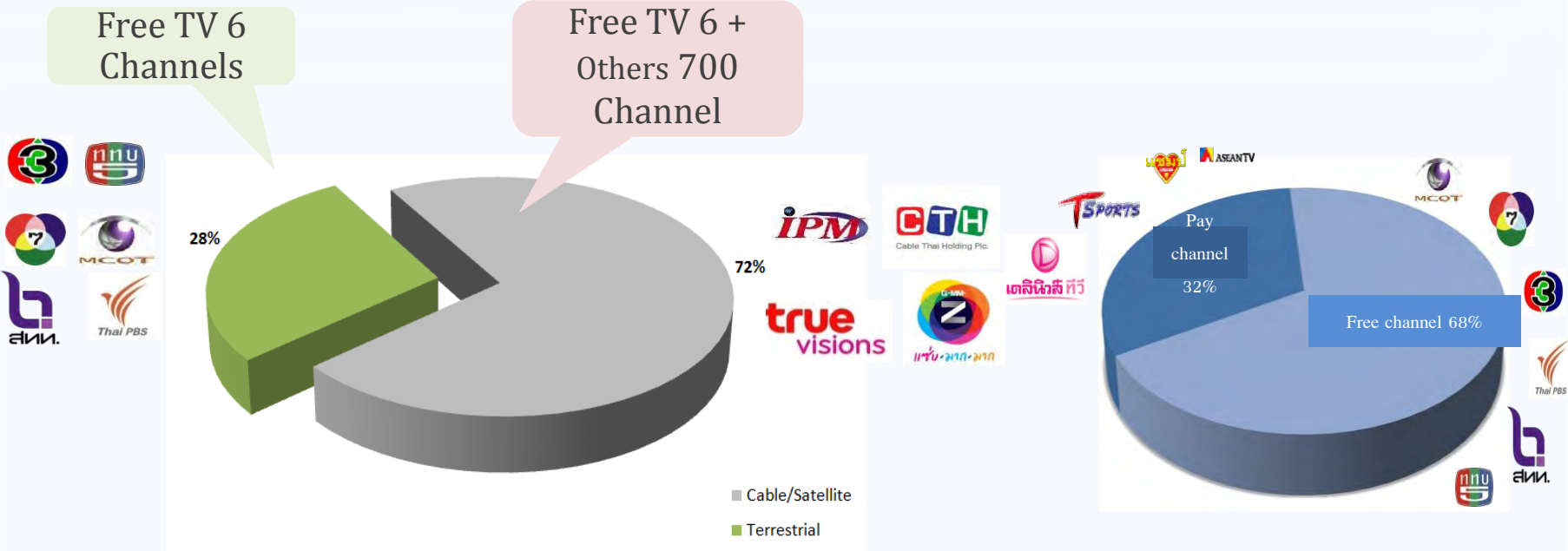
~ 22 million TVHHs in Thailand with 98% TV penetration, APAC average 84%



ADEX Share 2015

Thailand Media adv.	Million Baht	%Share
TV	57,525.77	47.03%
Cable TV	6,054.73	4.95%
Digital TV	20,930.25	17.11%
Radio	5,675.43	4.64%
Newspapers	12,331.76	10.08%
Magazines	4,226.52	3.46%
Cinema	5,133.58	4.20%
Outdoor	4,264.53	3.49%
Transit	4,477.89	3.66%
In-Store	639.06	0.52%
Internet	1,058.28	0.87%
Grand Total	122,317.78	100.00%

Broadcasting Landscape : TV Market in Thailand



■ Cable/Satellite are major platforms for TV broadcasting before DSO

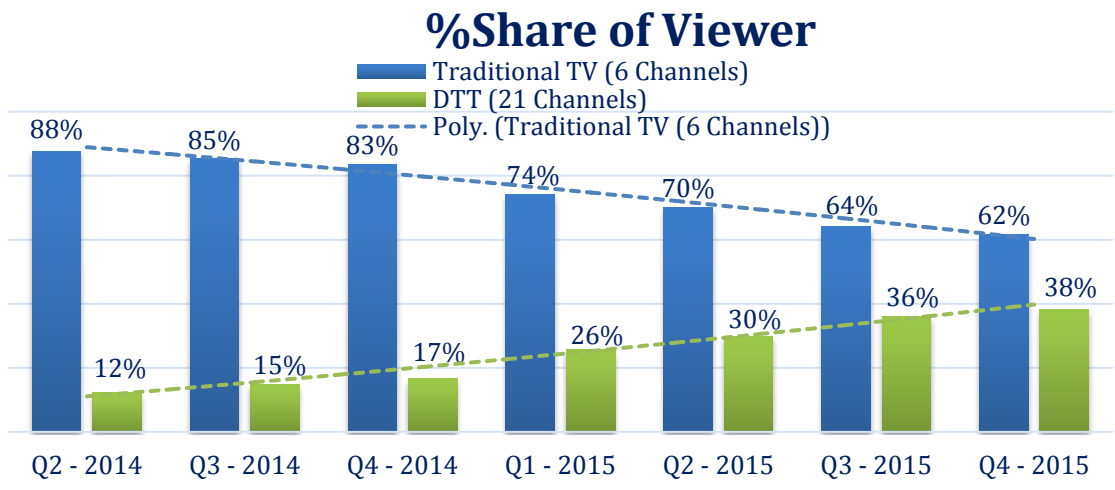
- 28% watch TV via Terrestrial
- 72% watch TV via Cable/Satellite

