

# Broadcast Asia 2016



#### Thailand Case Study:

#### New Developments in Radio Audio Technology

#### **BROADCAST ENGINEERING AND TECHNOLOGY**

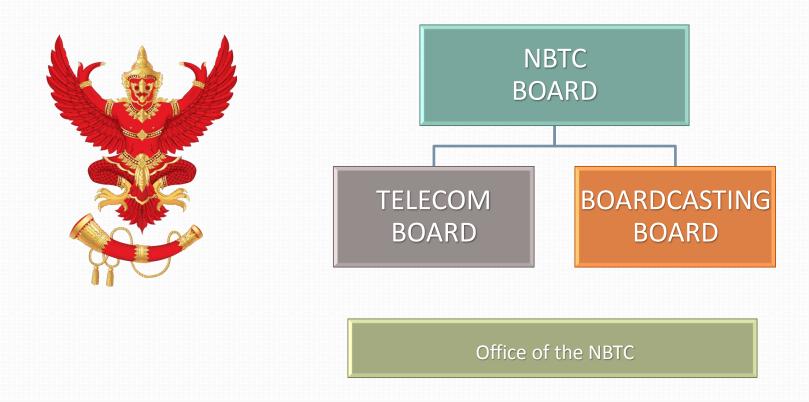
- Track T5: RADIO BROADCASTING
- Day 3 | 2 June 2016 | Thursday
- Radio and New technology



- Supinya Klangnarong
  - Commissioner
- National Broadcasting and Telecommunication (NBTC)

### NBTC:

Office of The National Broadcasting and Telecommunications Commission



- Main Roles in respect of Radio Spectrum Management
- The Total Number of officers is about 1,100 persons.

# Agenda

**Thailand Status** 

**Future of Audio Media** 

**Procedures of production based on Listening Habits** 

**Consumption on Multiple Devices** 

**Consequences and Questions for Broadcasters** 

#### **Current Situation**

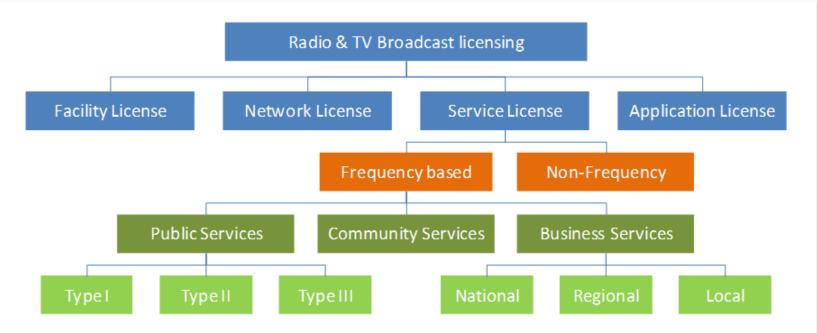
- Radio market is concentrated in BKK and little growth is expected
  - Radio listening doesn't change significantly across the different regions
  - A need for local services next to national/regional services
  - Past five years FM listening figures show a slight decrease due to Internet
  - Past five years FM advertising income stabilized and is predicted to rise only slightly (around 3%):
  - GDP growth of 5%
  - Forecasted Internet advertising growth 23%
  - Radio advertising market will be under pressure
  - Income disparity between broadcasters is large due to 'long tail' and concentration of advertising revenues in the BKK area

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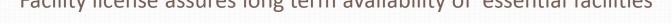
#### NBTC Licensing Framework



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- Licensing framework are divided into 4 layers to assign 3 basic rights
  - Broadcasting rights → Service license
  - Spectrum rights → Service license
  - Operating rights → Network license
- Facility license assures long term availability of 'essential facilities'
  - Broadcast license period for 7 years



