

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 

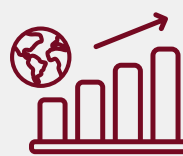
Regulators should seek to assign spectrum in 3.8–4.2 GHz and upper 6 GHz to mobile by around 2030 to meet demand and consider 4.4–4.99 GHz and 7–8 GHz beyond that.

2035–2040



2–3 GHz

Global average



2.5–4 GHz

Higher-demand countries

2 GHz needed by 2030



50%

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

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