
GSMA
6G Spectrum
IAFI WRC-27 Conference April ‘25

CONNECTED:

57% of the world's population are now **using mobile internet**

→ **4.6 billion PEOPLE**

But the rate at which people were adopting mobile internet remained **FLAT** in 2023

COVERAGE GAP:

4% of the world's population are still not covered by mobile broadband

AROUND **350m** PEOPLE

USAGE GAP:

39% of the **world's population live within the footprint of a mobile broadband network** but are not using it

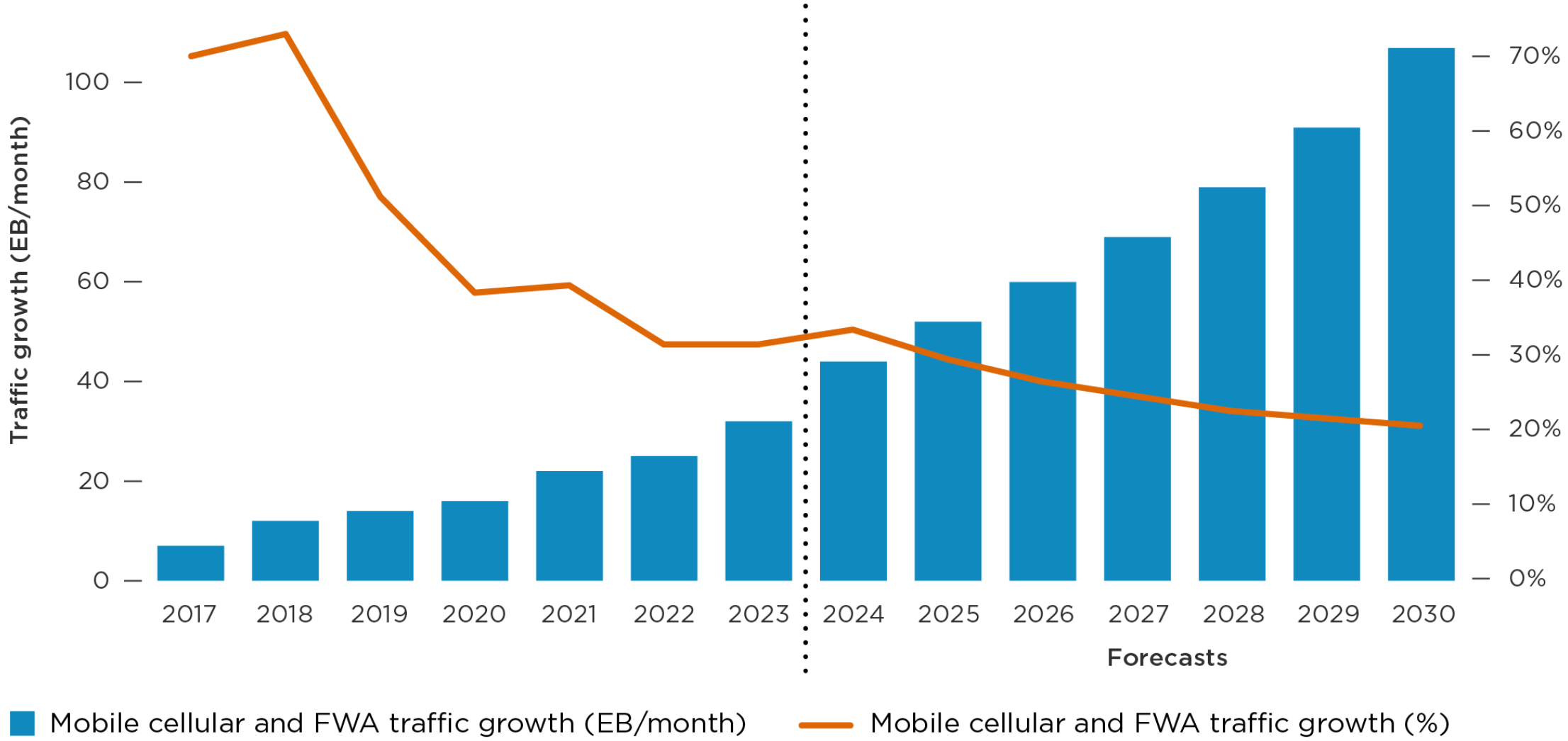
3.1bn PEOPLE → **2/3 OF WHICH DO NOT OWN A PHONE**

WRC-27 can deliver **HARMONISATION** and **SCALE** to support affordability and lower the usage gap.