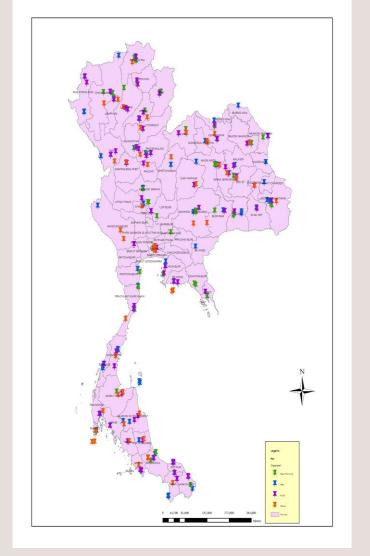
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### Current Terrestrial Radio Broadcasting

- Current Operating Spectrum
  - AM (MW : 531 1611kHz)
  - FM (Band II : 87.5 108MHz)
- More than 500 Radio Stations (Services) with 98% population coverage
  - 85% of radio station are in provincial areas
    - Bangkok and Vicinity
      - FM 40 stations, AM 38 stations
    - Regional
      - FM 274 stations, AM 173 stations

### Current AM and FM Radio Services(station)

		ments			
	Bangkok Area R			onal	Total
	AM	FM	AM	FM	
The Bureau of the Royal House		1			1
PRD	5	6	52	82	145
мсот	2	7		53	62
Ministry of Defence	1	1	1		3
Royal Thai Armed Forces	1	2	6	5	14
Royal Thai Army	12	12	66	37	127
Royal Thai Navy	1	3	6	11	21
Royal Thai Air Force	3	1	15	17	36
Royal Thai Police	2	1	5	36	44
Ministry of Foreign Affairs	1				1
Ministry of Agricultures	1				1
Ministry of Education	1	2			3
Office of Higher Education Commission		1		6	7
NBTC	2	2	4	4	12
The Met Department	1			5	6
Department of Fisheries				3	3
Marine Department				1	1
Bangkok	1				1
Parliament	1	1		14	16
Kasetsart University	1		3		4
Thammasat University	1				1
Total	37	40	158	274	509







\* **Challenge**: 500 radio stations own by state agencies and private companies run the station in the form of concession contracts.

# The first Broadcasting Master Plan (2012-2016): some indicators are as follows:

1@ Determination of an exact timeframe for the state agencies, state enterprises and other state units or persons who are currently assigned frequencies to return the assigned frequencies for future operation as specified in the Spectrum Management Master Plan within two years

2@ State agencies, state enterprises and other state units or any persons who are currently assigned frequencies and who have the necessity to use and hold the frequencies are deliberated for licensing within three years.

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#### Current Community Radio

- Local radio broadcasting in FM system, operated by community such as education organization, local administration, private sector.
  - Problem on FM Radio: Community radio, they operated stronger transmitters than permitted, interfering with existing frequencies.
  - Interference with air-traffic-control and other radio stations
  - NBTC have set temporary license for FM radio broadcasting for 1 year trail period, and will continue to extend for year by year if there is no violated on broadcasting laws.
  - Approximately 4,448 of 7,000 FM radio stations have granted temporary license

#### Transmission standards

Only DAB+ are realistic options for Thailand

Technology/ System	Radio	VDO/ Image	Radio On Mobile Devices	On Mobile phones/ Devices	Frequency Band
DMB (DAB, DAB+)	Yes	Yes	Yes	Yes	VHF III
DRM (DRM30, DRM+)	Yes	Yes	Yes	Yes	LF, MF, Shortwave, FM, VHF
T-DMB	Yes	Yes	Yes	Yes	VHF III
ISDB-T <sub>SB</sub>	Yes	-	Yes	Yes	TV bands
ISDB-T	Yes	Yes	Yes	Yes	VHF III, etc.
HD-Radio (IBOC)	Yes	-	Yes	-	MF, FM

