



Transition from Analogue to Digital Radio Broadcasting

An overview of trends

ITU/NBTC Workshop
16 December 2014

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Presentation Overview

1. Roadmap for Digital Radio Broadcasting

- What is a roadmap?
- Roadmap overview for Thailand

2. Thai Radio Market & Abroad

3. Digital Radio System

- Radio is not TV
- Transmission Systems



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ITU

- Founded in 1865
- Leading UN Special Agency for ICTs
- HQs in Switzerland

- Three sectors (ITU-T, ITU-D, and ITU-R)
- 4 Regional Offices & 7 Area Offices
- 192 Member States and 750 Sector Members

ITU-D

Established to help spread equitable, sustainable and affordable access to ICT.

ITU-T

ITU's standards-making efforts are its best-known – and oldest – activity.



ITU-R

Managing the international radio-frequency spectrum and satellite orbit resources



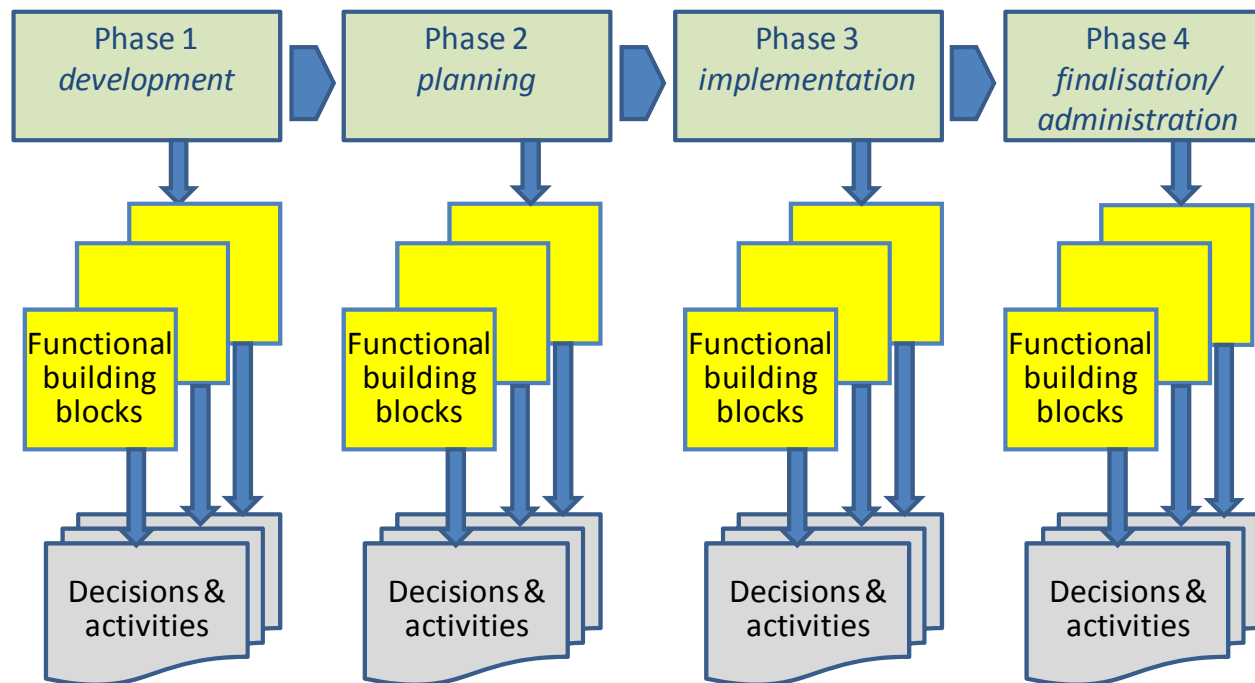
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1. Roadmap for DRB



