



Realizing the potential of Mobile spectrum to bring Broadband to Africa: Considerations for Policymakers

Mortimer Hope, Director Africa, GSMA

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AGENDA



The potential of Mobile Broadband

Spectrum allocated to Mobile Services by WRC-15

WRC-15 Implementation: What's next?

Key Conclusions





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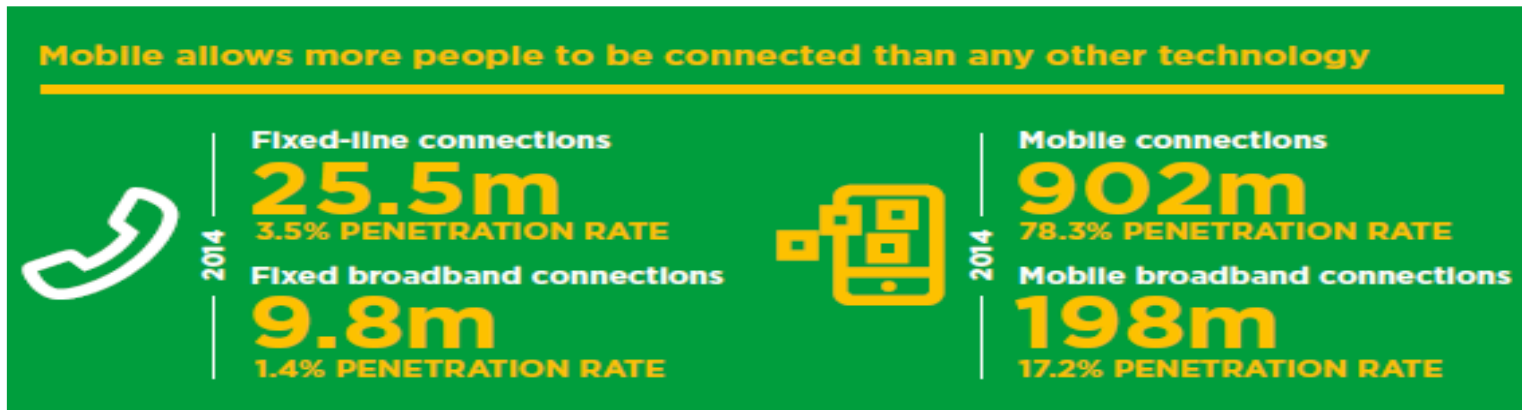
**7.5
BILLION+**

MOBILE CONNECTIONS
WORLDWIDE



The potential of mobile broadband

Fixed line broadband is underdeveloped in most African countries



Source: GSMA Intelligence (2015)

Mobile enables more effective delivery of essential information such as health advice, educational tools and Government services to remote and under-served areas

Mobile is key to achieving objectives of National Broadband Plans



Spectrum allocated to mobile services by WRC-15 will help reduce the digital divide

THREE GLOBALLY HARMONISED MOBILE BANDS

700 MHz



Provides improved coverage for mobile broadband services

1427-1518 MHz



Delivers a good mix of coverage and capacity

3.4-3.6 GHz



Allows very fast data speeds in urban areas

ONE FURTHER NEW BAND IN LARGE PARTS OF AFRICA

3.3-3.4 GHz



Provides vital extra mobile capacity. Now identified in countries in Africa, Asia Pacific and the Americas



WRC-15 Outcomes: Africa in perspective

RCC

Before: 885 MHz
New: 387 MHz
After: 1272 MHz
New bands: 700 (96 MHz), L-band (91 MHz), 3.4-3.6 GHz (200 MHz)

Europe

Before: 1085 MHz
New: 187 MHz
After: 1272 MHz
New bands: 700 (96 MHz), L-band (91 MHz)

Americas

Before: 951 MHz
New: 375-641* MHz
After: 1326-1592* MHz
New bands: UHF (84MHz), L-band (91 MHz), 3.4-3.6 GHz (200 MHz).
Certain countries*: 470-608 MHz (138 MHz), 900 MHz (26MHz), 3.3-3.4 GHz (100 MHz) & 3.6-3.7 GHz (100 MHz)

Additional IMT spectrum at WRC-15

487 MHz 375-387 MHz
187 MHz 91 MHz

Sub Saharan Africa (& Egypt)

Before: 885 MHz
New: 487 MHz
After: 1372 MHz
New bands: 700 (96 MHz), L-band (91 MHz), 3.4-3.6 GHz (200 MHz) 3.3-3.4 GHz (100 MHz)

Middle East North Africa

Before: 885 MHz
New: 387 MHz
After: 1272 MHz
New bands: 700 (96 MHz), L-band (91 MHz), 3.4-3.6 GHz (200 MHz)