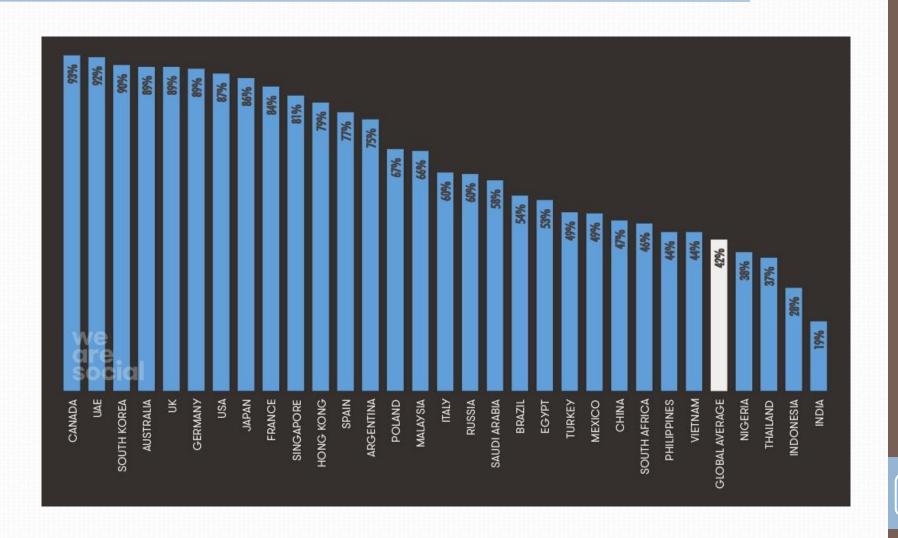
Source: ITU Project



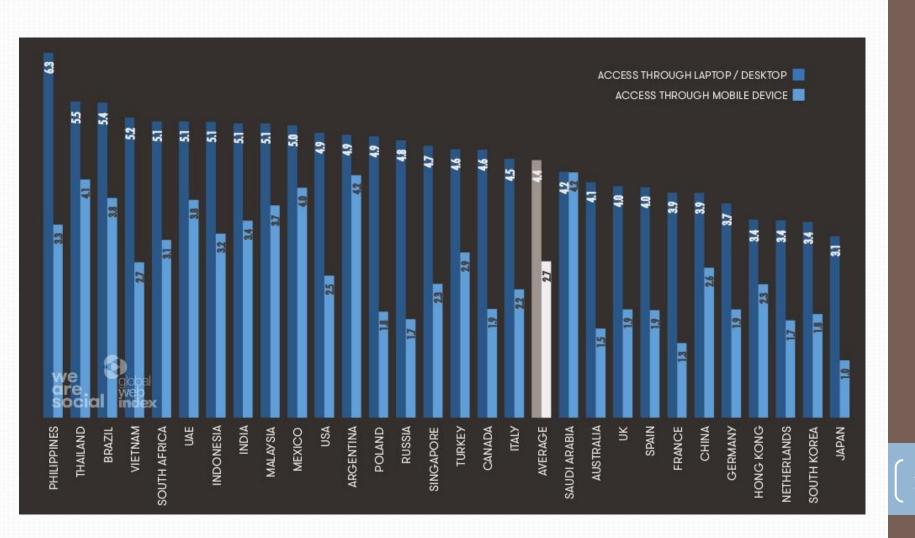
# Thailand: Digital in Thailand

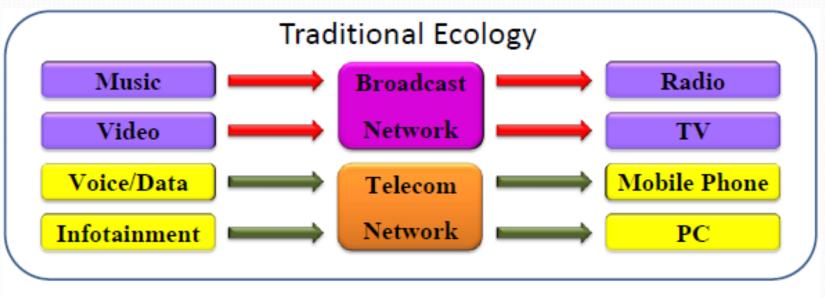


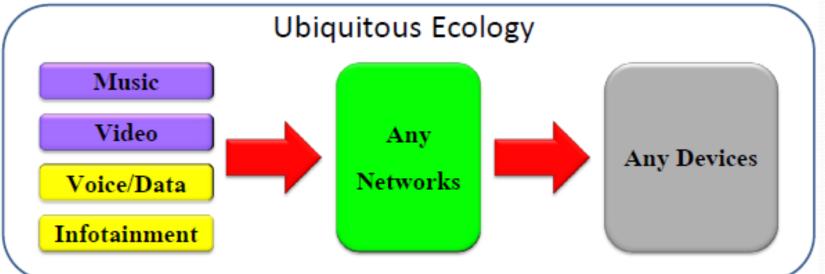
#### Internet use - National Internet Penetration 2015