Most Thais use Cable or Satellite for watching Free TV channels

- 68 % of Thais watch FTV channels
- 32 % of Thais watch Cable/Sat Channels



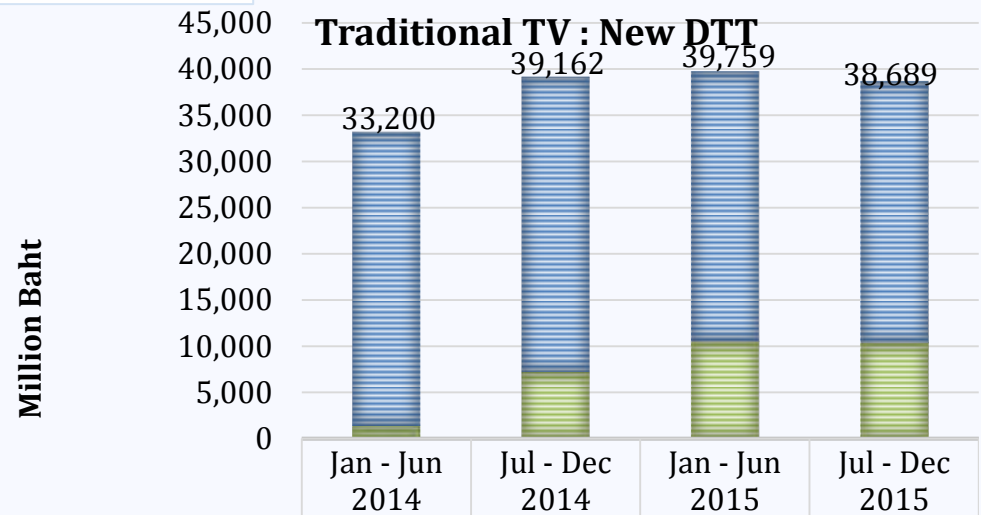
DTT Platform and Viewer Share



Source : Nielsen

End of Q1 2016, new DTT viewer 41%, Tradition TV 59%,

ADEX 2014-2015

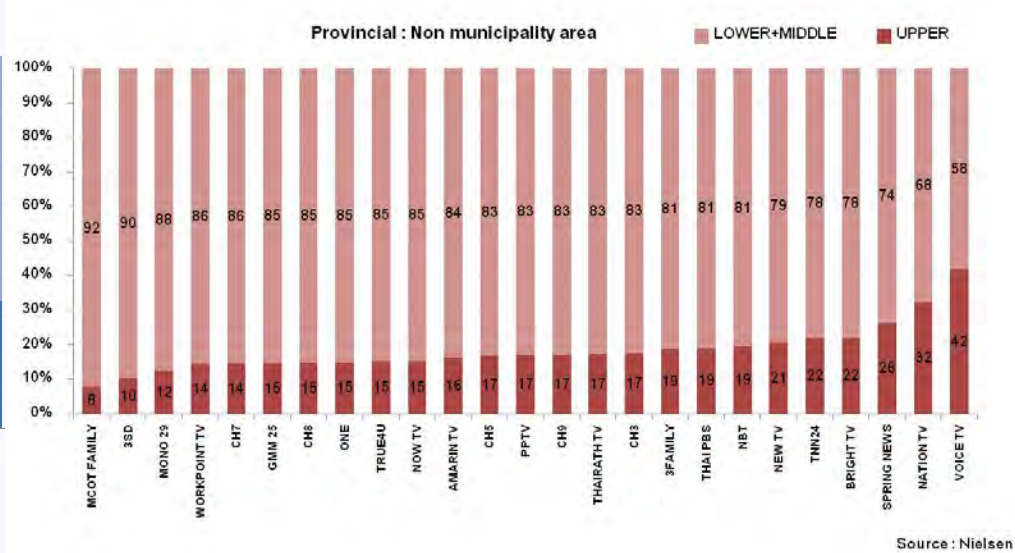
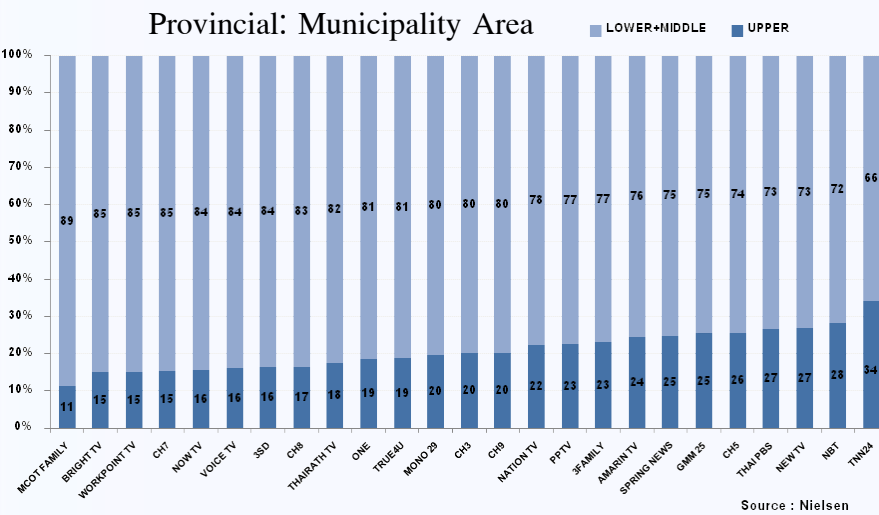
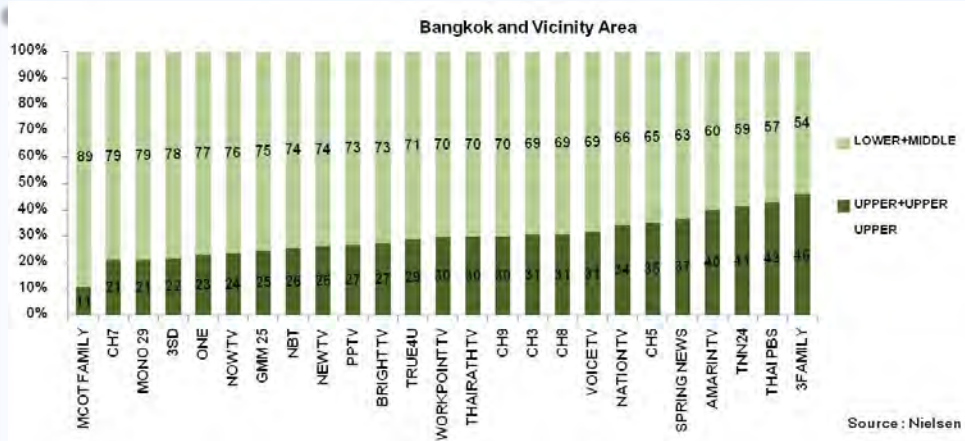


	Jan - Jun 2014	Jul - Dec 2014	Jan - Jun 2015	Jul - Dec 2015
Traditional TV (6 Channels)	31,831	31,946	29,239	28,280
New DTT (21 Channels)	1,369	7,216	10,520	10,409

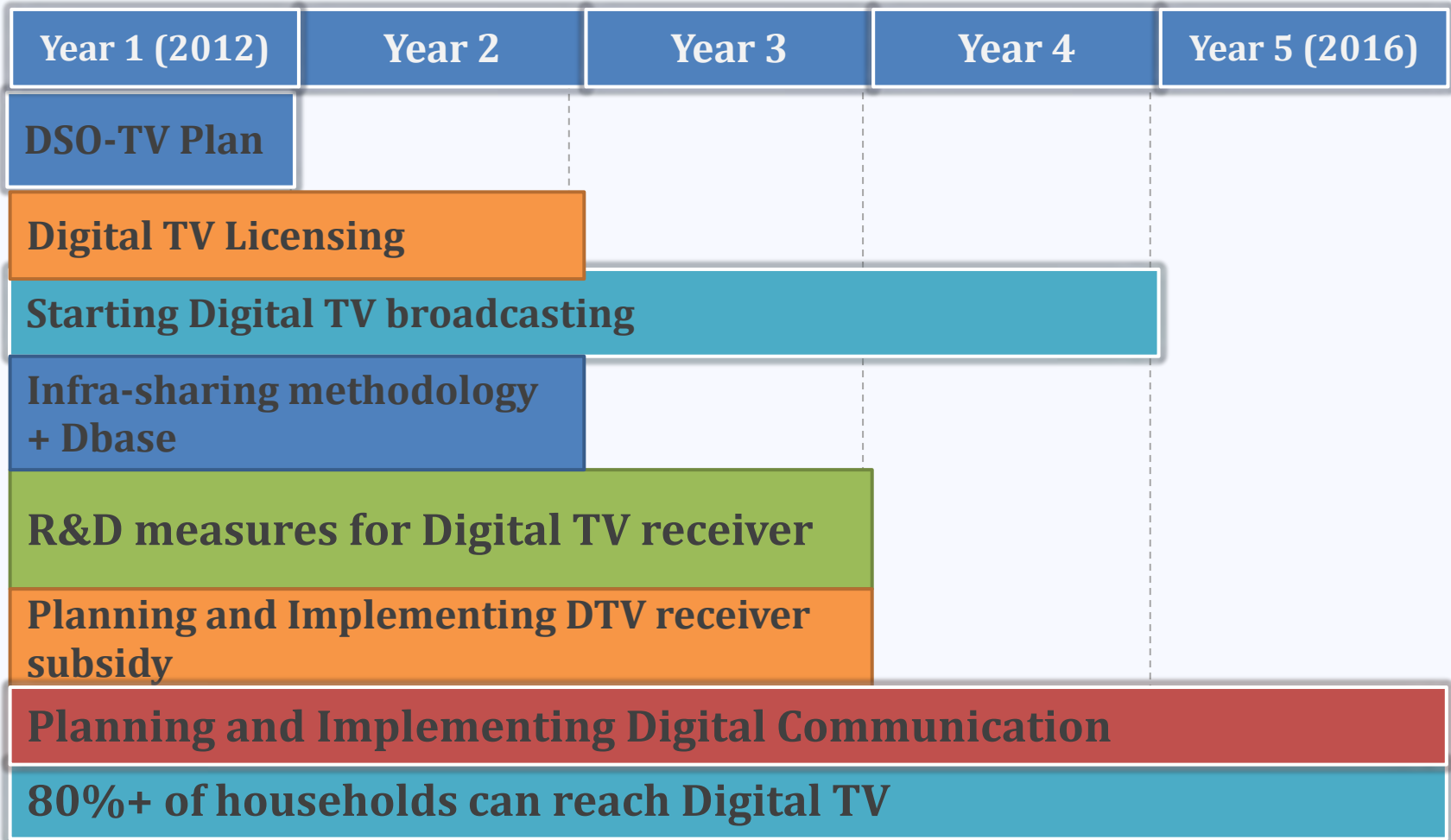
ADEX in Q1 2016 in Tradition TV 12,515 million THB (74%) and DTT 4,486 million THB (26%)