Asia Pacific

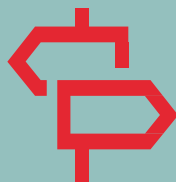
Before: 1177 MHz
New: 91-191* MHz
After: 1268-1368* MHz
New bands: L-band (91 MHz)
Certain countries*: 470-698 MHz (222 MHz), 3.3-3.4 GHz (100 MHz), 4.8-4.99 GHz (190 MHz)

Beyond WRC-15 – Realising the potential of mobile

- Review current usage of the new frequency bands allocated to mobile services (if this has not been done during the process towards WRC-15)
- Update National Frequency Allocation Tables to incorporate WRC-15 allocations
- Make the bands allocated to Mobile services at WRC-15 available for use



- Reflect possibilities achievable with new spectrum
- Identify spectrum requirements



Develop/Update the spectrum roadmap to include timeframes for releasing the bands



Develop policies and licensing conditions to enable mobile services in the bands



Harmonized frequency arrangements are key

Work with the mobile industry and other governments on channel plans



Widely agreed
channel plans are
vital for affordable
devices and
interoperability



Governments can work with
the mobile industry, the ITU
and the 3GPP to
implement/develop
standardized channel plans



Issue mobile licences
based on these
harmonized channel
plans

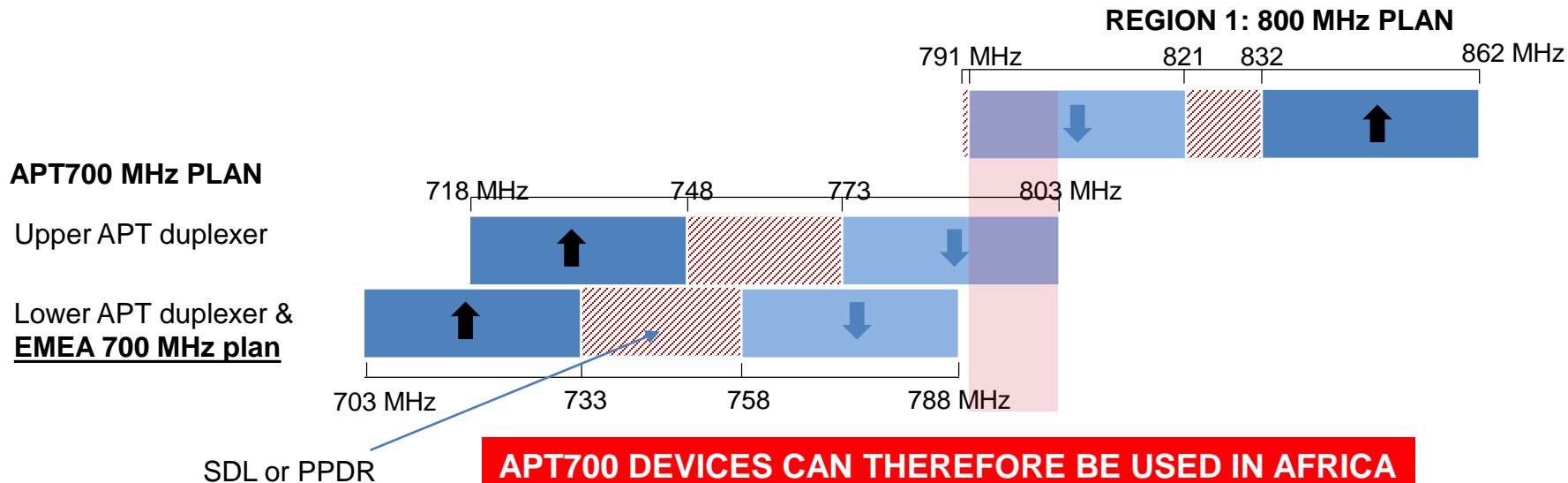
See latest version of Recommendation ITU-R M.1036



Digital Dividend will unlock broadband in Africa

Africa can now license the 800 MHz *and* the 700 MHz frequency bands for LTE

- APT700 channel plan is dominant globally BUT upper duplexer clashes with 800 MHz plan
- A compatible Region 1 - 700 MHz plan uses the lower APT700 duplexer



See also ITU-R Res 224 (Rev. WRC-15)

Conclusion - Key policy steps

1. Update national spectrum policies/regulations (NFATs) to incorporate WRC-15 allocations
2. Consult with stakeholders to assess spectrum requirements and appropriate release timing
3. Develop and publish a spectrum roadmap to aid planning to support mobile broadband expansion and evolution
4. Opt for harmonized frequency arrangements to enable international interoperability and more affordable devices
5. Need for consultation processes to give clarity on the way the spectrum will be assigned and get inputs from key stakeholders
6. Develop and publish guidance and rules for transparent and fair access to spectrum (e.g. auctions where appropriate) and licensing conditions and renewal



Thank you

Mortimer Hope, Director Africa, GSMA
mhope@gsma.com
