



Implementing the 700 MHz digital dividend for 4G across ASEAN

Singapore, August 2018





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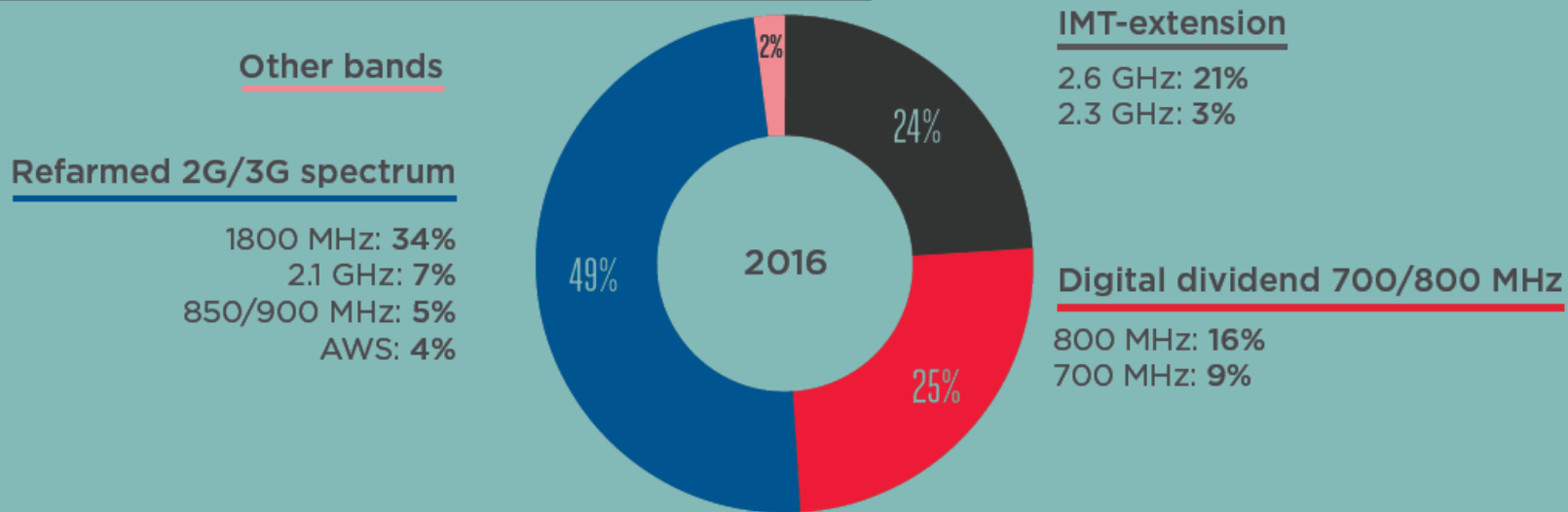
MOBILE CONNECTIONS
WORLDWIDE



Where are we at with 4G?

- One third of 4G LTE networks in 1800, followed by 2.6 GHz

Spectrum scenarios used in global 4G-LTE deployments





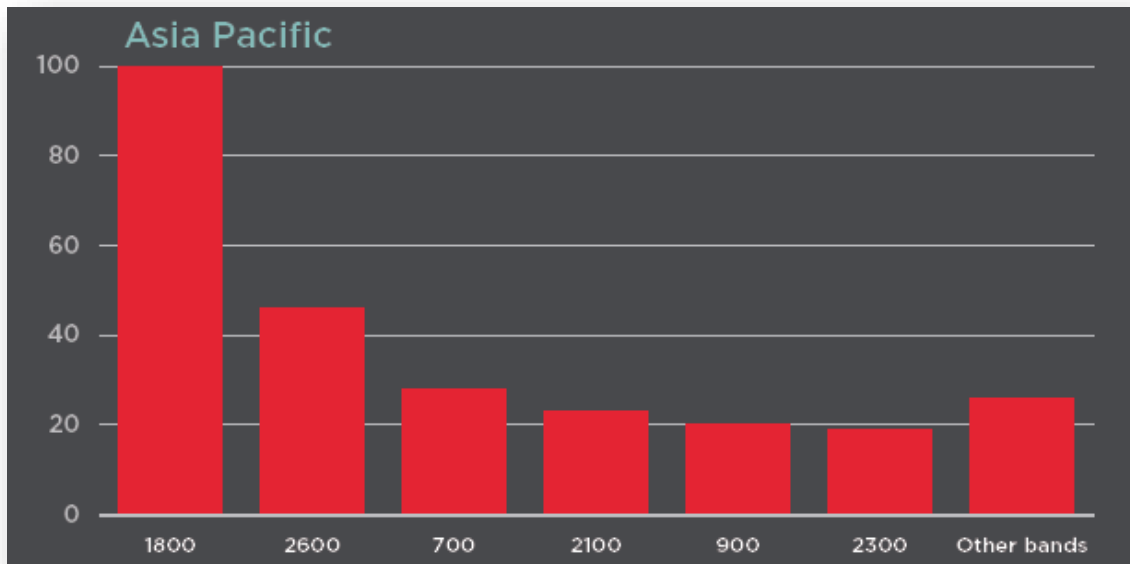
Key issues in the implementation of 700 MHz mobile broadband in APAC

- 4G introduced in most countries, but coverage bands are largely 2G/ 3G
- ASO completion and 700 4G LTE introduction only in few APAC countries
- DTT/ LTE cross-border issues to be resolved in some areas (i.e. SEA)
- Demand for mobile broadband always on the rise
- 700 MHz key for the provision of cost effective rural broadband infrastructure



Where are we at with 4G?