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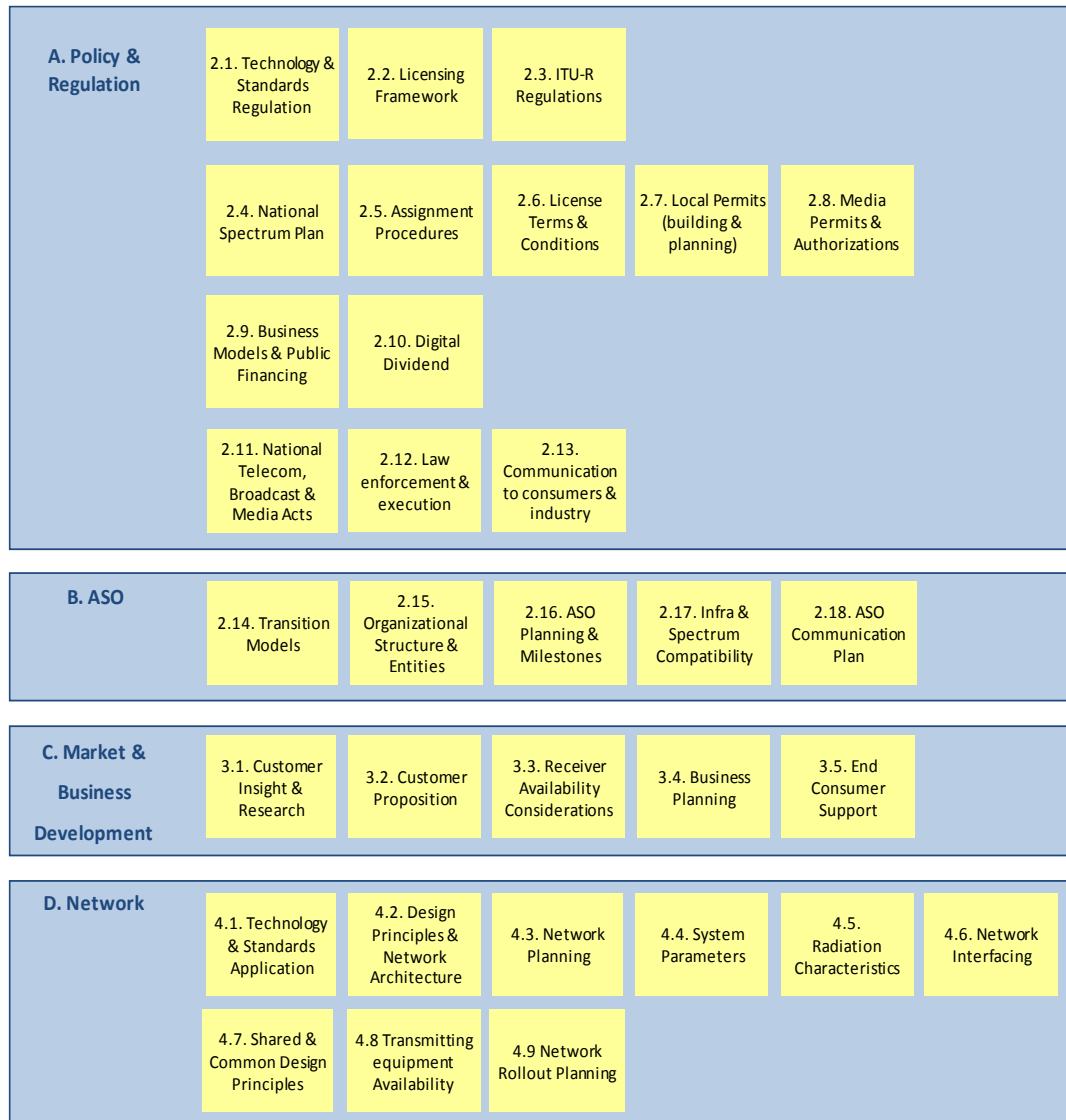
1. Roadmap for DRB – what is a Roadmap?



Source: ITU

- A Roadmap is comprehensive set of decisions and activities organised in a functional & time order
- A Roadmap is developed in a joined effort and provides:
 - Consensus on requirements & solutions
 - Help for coordinating activities
 - Help for forecasting timelines