DTT Audience Ratio: by Area & Income



DSO Roadmap (Broadcasting Master Plan#1: 2012-2016)





DTTB implement Status in Thailand

Digital TV Roadmap : Feb 2012

DVB-T2 Standard Adopted : Jun 2012

Digital TV Trial : Q1 2013

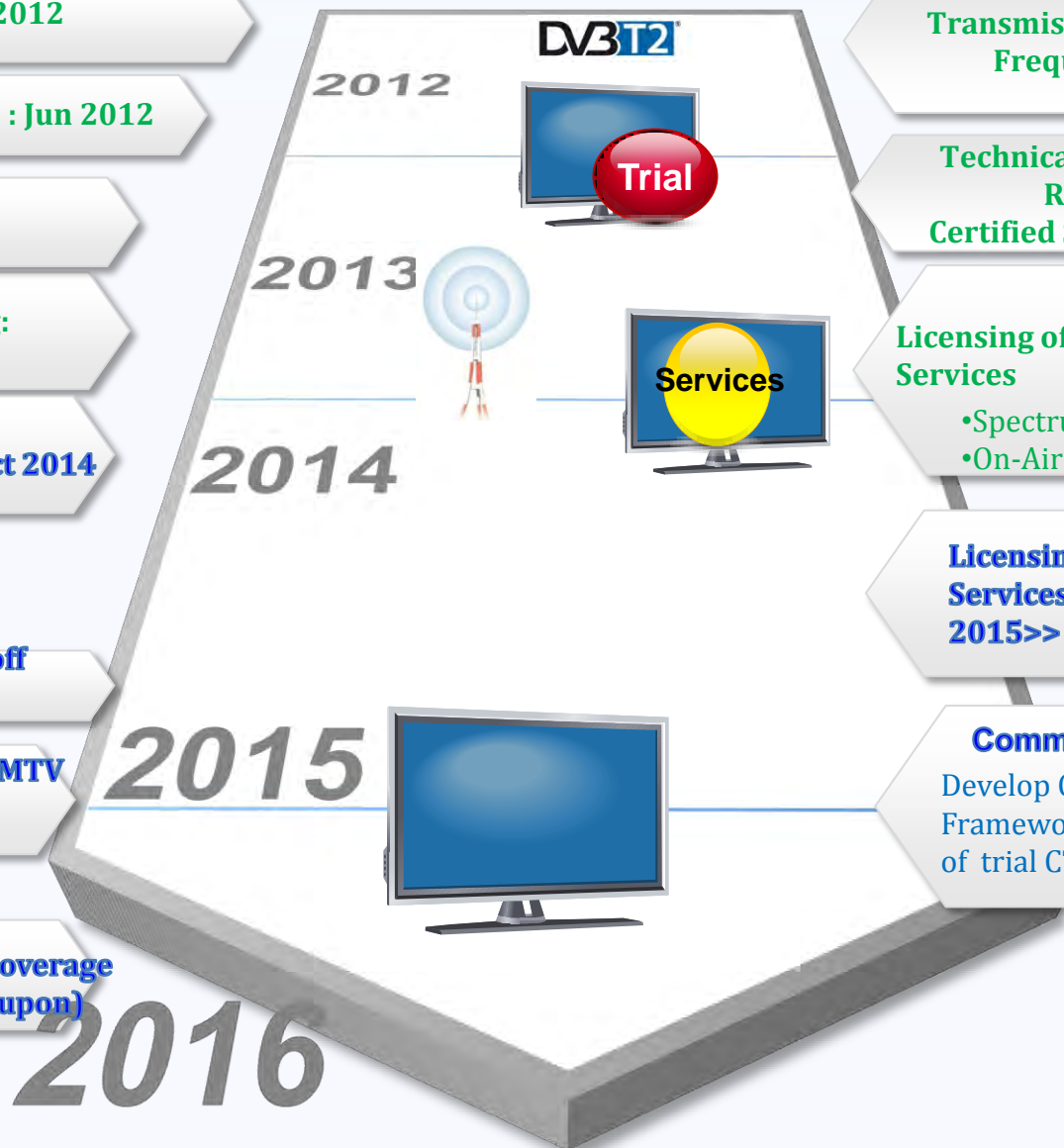
Facility/ Network Licensing:
Jun 2013

DSO Comunication: 2014>>
Subsidy coupon round 1: Oct 2014

Start Analog Switch-Off
Dec2015>> 3 cities switch off

Roadmap Development for MTV
2015>>

DTV Network : 90% HH coverage
Subsidy Campaign#2 (Coupon)



Technical Standard for DTTB
Transmission/ Reciever-ver1,
Frequency Plan:2012

Technical Standard for DTTB
Reciever-ver2,
Certified STB DVB-T2:Q3 2013

Licensing of Business Broadcasting
Services
•Spectrum Auction : Dec 2013
•On-Air : Apr2014

Licensing of Public Broadcast
Services: Ch 10 in 2015
2015>>

Community TV >>
Develop CTV Policy Regulatory
Framework, Guideline, Start process
of trial CTV prototype: Q3-2016