It can **ENABLE NEW TECHNOLOGIES** which, coupled with the right regulation, can help support coverage.

Global mobile cellular and FWA traffic year-on-year growth

EB per month



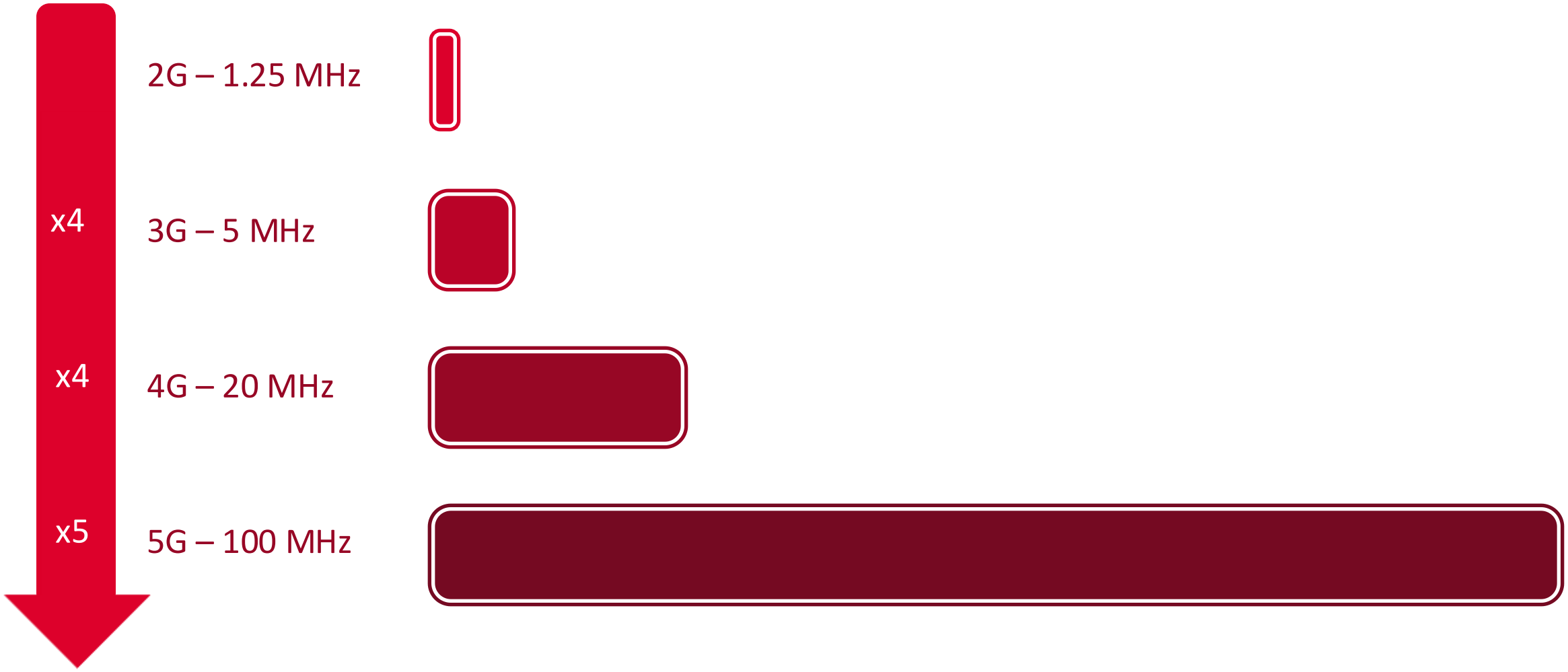
Source GSMA Intelligence and Ericsson

Next mobile generations must embrace:

- Universal meaningful connectivity
- Quality and consistency
- Sustainability and energy efficiency
- Massive capacity for more devices

"By delivering ever-present intelligent communication, 6G will contribute to the creation of a more human-friendly, sustainable and efficient society."