1. Roadmap for DRB – what is a Roadmap?



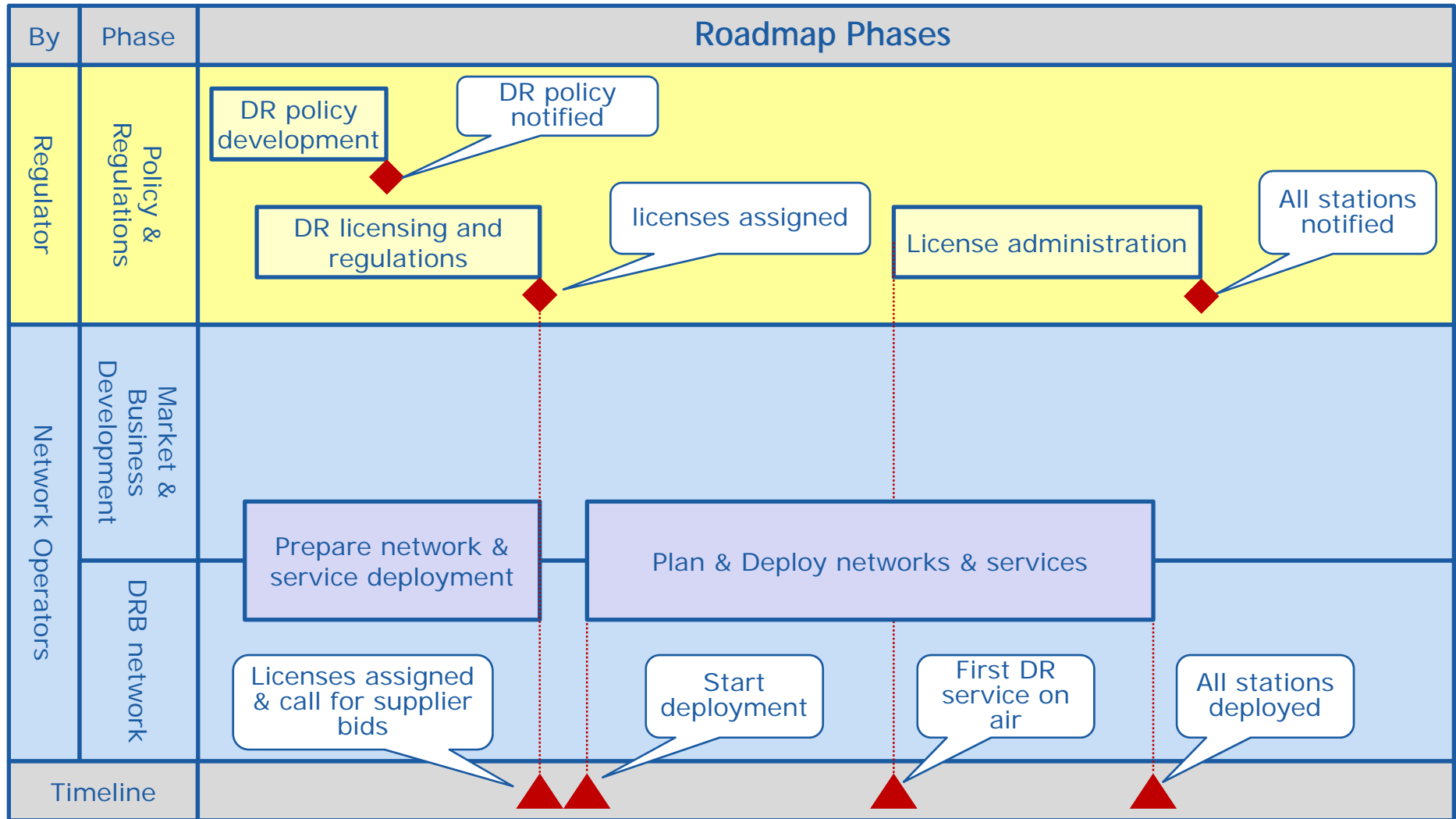
- Roadmap functional framework:
 - 5 layers
 - Between 3 to 13 functional blocks per layer
- Functional blocks same as for TV but:
 - Market dynamics different
 - Applied Technologies different
 - No ASO/DD alternative allocations (yet)

Source: ITU



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1. Roadmap for DRB – what is a Roadmap?



Source: ITU



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1. Roadmap for DRB – Thai Roadmap overview

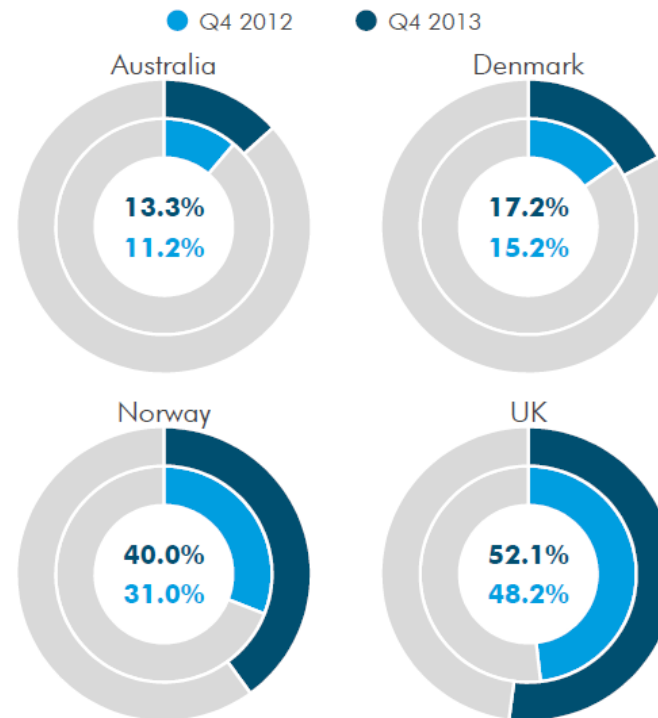
DR roadmap
comprises
Plan A and B
for
respectively
short and
long term

- Plan A is addressing the short term:
 - Launching Trial services in 2014
 - DAB+ in VHF Band III
 - 40-50 services in 10 most populated cities (with pop target of 40%)
 - Preparing and assigning regular licenses
- Plan B is addressing the long term:
 - Regular licensing at the moment when VHF Band III ASO is known (and DAB uptake is sufficient)
 - Matching demand and supply across all available platforms
 - Radio ASO (after BMP planning horizon 2012-16)

1. Roadmap for DRB – Thai Roadmap overview

Migrating to digital should include all platforms of digital listening

Digital Radio Listening (% of all listening)