#### Time spent on the internet 2015







Hybrid radio build content value: information delivery

Audio delivered via DAB+

Slides and text delivered in DAB+ broadcast (PAD) inc URLs

logos delivered via broadcast or IP



Programme information delivered via broadcast or IP

> Additional features, interactivity and content delivered via **IP**

### Hybrid radio



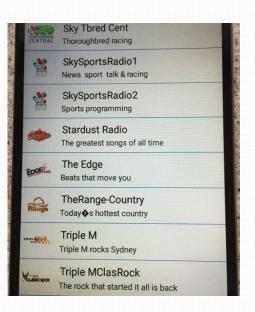
**NBTC/ITU Collaboration Project** 

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# Future of Audio Media Hybrid radio

#### Brand building

# Brand Recognition Logos in Service List



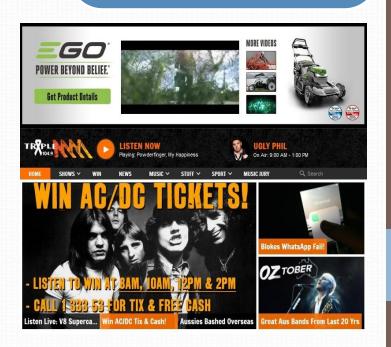
#### More information



Accessing the station's website from a

ClickThroughURL

to promote activities and loyalty



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New Landscape

**Content drives consumer consumption** 

Network and devices make content ubiquitous

**Consumer behavior changes** 

Regulatory regime require to accommodate with new context

New business model for Broadcast and Broadband Services

New Challenges

Service providers that previously served different markets are now competing for the same customers.

There are significant and on-going changes in how services, applications and content are provided and sold to consumers.

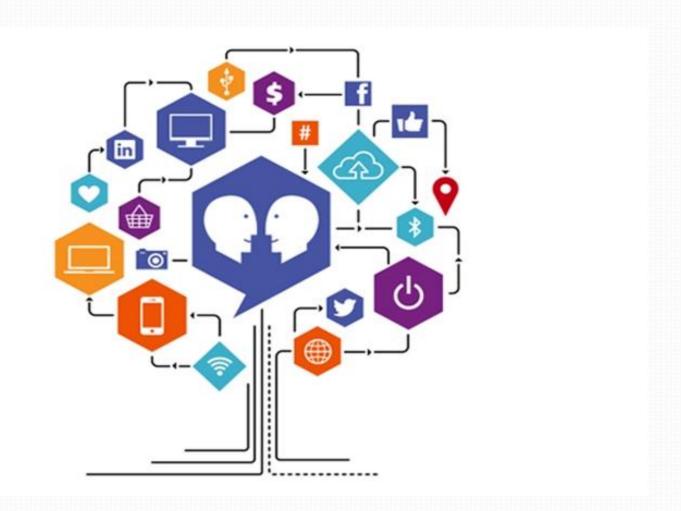
The challenge for all regulators is to understand the underlying dynamic of convergence from a consumer perspective.

### New Regulatory Framework

- Free&Fair competition of newly emerging market
- Strengthen broadcast and broadband cooperation model
- Socio-economic value
- Bridging digital divide
- Privacy, security and reliability
- Consumer protection

# Production based on Listening Habits

Thai Consumer behavior and trends:



# Production based on Listening Habits

#### **Creativity Radio Program in Digital:**

#### **Preparation**

 Radio station have to analyze the music trends, International Genres, to produce popular products in the target audience base on listening habits.

#### **Extraction**

• The managers and staffs of the station jointly analyze and digest format of music in all aspects to make predictions that how much it can win the hearts of the audience.