History of Channel Bandwidth



Future of Channel Bandwidth?

x2

x4

5G

Up to 100 MHz

6G

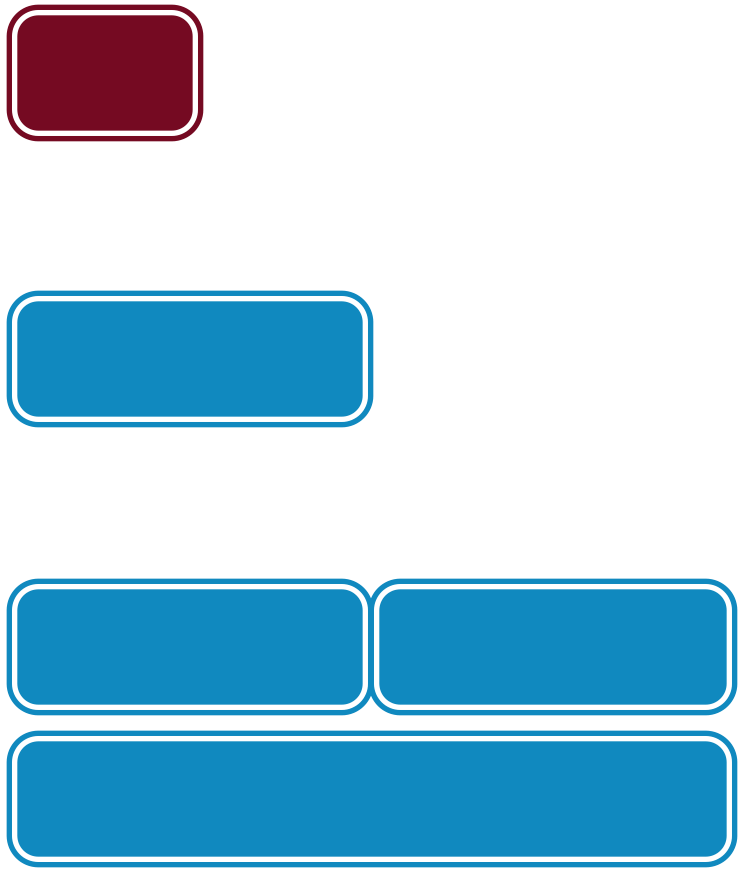
Initial Discussions

- Up to 200 MHz

6G

Potential Development

- Aggregation 2x200 MHz
- One 400 MHz channel



- Re-use of existing spectrum and support for wider bandwidths needed
- Industry discussions ongoing regarding extension of bandwidth
- 3GPP RAN 6G Workshop in March 2025
- 400 MHz channels may form part of initial discussions or may be a later development.
- 6 GHz trials used bandwidths between 80 and 400 MHz - the highest speeds were delivered with widest channels