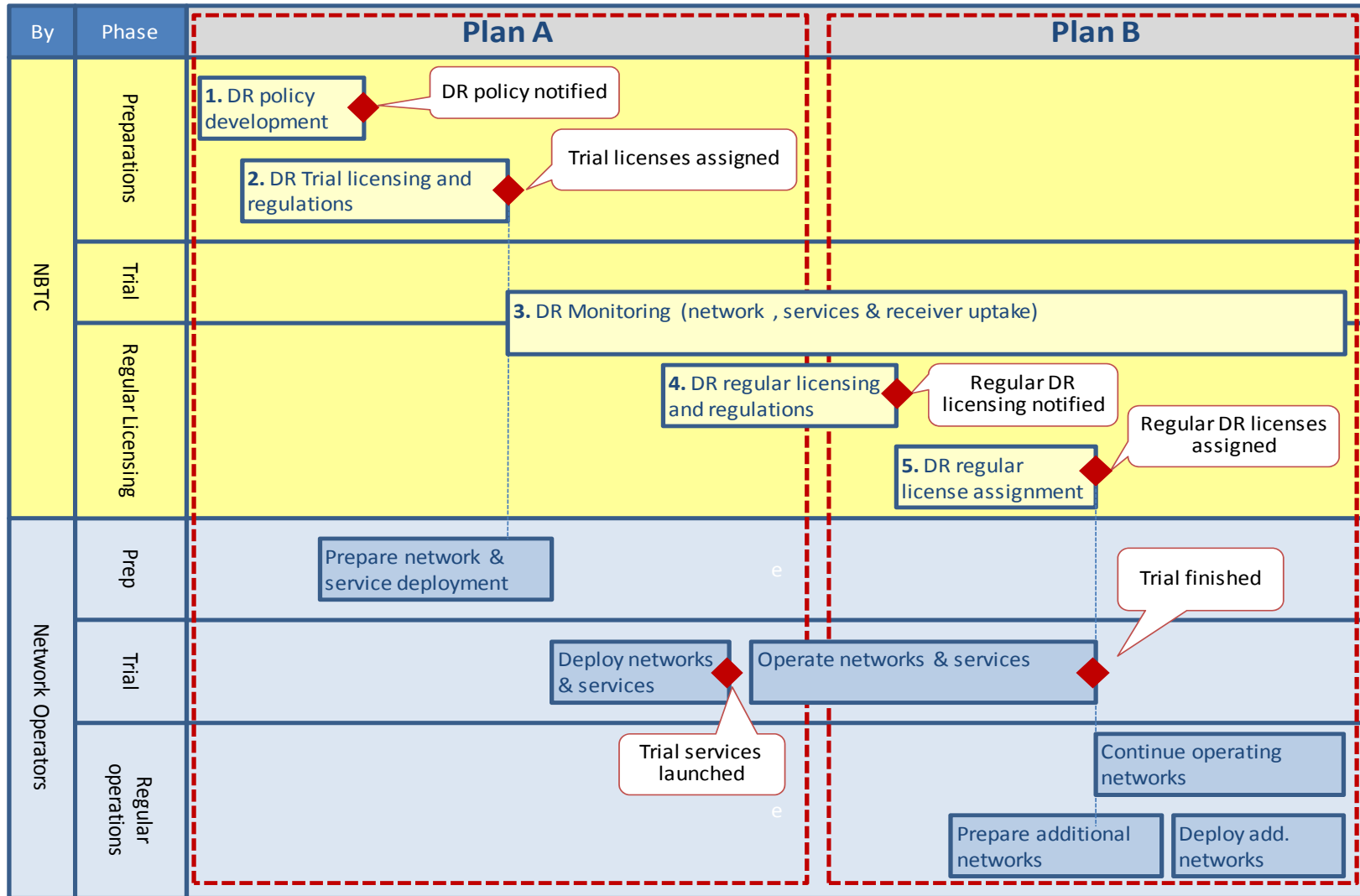
Source: WorldDMB

- An all-platform view facilitates:
 - More possibilities to match supply and demand
 - 'Radio' ASO in the future



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1. Roadmap for DRB – Thai Roadmap overview



Source: ITU/NBTC



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2. Thai Radio Market & Abroad

