

# VISION 2040: SPECTRUM FOR THE FUTURE OF MOBILE CONNECTIVITY

1 

Cities with over 50% of the world's urban population will be capacity-constrained by 2030 if mid-band spectrum remains at today's levels.

2 

A global average of 2-3 GHz of total mid-band spectrum will be required in urban areas by 2035-2040; higher-demand countries will need 2.5-4 GHz in this period.

3 

A harmonised spectrum roadmap that delivers the total mid-band spectrum requirements should be developed to enable operators to meet these capacity demands from 2030.

4 

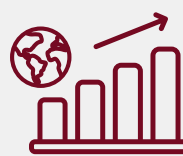
Regulators should seek to assign spectrum in 3.8-4.2 GHz and upper 6 GHz to mobile by around 2030 to meet demand and consider 4.4-4.99 GHz and 7-8 GHz beyond that.

2035-2040



**2-3 GHz**

Global average



**2.5-4 GHz**

Higher-demand countries

2 GHz needed by 2030



**50%**

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**Driven by applications**

- Extended reality
- Generative AI video



**Driven by needs**

- Capacity
- Latency



6G penetration

2035

**2.1 BILLION**

connections

**24%**

market penetration



2040

**5 BILLION**

connections

**54%**

market penetration



Spectrum needs driven by high-demand locations



**83%**

of traffic is from **5%** of geographic area



Dense urban needs are

**9x GREATER**

than other urban

**650x GREATER**

than rural