Finding Bandwidth

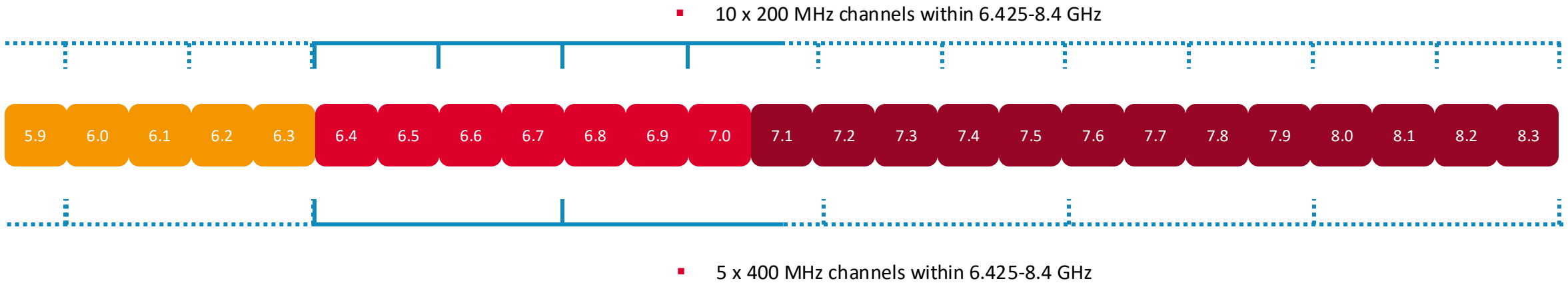
3.5 GHz

4.5 GHz

6-8 GHz

Finding Bandwidth

5.925 GHz 7.125 GHz 8.4 GHz



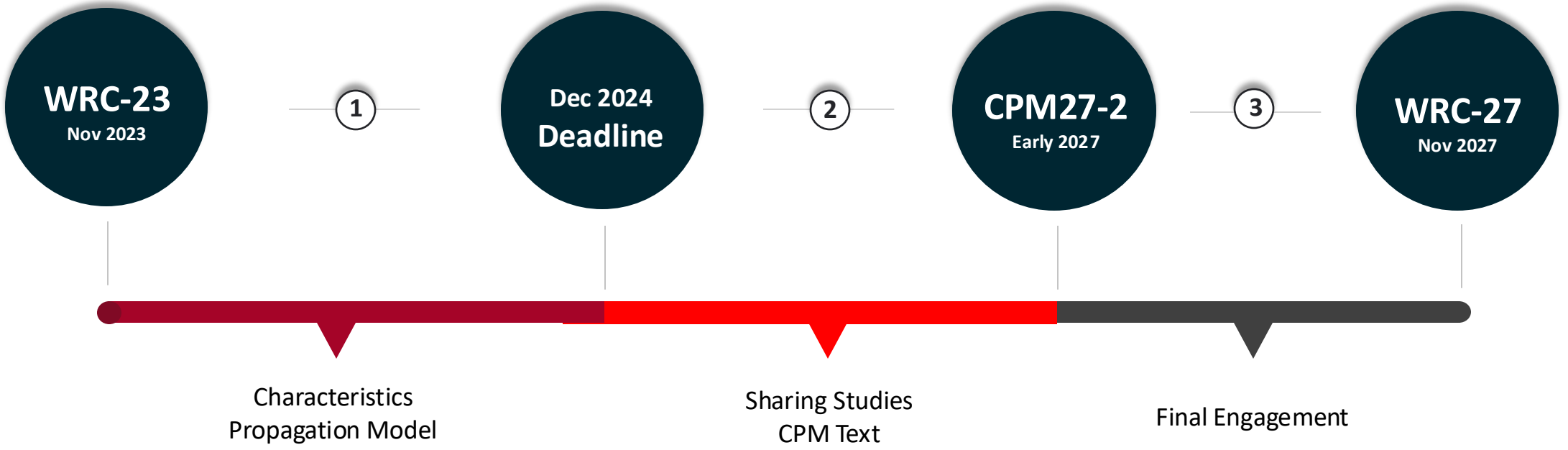
- Multiple 200 MHz and 400 MHz channels are possible between 6-8 GHz
  - 5 x 400 MHz channels within 6.425-8.4 GHz
  - 10 x 200 MHz channels within 6.425-8.4 GHz
  - Potential extension below 6.425 MHz in some countries
- Sharing possibilities with existing users within 7-1-8.4 (or parts) to be investigated
- Balance between available spectrum and number of operators
- Global tuning range facilitates global ecosystem with regional/national usage varying