#### Conclusion

• Audience analysis to draw conclusions about the music trend.

#### **Implementation**

• Experimental the conclusive music trend to create a new trend with the target audience and be lead station that open new trend.

#### **SEED Station 97.5**

# Production based on Listening Habits

Radio & Program



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Thailand - Advertising Information Services

- Life is about connectedness via technology and gadgets
- Bangkok teenagers are ranked # 1 in Asia Pacific in terms of

Own & Use mobile phone

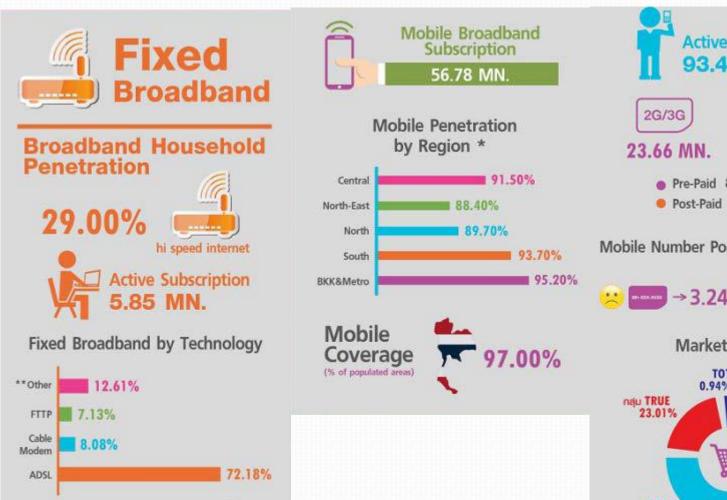
Longest chat time over mobile phone

Highest No. of online friends

Own desktop/laptop

25

Thailand ICT Indicators





Thailand - Using the Internet in Thailand



Thailand - Most popular digital Activities

7%

29%



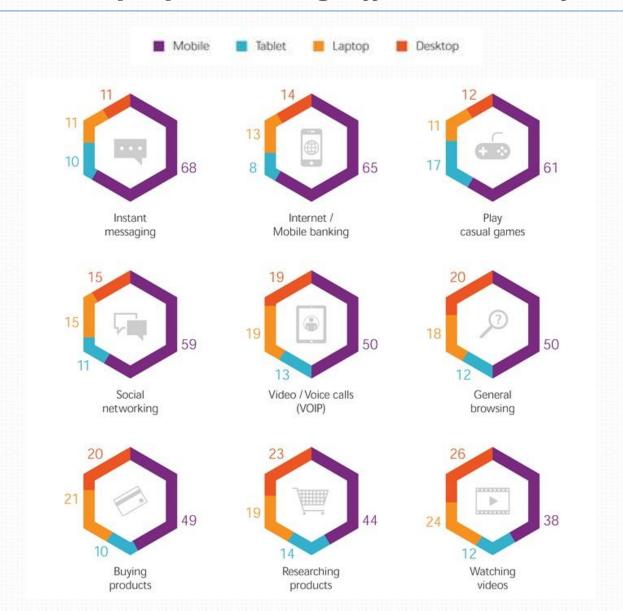
15%

43%

Watch recorded /

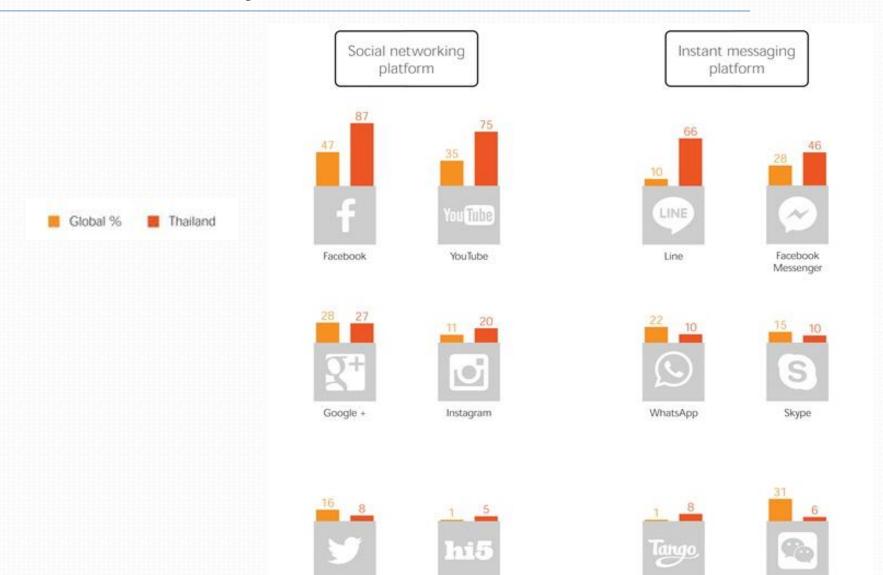
on-demand video online

Thailand - How people are using different devices for activities



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Thailand - Use of social media



Hi5

Twitter

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WeChat

### Advertising Information Services

- Estimated Total Advertising Expenditure by Medium
- Exclude Section: Classified, House ads

#### Nov 15 VS Nov 14 BAHT MILLIONS

MEDIA	Nov 15	SOV %	Nov 14	SOV %	DIFF	% Change
ANALOG TV	4,913	46.16	5,349	49.36	-(436)	-(8.15)
CABLE/SATELLITE	524	4.92	496	4.58	28	5.65