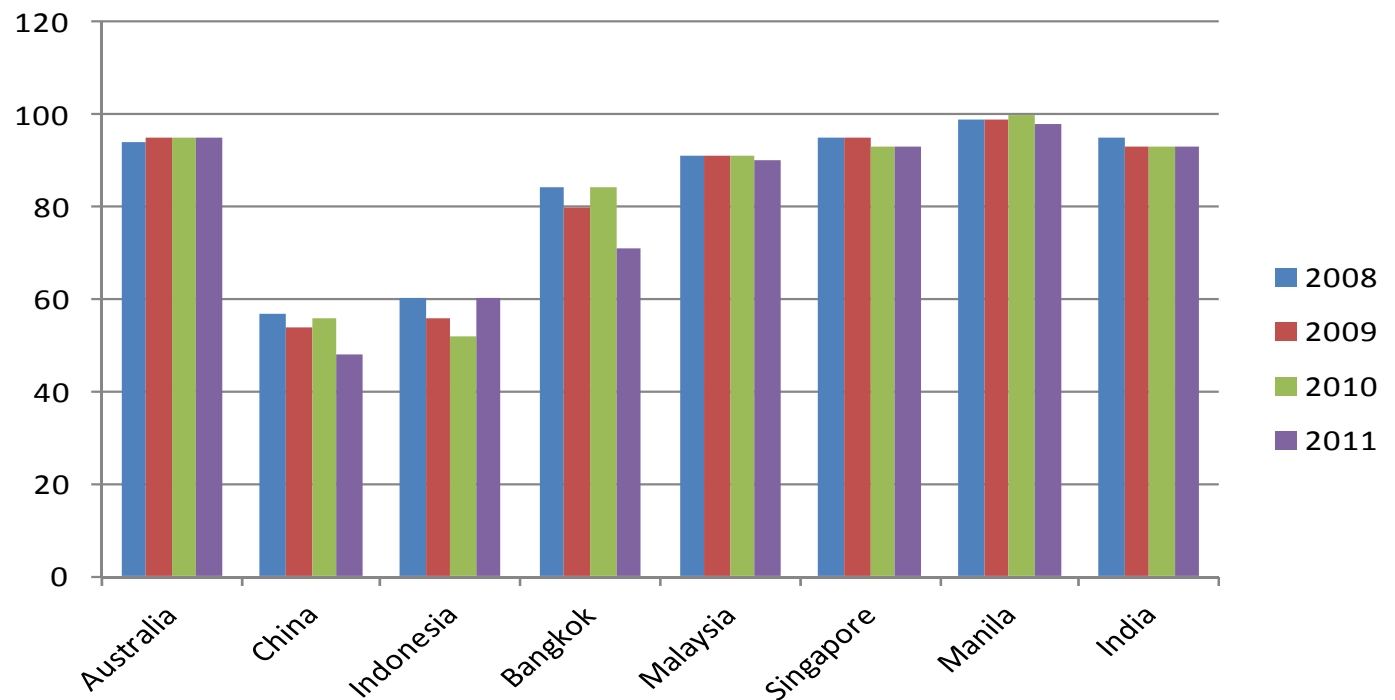


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2. Thai Radio Market & Abroad