DTTB Frequency Planning

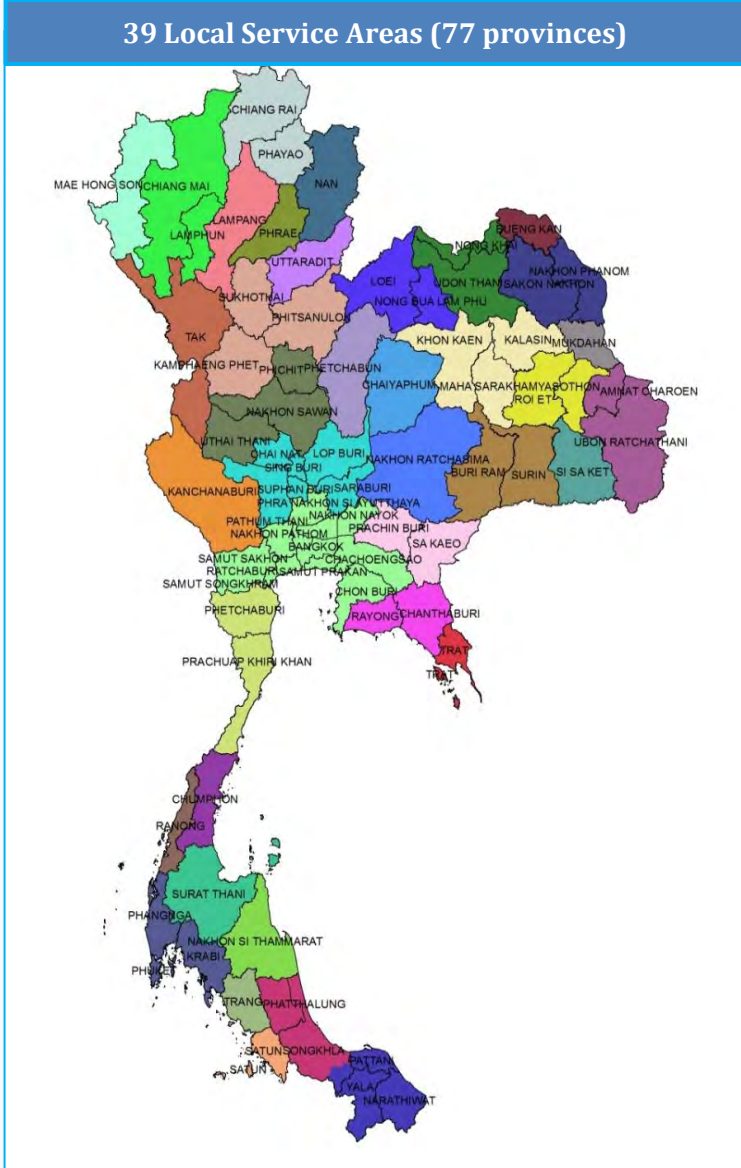
- Frequency Range : UHF 510 – 790 MHz
- Bandwidth : 8 MHz
- Frequency Channel : Channel 26 - 60
- Service Area : 39 service areas
- Number of Main sites : 39 sites
- 5 MUXs (5 frequency channels) per Service Area
- 6th MUX is reserved for community services
- Infrastructure sharing between all MUXs

Frequency Planning Basic Approach:

- Each main site will be MFN with others.
- Each main site and its additional sites will be SFN.
- Compatibility between D-D and D-A
- FX reception coverage target is 95% of households

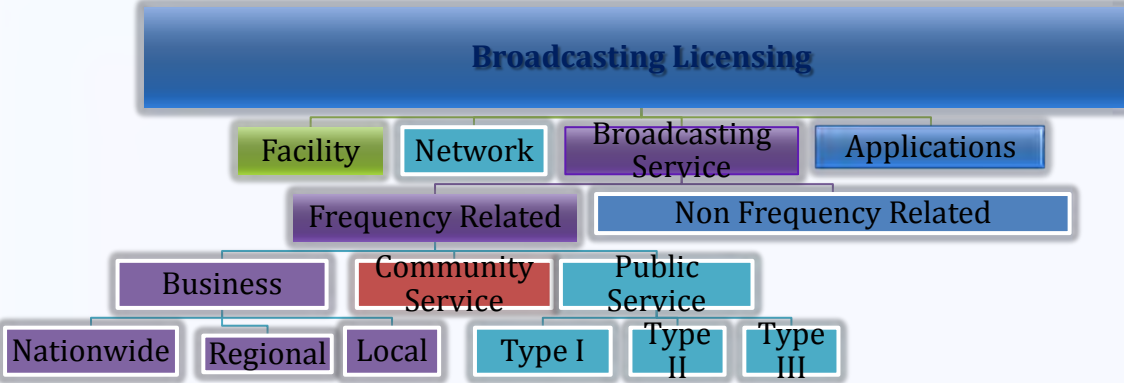
Policy on DTTB technology

- DVB-T2 was selected for DTTB transmission standard
- Resolution is HD and SD are applied.

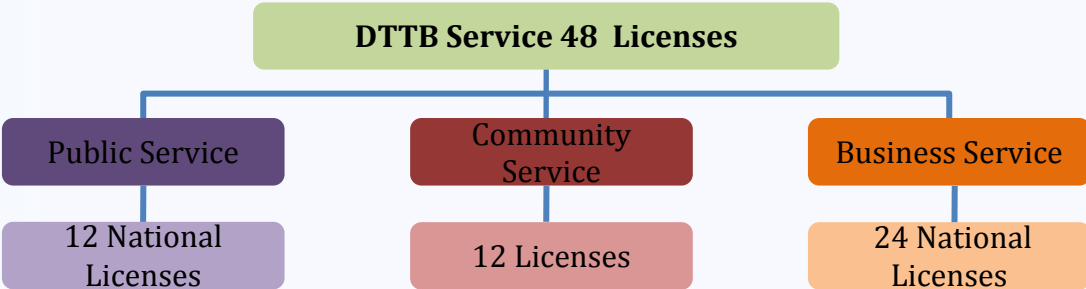




Broadcasting Licensing Scheme




DTT Broadcasting Services




DTTB Services: Must Carry

Licensing status (as of Apr2016)



DTTB Network: 5 licenses

DTTB Services :
Business 22 licenses
(Revoked 2 licenses), Public 1 license



Satellite and Cable TV : 643 licenses

Network operators : 418 licenses
(N40+R60+L318)

Facility operators : 7 licenses



DTTB Services Licensing : Spectrum Auction

- Spectrum auction for business broadcasting service-National Level- 4 Categories on 26-27 Dec2013



Kids & Family	<ul style="list-style-type: none">• 3 Licenses• Reserve Price 140 MB	<ul style="list-style-type: none">• Total Bidding Price 1,974 MB
News and Documentary	<ul style="list-style-type: none">• 7 Licenses• Reserve Price 220 MB	<ul style="list-style-type: none">• Total Bidding Price 9,238 MB
SD-General	<ul style="list-style-type: none">• 7 Licenses• Reserve Price 380 MB	<ul style="list-style-type: none">• Total Bidding Price 15,950 MB
HD-Genenal	<ul style="list-style-type: none">• 7 Licenses• Reserve Price 1510 MB	<ul style="list-style-type: none">• Total Bidding Price 23,700 MB
Total 24 Business Service licenses (Reserve Price \$ 474 million)		Auction Results 50,862 MB (\$ 1,589 million)



DTTB Channeling: 48 Channels

Kids/Youth & Family Channels 13-15

1

2

3

10

Public Channels 1-12

Community TV : 37 to 48 reserved in each service area
** Now Ch1-3 are simulcast channels*

13

14

15

16

17

18

19

20

21

22

News /Info Channels 16-22

General Channels (SD) 23-29

23

24

25

26

27

28

29

ความคมชัดปกติ
(SD, Standard Definition)

General Channels (HD) 30-36

30

31

32

33

34

35

36

ความคมชัดสูง
(HD, High Definition)