DIGITAL TV	1,804	16.95	1,407	12.98	397	28.22
RADIO	576	5.41	540	4.98	36	6.67
NEWSPAPERS	1,138	10.69	1,216	11.22	-(78)	-(6.41)
MAGAZINES	328	3.08	444	4.10	-(116)	-(26.13)
CINEMA	474	4.45	339	3.13	135	39.82
OUTDOOR	377	3.54	332	3.06	45	13.55
TRANSIT	384	3.61	374	3.45	10	2.67
IN STORE	35	0.33	246	2.27	-(211)	-(85.77)
INTERNET	90	0.85	93	0.86	-(3)	-(3.23)
TOTAL	10,643	100.0	10,837	100.0	-(194)	-(1.79)

### Advertising Information Services

- Estimated Total Advertising Expenditure by Medium
- Exclude Section: Classified, House ads

#### YTD Nov 2015 VS YTD Nov 2014 BAHT MILLIONS

THE REPORT OF THE PROPERTY OF						
MEDIA	2015	SOV %	2014	SOV %	DIFF	% Change
ANALOG TV	53,183	47.29	58,924	54.60	-(5,741)	-(9.74)
CABLE/SATELLITE	5,592	4.97	6,770	6.27	-(1,178)	-(17.40)
DIGITAL TV	19,413	17.26	7,119	6.60	12,294	172.69
RADIO	5,165	4.59	5,112	4.74	53	1.04
NEWSPAPERS	11,145	9.91	11,925	11.05	-(780)	-(6.54)
MAGAZINES	3,872	3.44	4,517	4.19	-(645)	-(14.28)
CINEMA	4,533	4.03	3,818	3.54	715	18.73
OUTDOOR	3,887	3.46	3,649	3.38	238	6.52
TRANSIT	4,083	3.63	3,428	3.18	655	19.11
IN STORE	607	0.54	1,792	1.66	-(1,185)	-(66.13)
INTERNET	976	0.87	865	0.80	111	12.83
TOTAL	112,456	100.0	107,921	100.0	4,535	4.20

Advertising Revenues per Medium

Annual revenues (in M \$)	2013	2014	2015	2016	2017	CAGR
Internet advertising	24	31	39	47	56	23.59%
Out of Home advertising	260	281	304	325	346	7.41%
Radio advertising	216	225	234	240	246	3.30%
TV advertising	2322	2540	2697	2921	3131	7.76%