WRC-27

Agenda Item 1.7

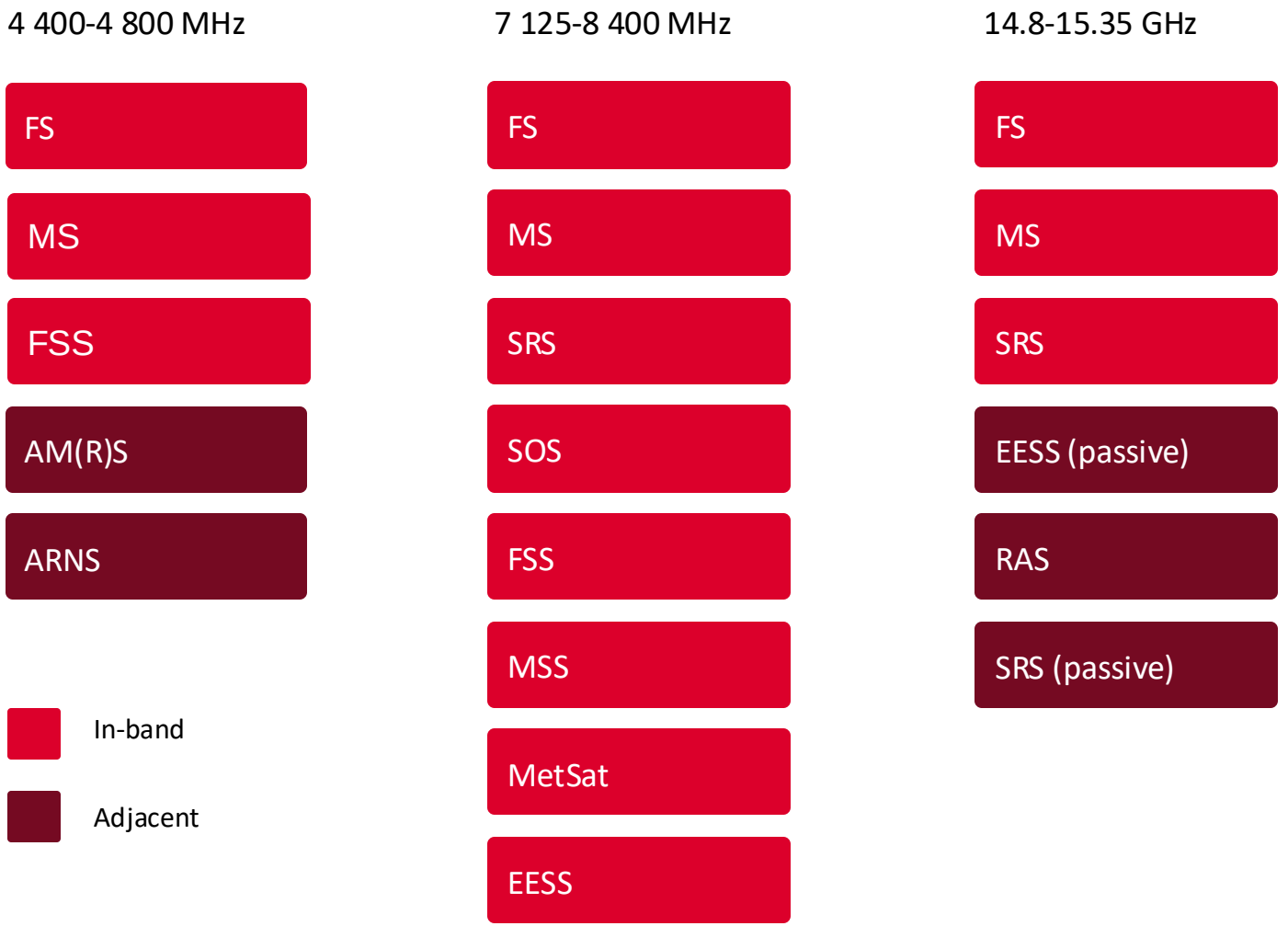
Region 1	Region 2	Region 3
4 400-4 800 MHz		4 400-4 800 MHz
7 125-7 250 MHz 7 750-8 400 MHz	7 125-8 400 MHz	7 125-8 400 MHz
14.8-15.35 GHz	14.8-15.35 GHz	14.8-15.35 GHz

WRC Timeline



AI 1.7 Sharing Studies
IMT-2030 / 6G

- Govt Users
- Space Research
- Space Operation
- Meteorological Satellites
- Mobile Satellites
- Fixed Satellites
- Earth Exploration Satellites
- Fixed Links
- Adjacent Incumbents



Next steps for consideration towards WRC-27

- Contribute to ITU-R sharing studies
- Take into account APT regional sharing considerations
- Continue global outreach & coalition building towards WRC-27
- Global / regional 6G spectrum roadmap

