

GSMA | Ministerial
Programme

#MWC23MP

Spectrum Needs for the Next Decade

Rural to City-Wide Capacity

WRC-23

Moderator

Joe Guan
Head of Policy, Greater China
GSMA



Agenda

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Moderator: Joe Guan, Head of Policy, Greater China

Welcome Remarks

Luciana Camargos, GSMA, Head of Spectrum, GSMA

12:00 – 12:05

Introduction: Mobile Industry View for the Decade

Ross Bateson, Spectrum Special Advisor, GSMA

Kalvin Bahia, Principal Economist, GSMAi

12:05 – 12:15

Regulatory Perspective: Fulfilling spectrum needs

Eric Fournier, Director for Spectrum Planning and International

Affairs, Agence Nationale des Fréquences (ANFR)

12:15 – 12:25

Roundtable Discussion

12:25 – 13:25

Closing Remarks

13:25 – 13:30

Welcome Remarks

Luciana Camargos
Head of Spectrum
GSMA



Mobile Industry View

Ross Bateson
Special Advisor
GSMA

Kalvin Bahia
Principal Economist
GSMA Intelligence



Vision 2030: Connecting a Sustainable Planet

Digital Equality

Low-band

470-694 MHz

Harmonisation

3.5 GHz

3.3-3.8 GHz

Expansion

6 GHz

6.425-7.125 GHz

Our vision is one aimed at the whole world, bringing everyone on the journey together towards a more prosperous future.

Low Bands



• Digital equality



• Lower carbon (((')))

• Lower usage / coverage gap

6000 MHz raises rural speeds by 35-45%

Lower network density

2x10 of 600 MHz

↓ Reduction in sites

21%

2x20 of 600 MHz

↓ Reduction in sites

33%

A New Report

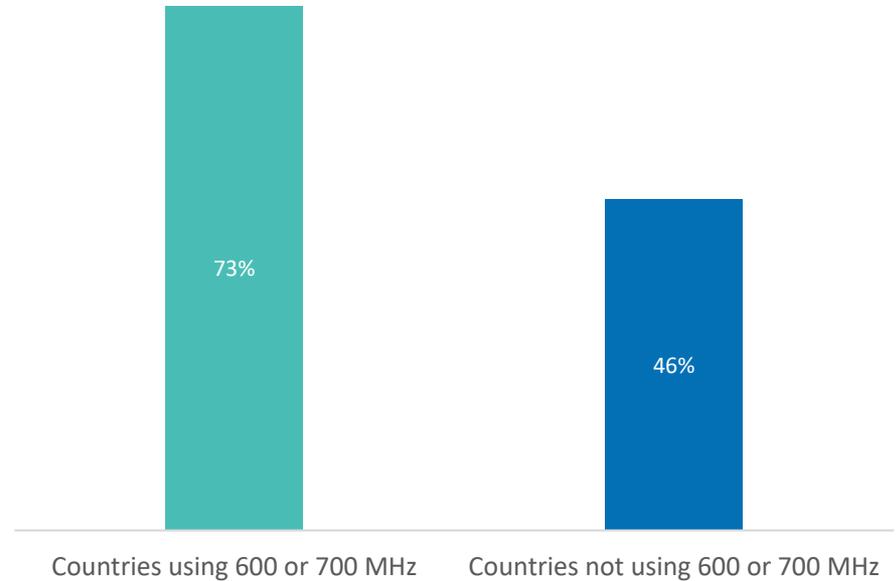
- Highlight the role and importance of low-band spectrum for 5G coverage and service quality
- Quantify the economic benefits that low-band spectrum is expected to generate
- Carry out a cost-benefit analysis of sub-1GHz assignment options, in particular between mobile and broadcasting