DTTB Network Licensing and Roll-out Status


Network Licensing

- Issued 5 DTTB Network Licenses for 4 Network Providers (PRD 1, RTA 2, MCOT1, TPBS1) in Jun 2013, all agreed to share common facilities e.g. towers, antennas, combiners
- 39 main sites and 24 additional sites implemented cover 86% HHs coverage as of Apr2016

Regulate on Network Licenses

Network Rollout Obligation: 95% HHs coverage within 4 years : 39 main sites + 132 Additional Sites

Year	HH Coverage
1	50% in Jun 2014 (11 mil. HH)
2	80% in Jun 2015 (17.6 mil. HHs)
3	90% in Jun 2016 (19.8 mil. HHs)
4	95% in Jun 2017 (22 mil. HH)



Public Relation Department (PRD)
1 network license



Royal Thai Army
2 network licenses



MCOT
1 network license



Thai PBS
1 network license

- Portable indoor reception mode in Municipality areas
- 20 % of MUX Capacity for Community TV service



Share facilities

Community TV



- ▶ **NBTC Organization Act:**
 - ▶ 20% of spectrum reserved for non-commercial public/citizen usage.
 - ▶ Spectrum reserved for non-commercial public/citizen usage will be implemented after the Digital Switch Over
- ▶ NBTC, ITU/UNESCO collaboration on project: **Development of a Framework for Introducing Community TV Broadcasting Services in Thailand**
 - ▶ **Country Case Studies** covering Policy and regulation, Technology, Content, Measures for promoting, services, Issues/challenges/opportunities and lessons learned
 - ▶ **Develop Framework** for introducing Community TV Broadcasting Services in Thailand, Policy and regulation, Technology, Licensing framework, Measures for promoting the service
 - ▶ **Guidelines/recommendations** for setting up a trial of Community TV Broadcasting Services in Thailand
 - ▶ Capacity Building: Workshop/Conference, focus group

39 DTV Service Areas (12 Ch/Area for Community TV)



Mobile TV Services



Mobile Television Services:
Feasibility study for Thailand

Mobile Television Services:
Implementation Strategies for
Thailand

May 2015

File: NBTC-ITU Feasibility report_MTV_FINAL (May2015)

DTT Receiver: Specification

Mandating DTT Receivers



- DVB-T2 Receiver (including Set-top-box and integrated Digital TV) has to comply with NBTC's DVB-T2 Receiver Specification Edition 2012 and 2013 (Amendment).
- Draft of ASEAN Common Specification and specifications from ASEAN countries has been used as a baseline during developing the above specification.

ASEAN Digital Broadcasting (ADB) initiative to develop common specifications for DVB-T2 receivers

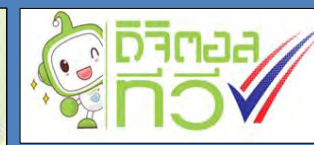


- Self Conformance scheme: Submit test reports to conform and to eligible for conformance Mandating the Digital Receivers sticker and Digital TV Mascot & Logo



Post Regulate

MarCom



NBTC ID and DTV Ready Label

Registration Process and get Approval from NBTC

Submit Reports

DTT Receiver: Type Approval Sticker



Digital TT Receiver Type Approval

Year	STB (DVB-T2)	iDTV	Portable	Total (Models)
2014	147	238	45	430
2015	10	159	20	189
Jan-Apr2016	1	152	11	164

Total DTT Receiver sticker

Year	STB (DVB-T2)	iDTV	Portable	Total (units)
2014	13,221,429	1,632,592	2,577,189	17,431,210
2015	2,316,960	2,758,263	165,045	5,240,268
Jan-Apr2016	17,284	1,381,905	23,800	1,422,989

Revenue from DTT Receiver sticker label

Month	STB (DVB-T2)	iDTV	Portable	Total (THB)
2014	66,107,145	8,162,960	12,885,945	87,156,050
2015	11,584,800	13,791,315	825,225	26,201,340
Jan-Apr2016	6,058,340	692,007	127,330	7,016,920



Portable: Tablet, WIFI Hotspot and Smart Phone with built-in DVB-T2 tuner



*EXCHANGE RATE 35 THB PER US \$

DTV Coupon Program-Subsidy Campaign



DVB-T2 Receiver Coupon Program

- NBTC set a coupon program as a subsidy measure and distribute cash coupon to every households in Thailand, the subsidy budget for 22.9 million households comes from revenue of Spectrum auction for DTTB Services to support Digital TV Switch-over.
- National Council for Peace and Order (NCPO) Committee approved to utilize some parts of the revenue from auction for DTT Receiver Subsidy Program
- The reserve price portion (15,190 million Bath) from the broadcasting frequency auction was allocated for the program.
- Digital TV coupons worth THB 690 (\$20) for digital TV receivers delivered since October 10, 2014.
- The coupon can be used for Digital Set-Top-Box and iDTV Set with built-in tuners



DTV Coupon Program-Subsidy Campaign



How coupon program works

- Coupons are distributed to eligible HH via postal services.
- The eligible HH:
 - Household registration (House ID)
 - Registered householder
- The received coupon can be exchanged for a basic Set-Top-Box or as a discount card for a premium Set-Top-Box or iDTV
- Authorized suppliers/vendor have to request a program sticker for each Set-Top-Box or iDTV, required to stick it on the used coupon.

The collage includes several key elements:

- Coupon Card:** A pink and white coupon with a barcode, serial number 0000 0000 0000, and a value of 690 THB. It is titled "คูปองเพื่อสนับสนุนประชาชนในการขอรับบริการอินเทอร์เน็ตทีวีของประเทศไทยในราคาประหยัด" (Coupon to support citizens in requesting internet TV services at a low price).
- Website Screenshot:** A screenshot of the program's website showing a map of Thailand and various service providers.
- Informational Brochures:** Two brochures with Thai text. One lists steps for exchanging the coupon:
 1. ผู้ลงทะเบียนสามารถนำคูปองไปแลกกับเครื่อง Set-Top-Box 690 บาท หรือ
 2. ใช้เป็นส่วนลดซื้ออุปกรณ์ทีวีที่มีราคาตั้งแต่ 690 บาทขึ้นไป หรือ
 3. ใช้เป็นส่วนลดซื้อบริการอินเทอร์เน็ตทีวี (iDTV) หรือบริการอื่นๆจากผู้ให้บริการอินเทอร์เน็ต
- Registration Form:** A form titled "เปิดบ้านให้ช่างและเตรียมเอกสารให้ครบถ้วน" (Open house for technicians and prepare documents completely). It includes fields for name, address, and phone number, and a checklist of required documents.



DTV Coupon Program-Subsidy Campaign



Coupon Status (as of 31 Jan 2016)

13.57 million coupons were distributed to eligible HHs in 77 provinces with redemption rate 64% or 8.7 million coupons were activated.