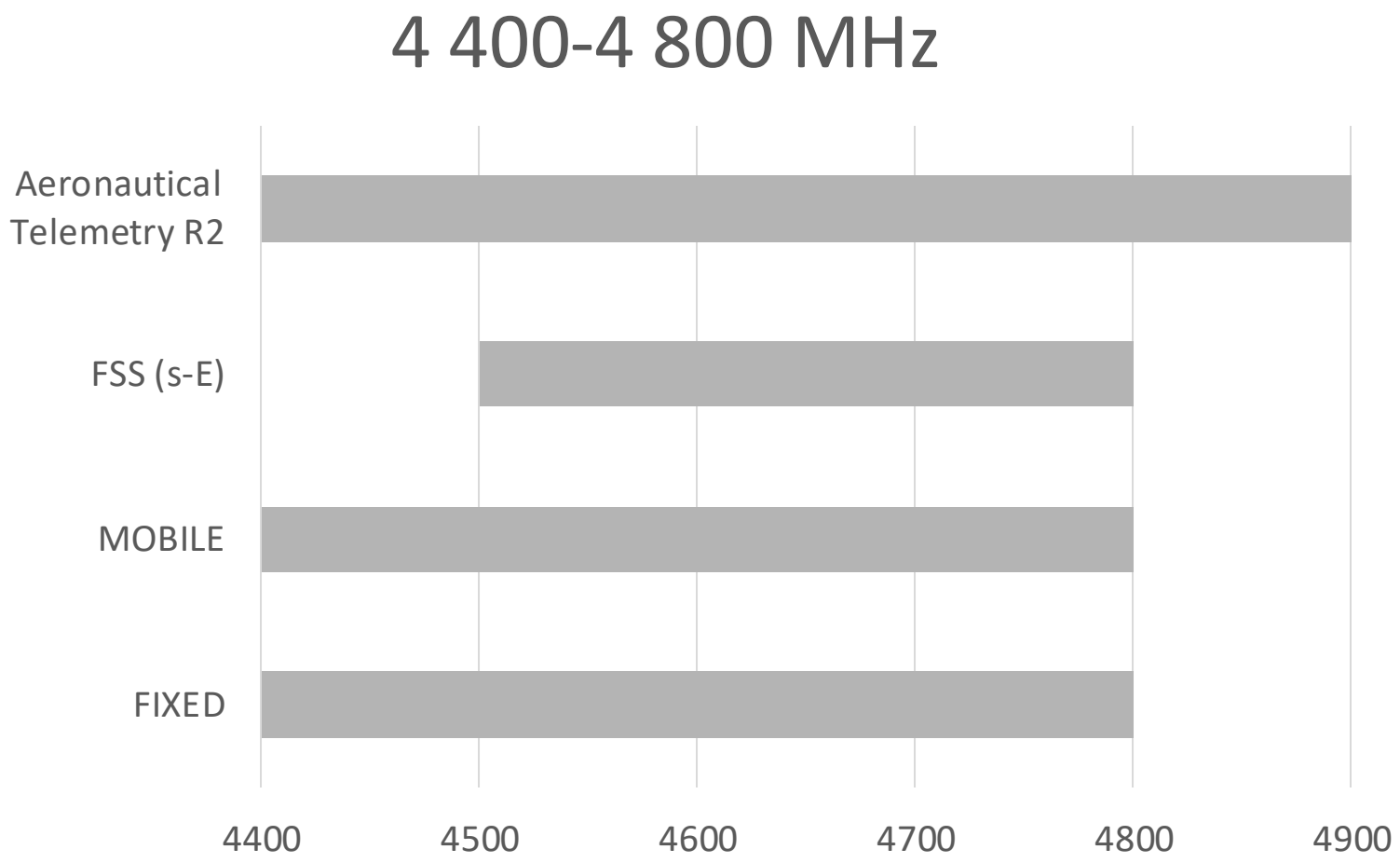
For the benefit of all

Mobile means a fairer world. It brings opportunities to prosper, learn, laugh and love, allowing everyone to live their lives to the full.