Using 600 / 700 MHz Improves Coverage

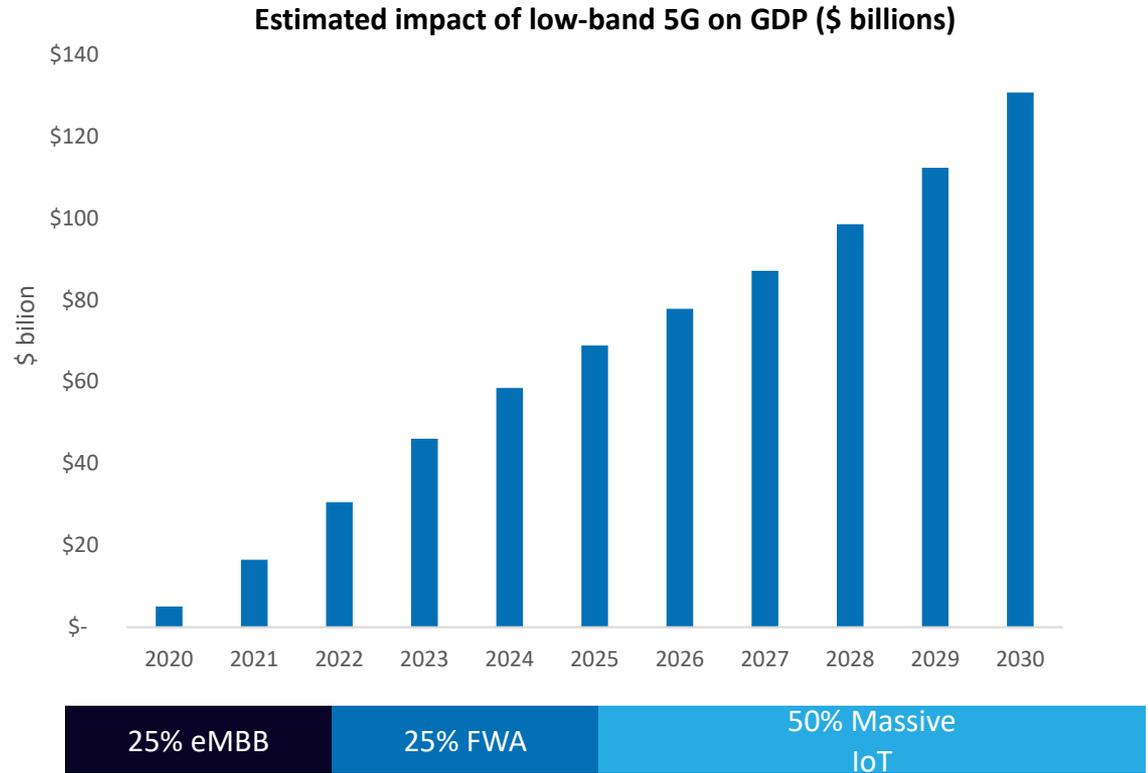
- The 700 MHz frequency band has been the most commonly used low band for 5G – with the exception of North America, where the 600 MHz band is used.
- At the end of 2022, operators in almost half the countries with 5G were using the 600MHz or 700MHz bands
- Countries that have deployed using the 600 or 700MHz band have typically been able to deploy 5G more quickly – and also provide better quality 5G services

Average 5G network population coverage (Q4 2022)



Low bands will generate \$130bn in economic value in 2030

- 5G is expected to generate almost \$1 trillion in additional economic value by 2030, equivalent to 0.7% of GDP
- Low-band spectrum will account for around \$130 billion of that benefit (14% of all 5G benefits)
- Half of the benefits will be driven by MIoT, with eMBB and FWA driving the other half



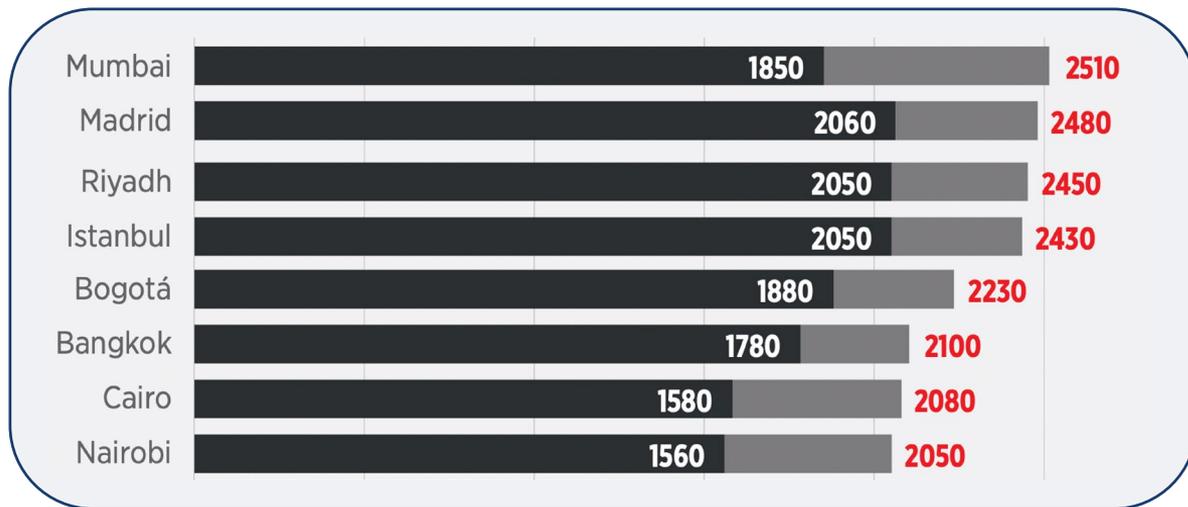
Mid-band:

Why 2 GHz?