Lot	Distribution Date	Distribution Area			Redemption Rate	Expired Date
		Coupon	Province	District		
1	10 Oct 2014	4,645,495	21	Alls	63%	31 Jul 2015
2	28 Nov 2014	1,777,495	20	100	67%	31 Jul 2015
3	24 Dec 2014	623,401	4	41	73%	31 Aug 2015
4	28 Jan 2015	633,825	5	38	68%	30 Sep 2015
5	10 Feb 2015	517,463	7	36	72%	31 Oct 2015
6	6 Mar 2015	124,763	4	8	67%	30 Nov 2015
7	21 May 2015	5,248,854	56	476	62%	31 Jan 2016
All		13,571,296			64%	

The 2nd subsidy Project

Feb2016, NCPO/Prime Minister approved a proposal from the Office of NBTC to subsidize DTV receiver by coupons for 4 groups of households as the follows:

- Eligible householders of the first lot which did not receive coupons and those coupons were returned to the Office of NBTC by Thailand Post Company.
- Any Household having house registration document and householder after 16 Sep2014
- Any household with a house but doesn't has a householder
- Any household with temporary house registration document

DSO Communication



DTTB Communication strategy

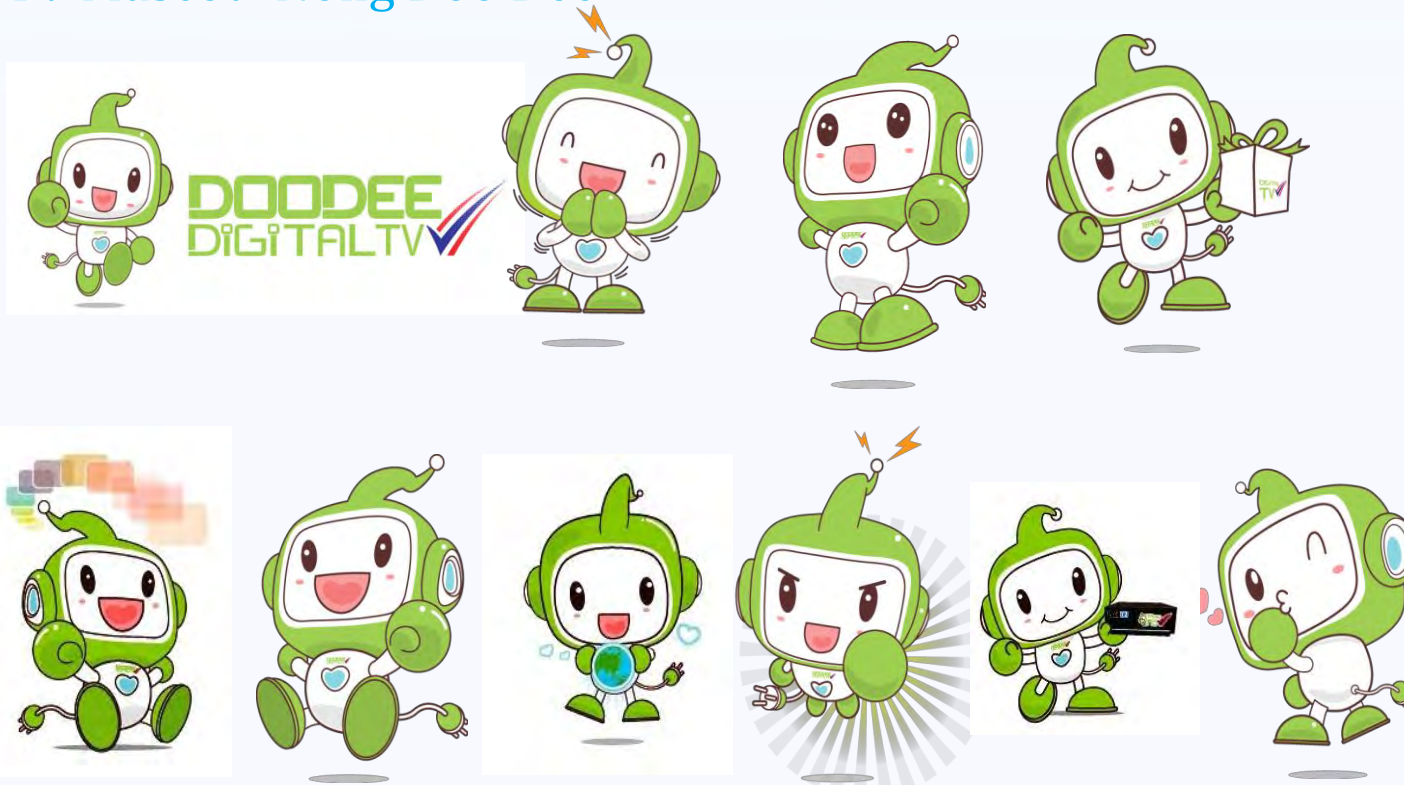


- DSO communication to promote Digital TV
- Create awareness and educate to people on DSO
- Communicate on various channels; TV, Radio, SMS, Newspaper, On-Line and Social Media (<https://www.facebook.com/digitaltv.nbtc>), DTV Web site (<http://digital.nbtc.go.th>), Events & Exhibitions, DTV Road show
- Create media and national message and handbook for promoting DSO
- Implementing Coverage Checker on web and Mobile/Tablet Applications
- Build community, local administration to promote DTV
- Cooperate with Universities, Network Operators, DTV manufactures to support customer on DTV installation
- Cooperate with DTV broadcasters, telecom operators to promote DTV
- Encourage high rise building (apartment, condominium) to install DTV antenna
- Project DTV4All, All4DTV , support disabilities people

DSO Communication



DTV Mascot "Nong Doo Dee"



DTV Song

<https://www.youtube.com/watch?v=mCVSPaIA8oc>

Mass Communication on TV



ดีจิตอลทีวี ดุดีทุกช่อง



ดีจิตอลทีวี ดุดีทุกช่อง

DSO Communication

Promoting and Educating Digital TV



Roadshow



DTV Troop



DTV events





Information and Customer Support Promoting and Educating Digital TV : Social Media

Website

<http://digital.nbt.go.th>



Facebook

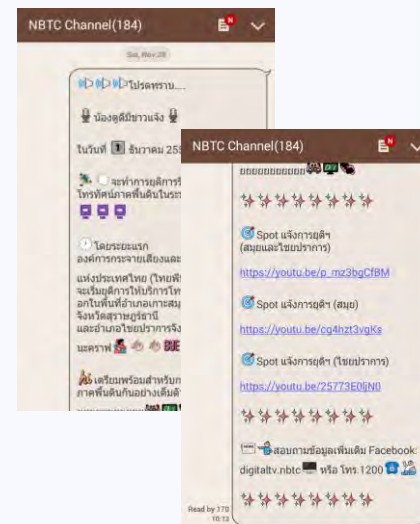
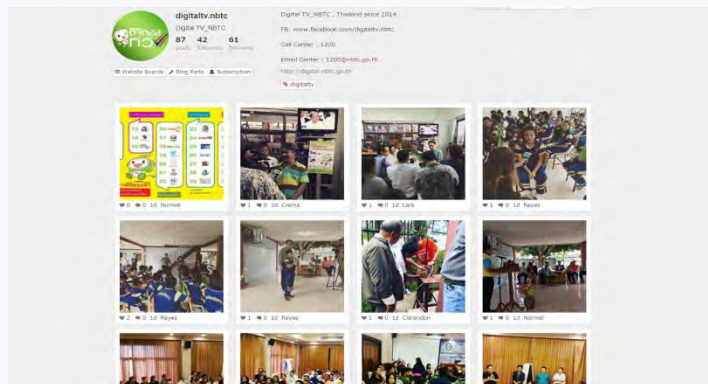
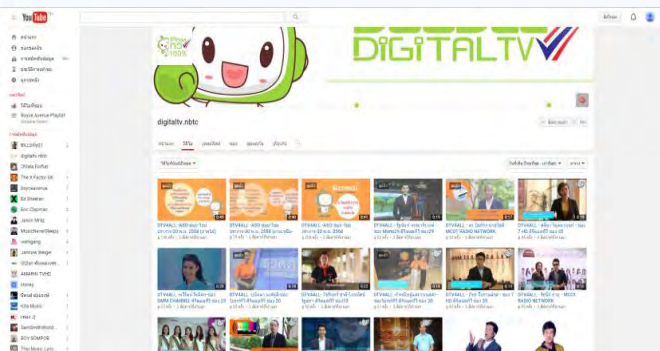
(<https://www.facebook.com/digitaltv.nbt>),