Thai radio trends in line with international trends

Radio Reach as Percentage of Population

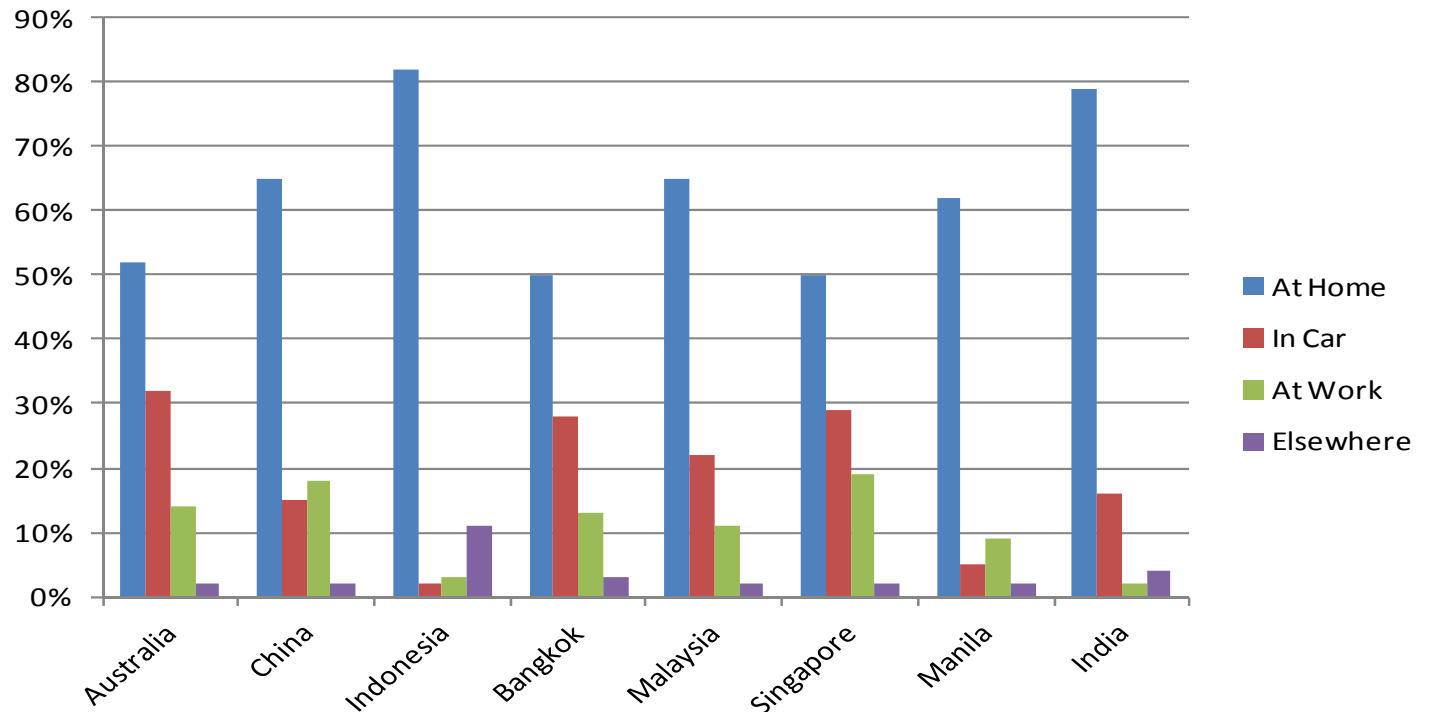


Source: AC Nielsen

2. Thai Radio Market & Abroad

Most listening at home and work. Not in the car!

Place of Radio Listening (% of all listening)

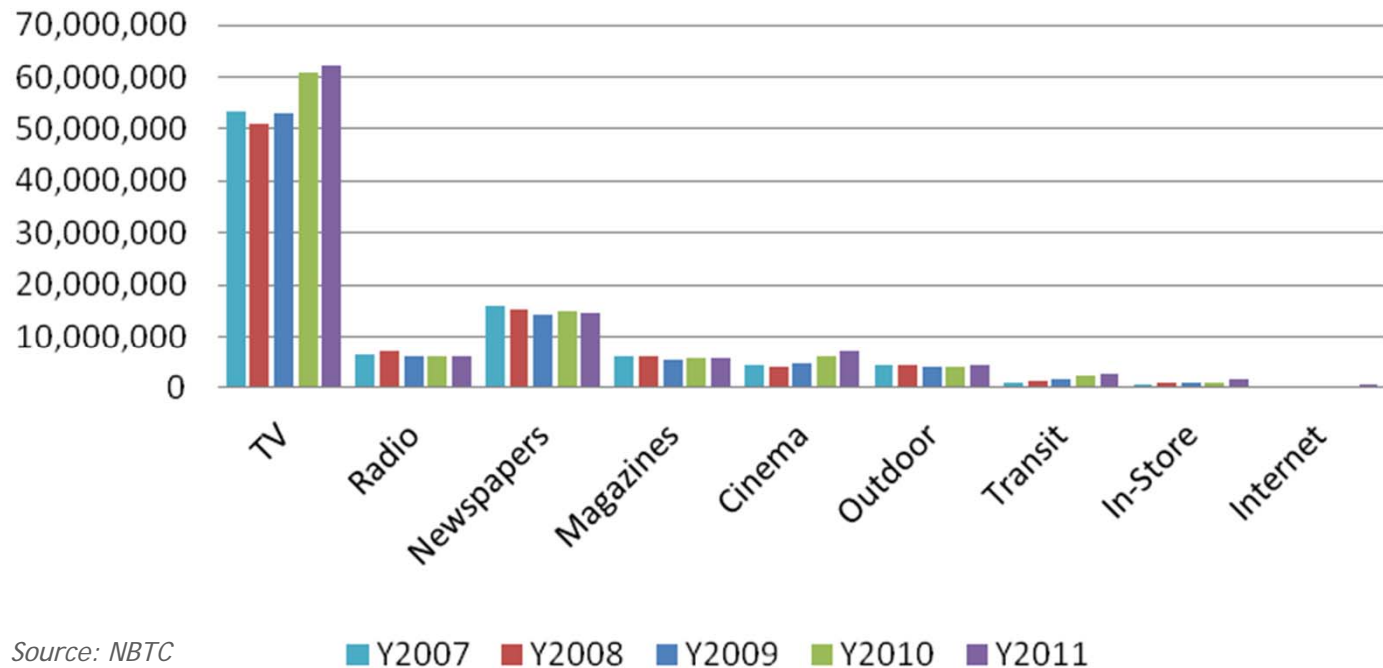


Source: AC Nielsen

2. Thai Radio Market & Abroad

Stable trend
in radio
advertising
income, no
significant
growth
expected

Media Advertising over Years (in k THB)

