

6G Spectrum & WRC-27 TTDD 2026

GSMATM



SPECTRUM for the benefit of billions

VISION 2040

Spectrum for the
future of mobile
connectivity



GSMA™

Spectrum Needs
2035-2040



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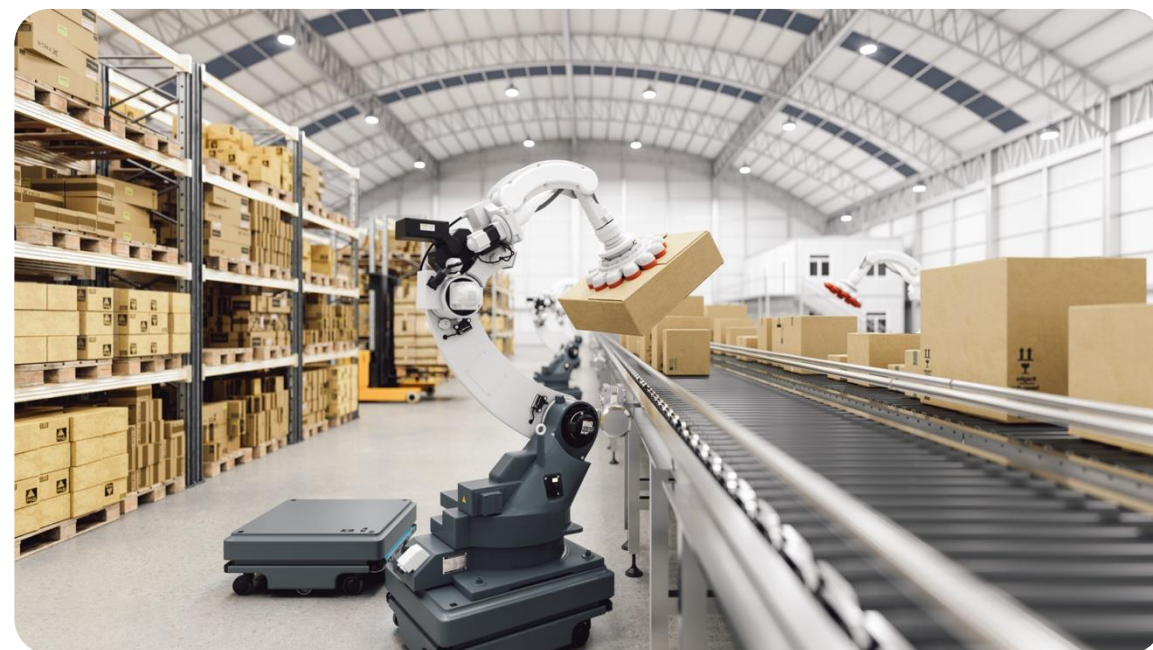
6G Applications

Existing use cases

Extended Reality (XR) & AI



Digitalisation



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6G Applications

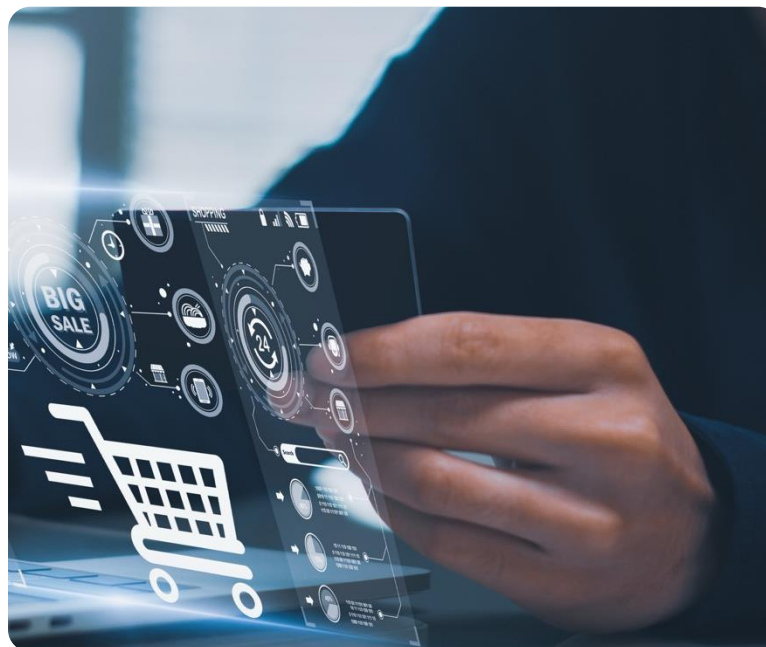
Emerging use cases

Sensing



Source: Nokia (2026)