Youtube

Intragram

Line Application

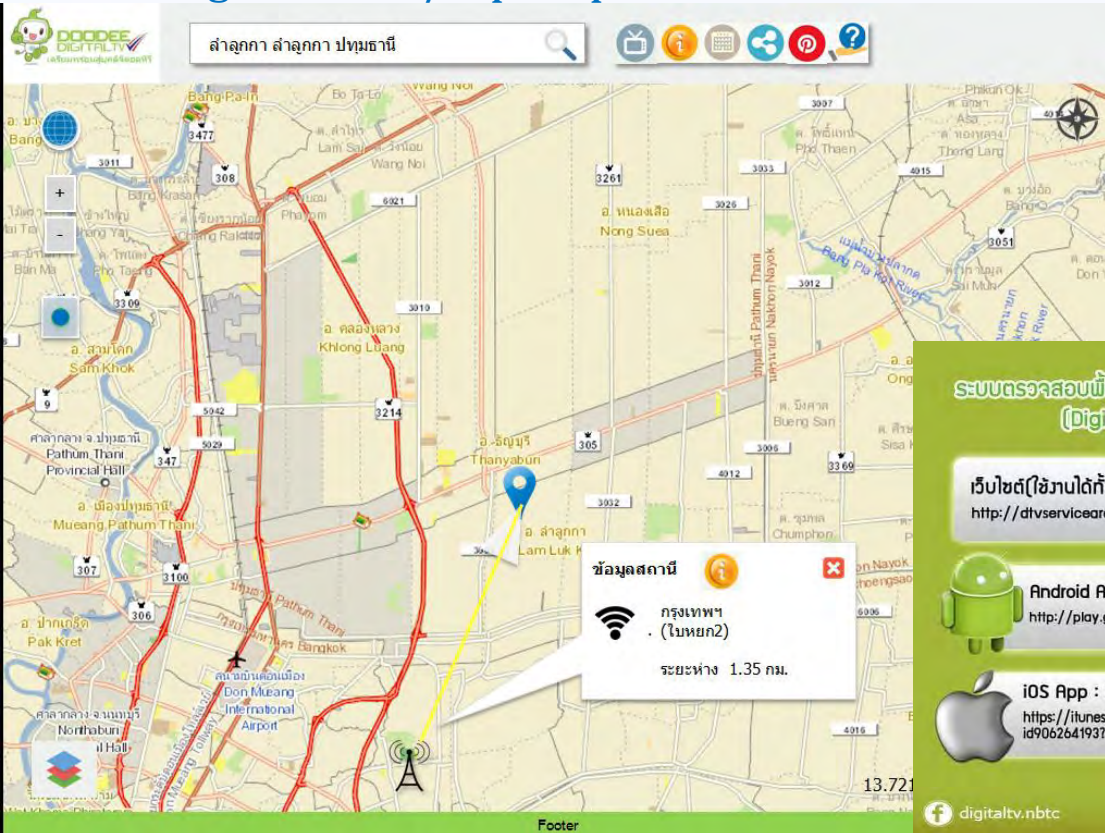


Information and Customer Support Coverage Checker: DTV Service Area



Web Application and Mobile Application (iOS/Android)

- Location of Transmitter, Distance, Ant Direction
- Coverage, Network Deployment Status, MUX and Frequency Channel information
- Getting feedback/report problem areas



ระบบตรวจสอบพื้นที่ครอบคลุมสัญญาณทีวีดิจิตอล
(Digital TV Service Area)

เว็บไซต์(ใช้งานได้ทั้ง PC,Mobile,Tablet)
<http://dtvservicearea.nbt.go.th/webpeople/>

Android App : DTV Service Area
<http://play.google.com/store/apps/details?id=esrith.nbt.CBDC>

iOS App : DTV Service Area
<https://itunes.apple.com/jp/app/dtv-service-area/id906264193?l=en&mt=8>

ลงเข้าไปใช้บนแท็บเล็ต

digitaltv.nbt

Information and Customer Support Promoting and Educating Digital TV



Print medias

ดิจิตอลทีวี

พร้อมกันนี้ในไตรมาสที่ 3 ของปีนี้ 39 ภูมิภาคการกระจายสัญญาณดิจิตอลทีวีจะครอบคลุมไปถึงพื้นที่ทั้งหมด 77 จังหวัด มีผล 2.0 หรือคิดเป็น 95% ของครัวเรือนทั้งหมดที่มี 4.0

พร้อมกันนี้ในไตรมาสที่ 3 ของปีนี้ 39 ภูมิภาคการกระจายสัญญาณดิจิตอลทีวีจะครอบคลุมไปถึงพื้นที่ทั้งหมด 77 จังหวัด มีผล 2.0 หรือคิดเป็น 95% ของครัวเรือนทั้งหมดที่มี 4.0

DIGITAL ANALOG

จำนวนช่อง 2557 (รวมช่องฟรีทีวี 48 ช่อง)

จำนวนช่อง 6 (รวมช่องฟรีทีวี 6 ช่อง)

จำนวนช่อง 2498 (รวมช่องฟรีทีวี 6 ช่อง)

ความละเอียด HD 1080i 50% (รวมช่องฟรีทีวี 19 ช่อง)

ความละเอียด SD 720i 80% (รวมช่องฟรีทีวี 33 ช่อง)

ความละเอียด SD 576i 90% (รวมช่องฟรีทีวี 37 ช่อง)

ความละเอียด SD 576i 95% (รวมช่องฟรีทีวี 39 ช่อง)

87 หมู่เขตด้วย 300 8 หน่วยงานใน 100 หมู่เขต โทร. 1200

โทร. 02 271 0511 ext. Call Center 1200 www.nbtv.go.th

Project DTV4all, all4DTV

Handbook: DTV Installation

ดิจิตอลทีวี

“ดิจิตอลทีวี
รายการดีดี รับชมได้เสถียรทั่วไทย
ถึงใจ... ถึงอารมณ์...”