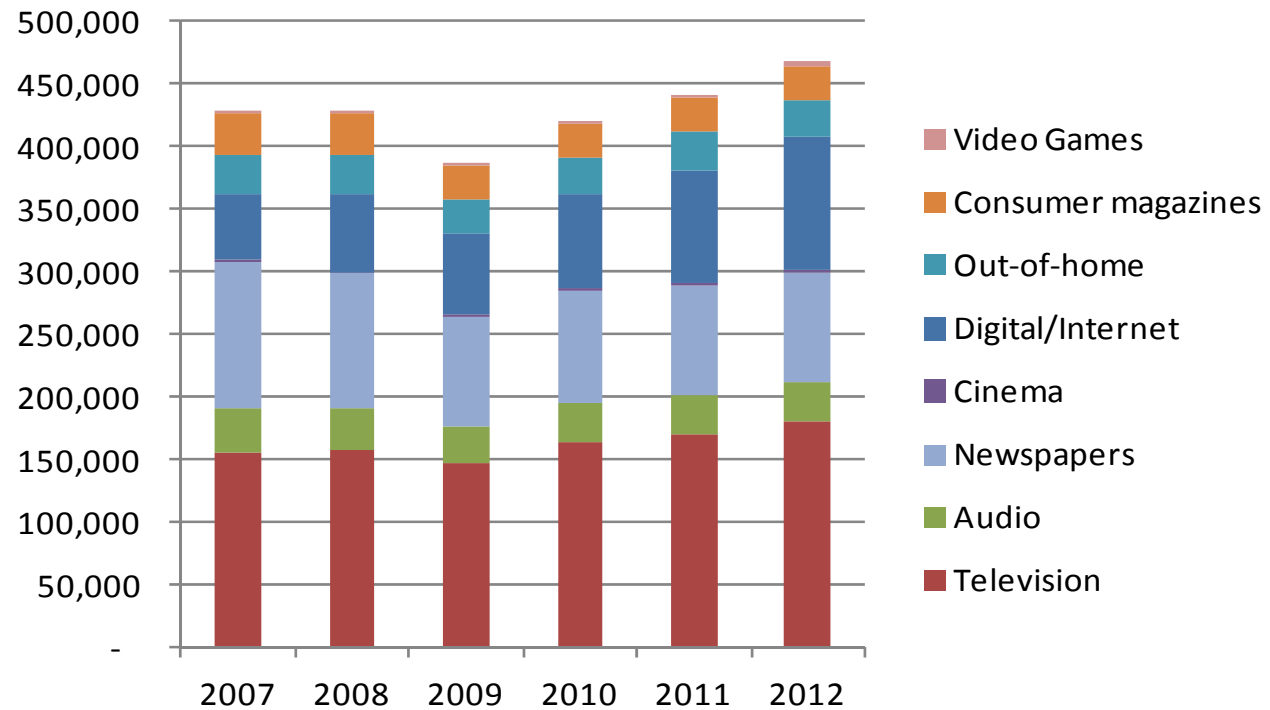


- For 2013-2017 a CAGR of 3.3% expected
- 5.1% GDP growth expected in same period
- Shift to Internet advertising

2. Thai Radio Market & Abroad

Global forecasts show stable radio Ad revenues and shift towards Internet advertising

Global Media ADEX (in million USD)



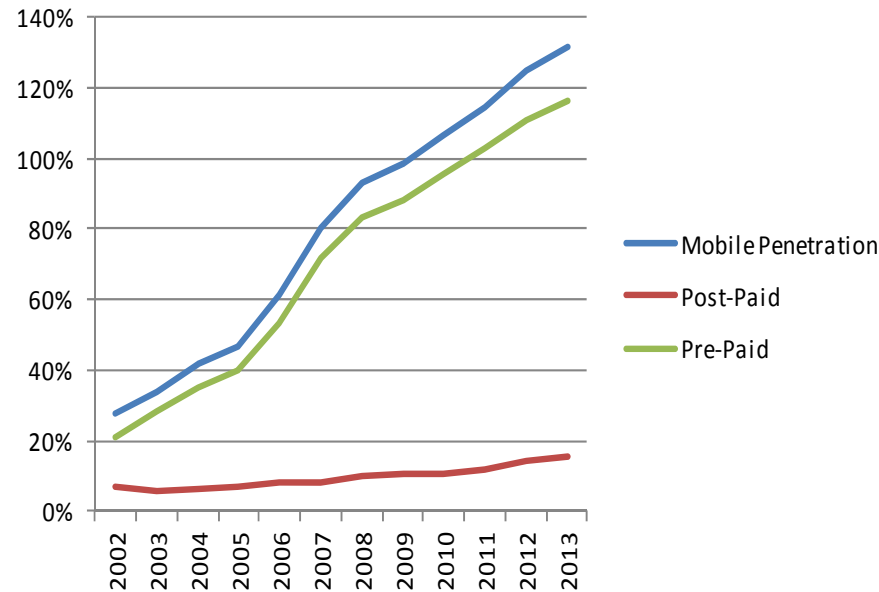
Source: McKinsey, 2013 Global Media report

- For 2013-2017 a CAGR of near 0% expected

2. Thai Radio Market & Abroad

Mobile will be important for radio distribution as fixed broadband offers little..