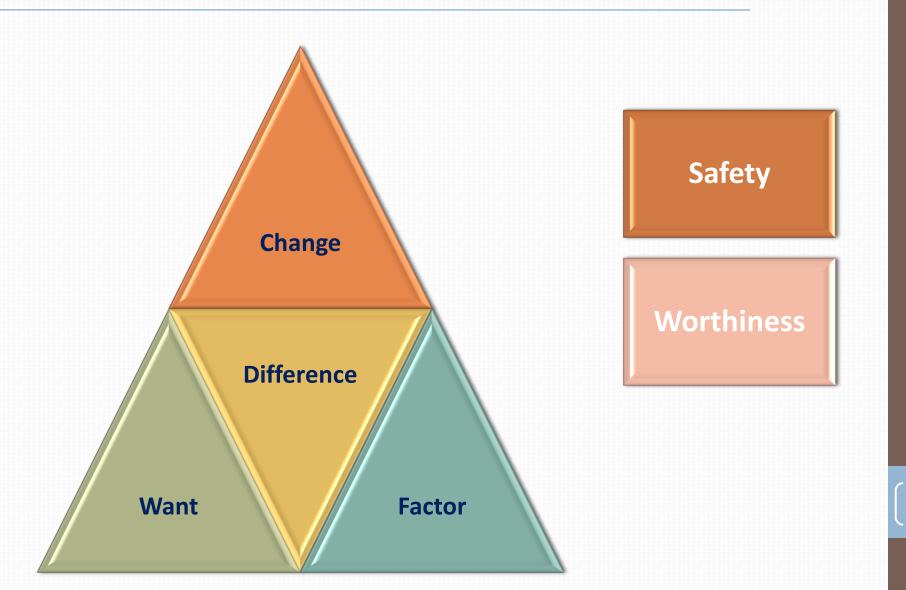
### Consequences and Questions for Broadcasters

#### IN-Messenger Strategy

- Validating Facebook's US\$21B purchase of WhatsApp, bands everywhere start asking for an in-messenger strategy.
- From ordering food & movie tickets to paying parking fines, everything is done through messenger apps.



### Consequences and Questions for Broadcasters



#### INTERNATIONAL TELECOMMUNICATION UNION



Peter Walop, Hakim Ebdelli, Jan Doeven 2 May 2016



#### Approach for resolving FM congestion

This slide deck presents a summary of Section 6 of the report "Analysis of congestion in the FM band", dated the 26<sup>th</sup> of April 2016

Topics

- 1. Guidelines for resolving congestion
- 2. Review of planning elements
- 3. Planning scenarios

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**Congestion analysis** 

Peter Walop, Hakim Ebdelli, Jan Doeven 4 May 2016



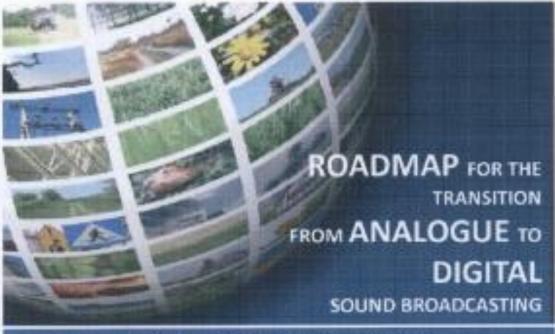
### Congestion analysis

This slide deck presents a summary of Sections 2 to 5 of the report "Analysis of congestion in the FM band", dated the 26th of April 2016

#### **Topics**

- 1) Current frequency use
  - o Overview of stations
  - Current PI coverage of main FM stations
- Congestion analysis
  - Main FM stations and local FM stations
  - In Bangkok and outside Bangkok
- 3) Measures to reduce congestion
  - Lower time percentage of tropospheric interference
  - Removal of local FM stations
  - ERP reductions of local FM stations
  - Frequency changes of local stations
  - Reduction of the channel spacing

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DAB Deployment Strategies For discussion

Les Sabel & Peter Walop May 2016



### Agenda

#### Strategic Rational and Inputs 2 Main Results DAB FP Review 3. Overview Network Architecture = Inputs Main Results Business Case Analysis 4. Topics Trial Licensing 5. = Options National and Local Licensing 6. 7. Market Structure & Industry Impact = Impact 8. Conclusions

# Thank you