ณ. พิษณุโลก - จันทบุรี โทร. 1200

www.digital.nbtv.go.th

คู่มือ

ดิจิตอลทีวี

DIGITAL TV HANDBOOK

คู่มือการติดตั้ง

สำนักงานคณะกรรมการการกระจายเสียง
การโทรคมนาคม โทรคมนาคมแห่งประเทศไทย

48 ช่องฟรีทีวีระบบดิจิตอลทีวี

วิธีบริการรับชมช่องดิจิตอลทีวี

รับชมด้วยระบบดิจิตอล

รับชมผ่านระบบดาวเทียมหรือเคเบิล

วิธีที่ 1 ทรานซิวเซอร์ (SET TOP BOX)

วิธีที่ 2 ทรานซิวเซอร์ (DTV)

เว็บไซต์: digital.nbtv.go.th / Facebook: www.facebook.com/digital.nbtv / Youtube Channel: digital.nbtv

ดิจิตอลทีวี

“คุณ! เช้า! จัดเต็ม!!!
คุณภาพเนิ่นนาน ทุกช่อง...
ดิจิตอลทีวี”

ณ. พิษณุโลก - จันทบุรี โทร. 1200

www.digital.nbtv.go.th

Project DTV4all, all4DTV:
Social Media Communication
(Viral) with supporting from
Super star, Singers, famous
people



Information and Customer Support Customer Cooperate with university, technical college

MOU with Vocational universities in every provinces to support customer on TV installation



DTV Technical Training to technician





Information and Customer Support Customer Cooperate with Government agencies

MOU with Royal Thai Army (Network Operator) to build DTV demo set in public local service center (eg. Local hospital)

Governor Monthly update





Information and Customer Support Call Center and Customer Complaint Handling

Call Center 7 days, 24 hrs

Call Center : Mobile Application



Various Call Center Channels

- Phone to Hot line 1200
- Walk-in
- Social Media
- Web Chat/ Web form
- Email
- Fax
- Government Call Center (GCC 1111)
- NBTC sectors/Branch office

- Mobile application has been launched in Apr 2015.
- Receive customer complaint with mark location, capable to attach photo/VDO
- 1098 topic raised via application, 90% is information inquiry on DTV, 4G Auctions, and prepaid SIM register, 10% is complaints.

Customer Complain Handling: Set up Consumer Protection Subcommittee and Consumer Protection Bureau



Information and Customer Support Customer DTV Coupon inquiry via Call Center

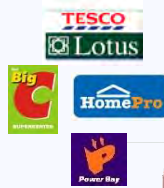
NBTC provide information support customer via Call Center on DTV coupon accumulated **513,042** calls from 10 Oct till 2014 5 Feb 2016.

Most calls are information inquiry, only 66 calls are complaints.



check right to receive coupon

coupon redemption



check coupon delivery status



After sales service/ how to set up STB or iDTV





Information and Customer Support Customer Consumer protection activity, ASO awareness

Workshop on ASO with
local community



ASO Awareness
Project-ASO knock door



Project Smart Media for
Smart Consumers



Cooperation with broadcaster
on Media Literacy



ITU-D Study Group 1: Question 8/1

Examination of strategies and methods of migration from analogue to digital terrestrial broadcasting and implementation of new services

Thailand Case Study:

Transition to Digital Terrestrial Television Broadcasting

Document [SG1RGQ/227\(Rev.1\)-E](#)

Telecommunication Development Sector
Study Groups

ITU-D Study Group 1 Rapporteur Group Meetings
Geneva, 4 – 15 April 2016

Document [SG1RGQ/227\(Rev.1\)-E](#)
7 April 2016
English only

DELAYED CONTRIBUTION

Question 8/1: Examination of strategies and methods of migration from analogue to digital terrestrial broadcasting and implementation of new services

SOURCE: Thailand

TITLE: Thailand Case Study: Transition to Digital Terrestrial Television Broadcasting

Action required: Participants are to consider this contribution.

Keywords: Transition to Digital Broadcasting, Digital Terrestrial Television, Thailand

Abstract:
This document provides an overview of Thailand's activities related to transition from analogue to digital broadcasting.

The Thailand's Act on Organisation to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services (2010) stipulates that the National Broadcasting and Telecommunications Commission (NBTC) shall have mandates to put in place a master plan for spectrum management and a master plan for broadcasting in Thailand.

Pursuant to the First Thailand Broadcasting Master Plan (2012-2016), transition from analogue to digital (terrestrial) broadcasting is one of seven strategies of the NBTC. In this regard, the NBTC has developed a roadmap for transition to digital terrestrial TV broadcasting in Thailand. The roadmap defines 39 service areas nationwide and each has 12 channels for Community Services. The total number of DTTB channel is 48 channels, 24 channels are allocated for national Business broadcasting services and 12 channels are allocated for national Public broadcasting services. 5 DTTB networks have been deployed, all operators agreed to share common infrastructure and facilities, network roll out plan target to reach 95% of household coverage within 4 years (2017).

This report consist of background of transition to digital broadcasting, television broadcasting in Thailand, network planning and deployment, service licensing and spectrum auction, receiver and subsidy program, DSO communication, ASO planning and implementation, and lesson learned.

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Submit contributions at:

http://www.itu.int/net4/ITU-D/CDS/contributions/sg_v2/index.asp?lg=1&prd=2014

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Study Group Questions: All SG 1 Questions: Enabling environment for the development of telecommunications/ICTs
 Question 8/1: Examination of strategies and methods of migration from analogue to digital terrestrial broadcasting and implementation of new services

Lesson Learned (1)



DTTB Network Rollout

- Sharing infrastructure and facilities
- Ensuring that network rollout, network coverage and network quality of every MUXs are ready to provide broadcasting service the same period for fair competition.
- Regular network quality
- Setting proper Service Availability, faster recovery, redundancy system/location should be well planned in network design in the first place.
- Utilize existing antenna system and site facilities of existing network operators

Digital Communication

- Mass communication to public, simply key message
- Getting engagement from government agencies in state and local level, public and relevant organization.
- On-Line Communication such facebook, youtube, twitter, line applications

Digital TV Subsidy Program

- Collaboration between the agencies who distribute the set-top-box coupons
- DTV Coupon should be distributed to areas whereas DTTB signal covered.
- If there is enough budget, DTV coupon should be distributed thoroughly to every households and cover all groups of audiences.
- DTV coupon value should be enough to cover a qualified set top box with necessary accessories to receive signal
- Proper training for the STB installers prior to distribution of coupon and STB

Receivers

- Collaboration with Vocational school and network operators to help people on STB Receiver Installation, also set up advisory group to support installation.
- Develop application or tool to help the people to equip and tilt the antenna correctly like 'DTV Service Area'
- Having variety of receiver types like portable DTV Receivers e.g. smartphone, tablet, or portable.
- Selecting proper antennas type and model for Set-Top-Box is important to receive signal well.
- Set up advisory group either by dedicated group or volunteer group to support installation.

Lesson Learned (2)



Must Carry

- NBTC enforced the rule of 'must carry' for the commercial and public service broadcasters to commence broadcasting DTV content from day one on satellite and cable TV which already cover more than 70% audiences in Thailand to increase DTV eye balls.

Collaboration

- Collaboration with industry : ATV and DTV broadcasters, DTTB network operators, manufacturers, retailers
- Collaboration with government agencies and public agencies in national and local level are also key factors to drive a success of digital transition.

Set up trial

- Trial on the DTT system at the early transition before fully commercial launch was important to test the whole system and trial broadcasting markets.

Rating of Television Broadcasting

- Rating survey should be conducted to cover all broadcasting platforms including digital platform (i.e. internet) to have real broadcasting rating and user behavior.

Call Center and Information to Support Customer

- Cooperation with DTTB network operators to help people on installation the DTTB receivers, and also build confidence on DTTB network quality.

Supporting Fund

- During transition, DSO programme project should get enough supporting fund for successful promoting and supporting .In Thailand, Broadcasting and Telecommunications Research and Development Fund for the Public Interest (BTFP) was established by funding from annual fee with certain revenue shared by each business broadcasters.



Thank You



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