Mobile uptake in Thailand



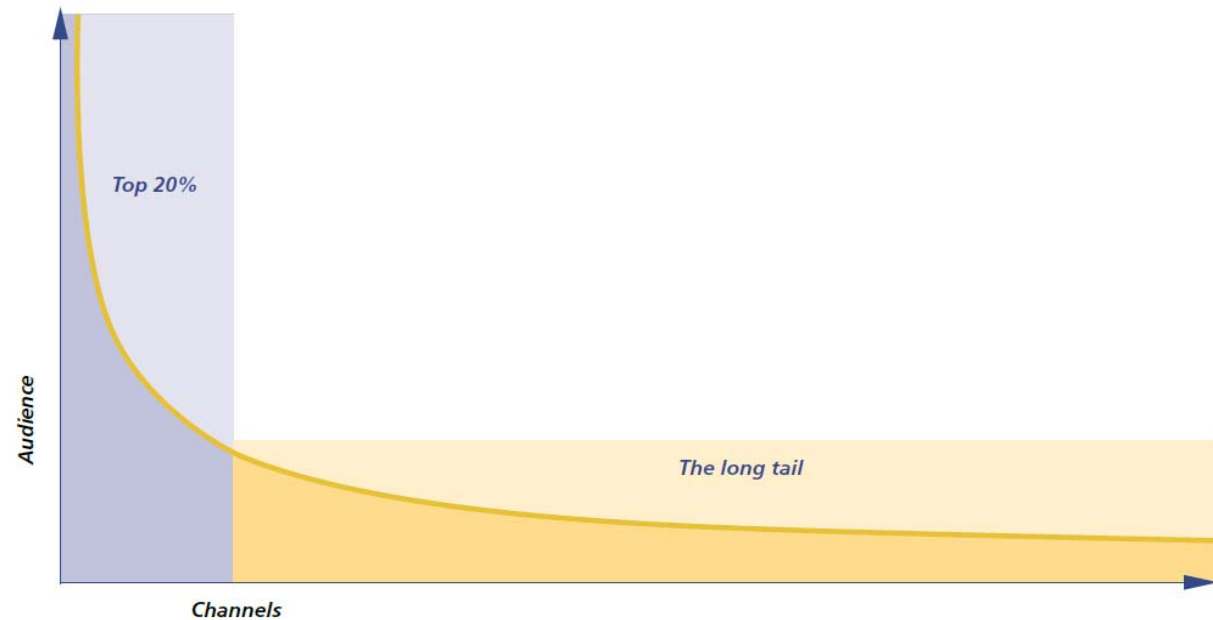
Source: NBTC

- 3 out of 5 phones sold = smartphone
- Broadband penetration < 7% (2013) and leveling
- Last 5 years FX line penetration declined (7.2 to 6.2%)

2. Thai Radio Market & Abroad

Income disparity extremely large between top 10 (in BKK) and the rest

Long Tail of Advertising Income per Service



Source: EBU

- BKK FM Top-10 stations take 3b of 5 b THB (60%)
- >7000 FM/AM services or broadcasters

3. Digital Radio Systems



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3. Digital Radio Systems – radio is not TV

Digital radio
business case
more
challenging

- Installed base of analogue receivers much larger than for TV
 - Analogue receivers have to be replaced
 - Radio market is FTA → no receiver subsidies
 - ARPU is much lower than for TV
 - No 'Digital Dividend' for Radio ASO
- ↓
- Business case much harder to make viable
 - Simulcast period long
 - Digital receiver retail prices are critical



3. Digital Radio Systems – transmission systems

Selection of transmission system critical for receiver availability and price

System	VDO/ Image	On mob devices	On mob phones	Band	Commercial operations
DMB/DAB+	✓	✓	✓	VHF III	✓
DRM	✓	✓	✓	LF, MF, SW, FM, VHF	✓?
T-DMB	✓	✓	✓	VHF III	✓ part of TV
ISDB-Tsb		✓	✓	TV bands	✓ part of TV
ISDB-Tmm	✓	✓	✓	VHF III, etc	✓ part of TV
HD/IBOC		✓		MF, FM	✓

Source: ITU

- TV systems lack 'Radio' functionality:
 - Roaming between FM/DRB
 - Mute when TA
- TV raster may be different



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3. Digital Radio Systems

No universal system and they all do 'the job'

- None of the 6 transmission systems are universally applied (in contrast with FM/AM)
- Technical performance of most systems the same
- DMB/DAB+ offers more capacity per multiplex → for the same number of services less OPEX & CAPEX
- In selecting the standard the following aspects should be considered:
 - Available frequency bands (in Thailand)
 - Service offering (incl. #of services, audio quality, PAD functionality & enhanced services)
 - Receiver requirements