Holograms



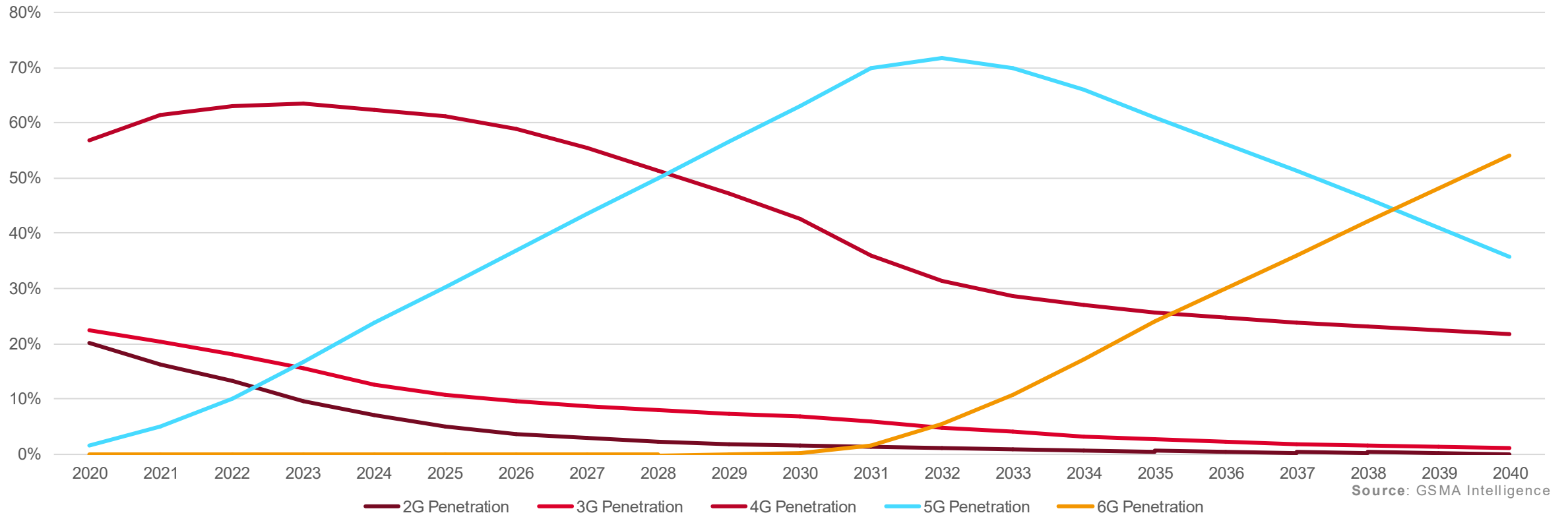
Digital Twins



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Forecasting 6G Adoption

Market penetration by technology, 2020-2040



- 6G networks are expected to be deployed from around 2030 onwards
- Significant initial roll-outs forecast from China, Europe, GCC region, India, Japan, South Korea, USA, Vietnam, etc
- The number of 6G connections could reach more than 5 billion by 2040



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.



A global average of 2–2.5 GHz of total mid-band spectrum. Higher demand countries will require 2.4–3.3 GHz in this period.



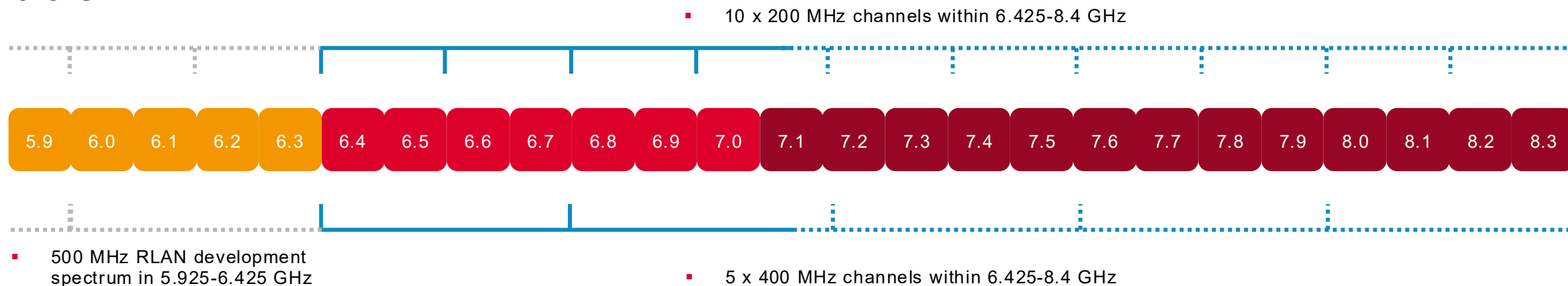
A harmonised spectrum roadmap that delivers the total mid-band spectrum requirements should be developed to enable operators to meet these capacity demands from 2030.



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.

6-8 GHz

6-8 GHz



- Wider channels upto 400 MHz
- 6G roadmap development – regional & global
- Global device tuning range 6.425 – [8.4] GHz

-  Previous WRCs IMT identification
-  WRC-27 potential identification
-  Not identified

Spectrum for Complete 6G

6-8 GHz ➡ Capacity



600 MHz ➡ Coverage



The GSMA believes that mobile must deliver a forward-thinking, positive, and responsible 6G message that promotes long-term sustainability, value creation for enterprise and consumers, safeguards end-user outcomes and ensures mobile technology evolves in a coordinated way.