AI 1.7 – 4 400-4 800 MHz

+ Good propagation
+ Little usage of FSS in the band in some regions

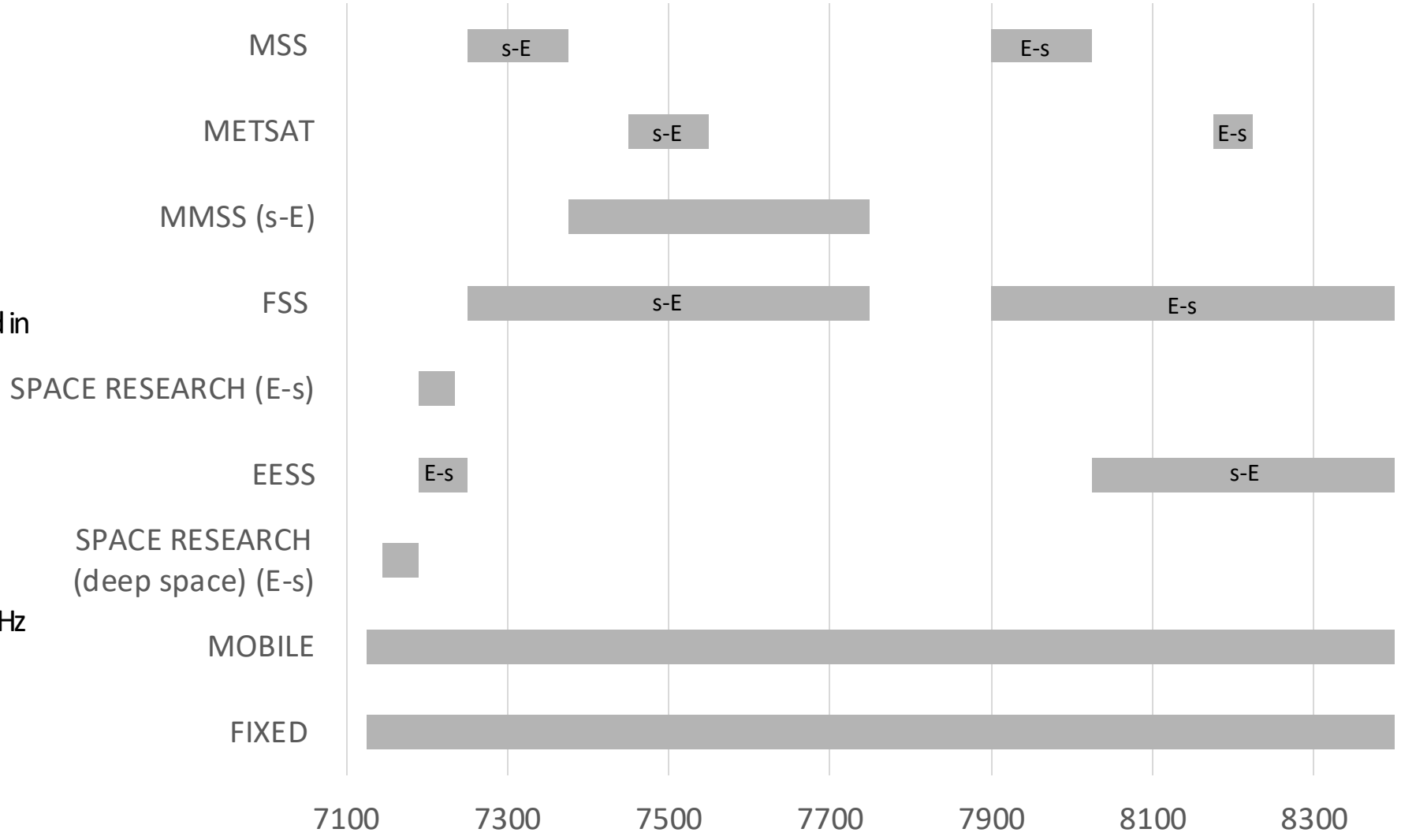
– Extensive military usage in the band (fixed and mobile, including aeronautical)
– Adjacent to radio altimeters in 4.2-4.4 GHz
– FSS is a planned band (Appendix 30B)
– AI 1.19 studying EESS (passive) in 4.2-4.4 GHz



AI 1.7 – 7.125-8.4 GHz

+ Fair propagation
+ Adjacent to upper 6 GHz
+ Lowest 125 MHz already being considered in Europe

– Extensive military usage in the band
– Heavy FS usage
– Various science services
– AI 1.19 studying EESS (passive) in 8.4-8.5 GHz



AI 1.7 – 14.8-15.35 GHz

+ Some diffraction over buildings

– Higher attenuation
– Extensive military usage
– FS and SRS usage
– Protection to passive services in adjacent band 15.35-15.4 GHz