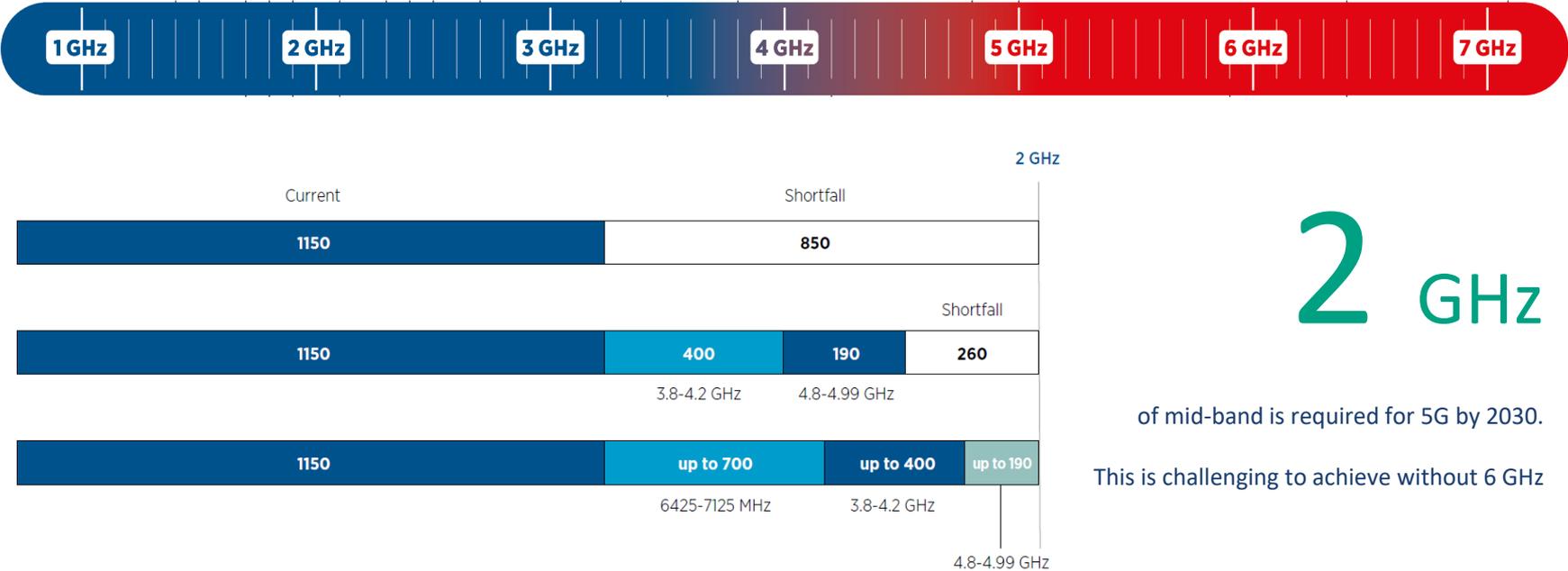
DL **100** Mbps

UL **50** Mbps

1. On a global basis an average of 2 GHz of mid-band spectrum will be required for 5G
2. With less spectrum, IMT requirements are under risk
3. WRC-23 can help raise harmonised mid-band capacity
4. Cities require similar amounts everywhere in the world, e.g.



Adding up the Mid-Band Maths



2 GHz

of mid-band is required for 5G by 2030.

This is challenging to achieve without 6 GHz

Regulatory Perspective

Eric Fournier
Director for Spectrum Planning
and International Affairs
ANFR, France



Roundtable

Joe Guan
Head of Policy, Greater China
GSMA



By 2030

GSMA forecasts:

- 92% smartphone adoption
- 5 billion 5G connections
- 9.9 billion mobile connections

WRC-23

- What spectrum is required to deliver this connectivity by 2030?
- What are your goals at WRC-23?
- How can WRC-23 deliver your policy priorities?

Closing Remarks

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