Bands	Mode
700, 850, 900 MHz	FDD
1800, 2100, 2600 MHz	FDD
2300 MHz	TDD



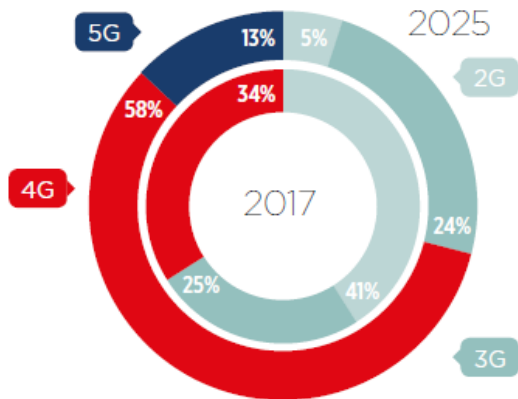


Where are we heading?

Asia Pacific



TECHNOLOGY MIX*



SUBSCRIBER PENETRATION



MOBILE INTERNET PENETRATION

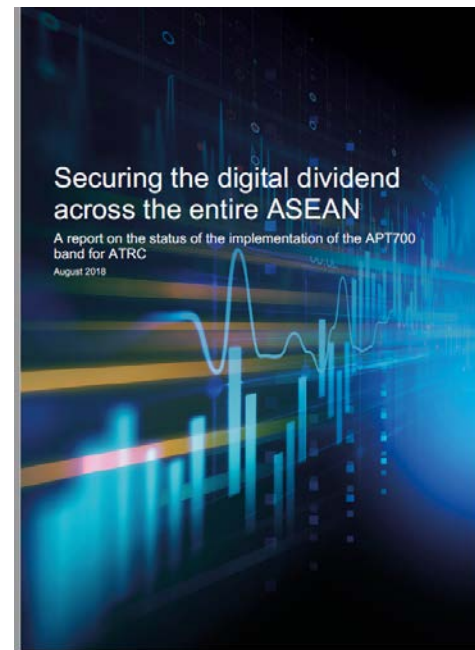
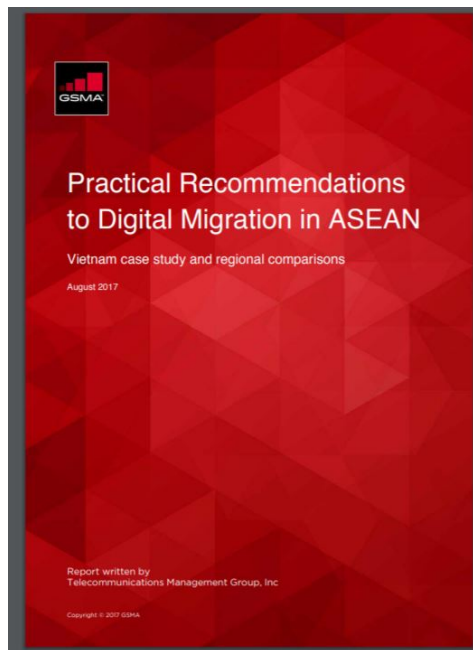


- In terms of number of mobile connections, 4G will become the lead mobile network technology in 2019 (at more than 3 billion) and will continue to dominate over the period to 2025.



Continuing work in the region on Digital Dividend

- IMT identification dating to WRC-07
- First networks deployed in 2010
- Majority of APAC region committed to common band plan by 2012
- First few APAC countries to assign 700 MHz and complete ASO by 2013
- Ministerial ASEAN declaration (2017) to achieve ASO by 2020





Materializing APAC's first digital dividend

- Greater reach in rural, improved coverage in built-up areas: cost benefits
- Supports economic and social outcomes: bridging the digital divide
- The 4G coverage layer: basis for building the digital economy
- ASEAN and rest of APAC have vast geographies: coverage is a must have
- 700 MHz for 4G LTE in APAC will provide the basis for future technology evolution: 5G will build on top of 4G LTE. 700 MHz is Europe's 2nd digital dividend. Technology neutral licences.

We must achieve APAC's first digital dividend



Thank you

More on spectrum licensing best practice:

https://www.gsma.com/spectrum/wp-content/uploads/2016/11/spec_best_practice_ENG.pdf

Report on the mobile economy 2018:

<https://www.gsma.com/mobileeconomy/wp-content/uploads/2018/05/The-Mobile-Economy-2018.pdf>